



## RTEMS - 5.2-rc1 Release Notes

16 November 2022

### RTEMS 5 Series Release Notes

These notes cover the dot releases:

5.2

5.1



# RTEMS 5.2-rc1 Embedded Realtime Operating System

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## RTEMS Release 5.2

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### RTEMS 5.2 Release Notes

#### API Changes

- **Termios**
  - `txTaskCharsDequeued` has been added to `struct rtems_termios_tty`. With that the size of the structure changed. Libraries and applications that use the structure should be recompiled.
  - The `l_start` line discipline function now receives the number of characters that have been sent. It is save to ignore the extra parameter for applications that don't need it.

#### API Additions

- NTP support
  - Addition of NTP update second handler via `_Timecounter_Set_NTP_update_second()` from `<rtems/score/timecounter.h>`

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### RTEMS 5.2 Ticket Overview

Total	Closed	In progress	New	Assigned	Percentage
107	102	0	1	3	95%

## RTEMS 5.2 Ticket Summary

ID	Status	Summary
<a href="#">2746</a>	closed	RTEMS gdb python script do not load.
<a href="#">2830</a>	closed	throwing std::runtime on PC BSP fails.
<a href="#">3347</a>	closed	tms570: Register Macro Redefinition
<a href="#">3540</a>	closed	How To Use SPARC memscrub
<a href="#">3571</a>	closed	Stream of Unicode Warnings from git hook on Commit
<a href="#">3601</a>	closed	Block device disk management implementation can underflow rtems_disk_device.uses
<a href="#">3619</a>	closed	Docs location for docs.rtems.org
<a href="#">3641</a>	closed	Gitlab mirror
<a href="#">3676</a>	assigned	Move aio.h from RTEMS to newlib
<a href="#">4011</a>	closed	Test compilation error in riscv bsp
<a href="#">4024</a>	closed	NFS Client is broken on 64-bit targets
<a href="#">4058</a>	closed	RSB 5/rtems-riscv fails to build on Windows
<a href="#">4059</a>	closed	RSB: UnicodeDecodeError
<a href="#">4060</a>	closed	The reworked <rtems/confdefs.h> has a cyclic dependency with RTEMS_MULTIPROCESSING enabled
<a href="#">4064</a>	closed	RSB needs to support waf with no python command
<a href="#">4068</a>	closed	arm: arm_cp15_set_translation_table_entries() should affect Inner Shareable domain
<a href="#">4071</a>	closed	RSB does not pass BSP options correctly.
<a href="#">4073</a>	closed	libbsd: Back port ifmcstat command
<a href="#">4075</a>	closed	POSIX Compliance Guide Missing Some math.h Methods
<a href="#">4082</a>	closed	License files missing on 5-freebsd-12 branch
<a href="#">4092</a>	closed	bsps/pc386: Add missing license header
<a href="#">4094</a>	closed	RSB: pkgconfig.py uses python2 specific "unicode" keyword
<a href="#">4096</a>	closed	shell: CRTL-U sets the cursor to the wrong position
<a href="#">4099</a>	closed	Enhance rtems-bsps to print canonical names of bsp
<a href="#">4102</a>	closed	rtems-pairs includes invalid BSP
<a href="#">4106</a>	closed	RSB Missing BSP bset for xilinx_zynq_a9_qemu
<a href="#">4114</a>	closed	Cortex-A9 MPCore based BSPs should include the workaround for Errata 794072 and 845369
<a href="#">4119</a>	closed	rtems-bsp-tester: Off By One for Completed Jobs
<a href="#">4149</a>	closed	RFS bit map search buffer overflow
<a href="#">4154</a>	closed	Improve the workaround for the LEON3FT store-store errata: TN-0009
<a href="#">4165</a>	closed	Fix NVMe disk synchronization and media block handling (cloned)
<a href="#">4169</a>	closed	Link problem of C++ tests when using libpci in BSP
<a href="#">4174</a>	closed	devctl.h does not compile from C++
<a href="#">4185</a>	closed	arm/bsps: Small MMU pages are rounded to 1 MiB (cloned)
<a href="#">4189</a>	closed	rtems_interrupt_server_delete() does not destroy the ISR lock of the server control (cloned)
<a href="#">4190</a>	closed	Back port rtems_interrupt_server_create() improvements
<a href="#">4224</a>	closed	Missing "extern" in RTEMS_LINKER_ROSET_ITEM_ORDERED_DECLARE() (cloned)
<a href="#">4232</a>	closed	Timeout for automatic barriers is broken (cloned)
<a href="#">4233</a>	closed	MVME 2600/2700 has no console output (cloned)
<a href="#">4234</a>	closed	powerpc/motorola_shared display current RTEMS on boot
<a href="#">4236</a>	closed	bsps/zynq: termios not working correctly for stdin
<a href="#">4247</a>	closed	Change motorola_powerpc bsp to support irq-generic (cloned)
<a href="#">4248</a>	closed	PowerPC shared ISA IRQ support is broken (cloned)
<a href="#">4249</a>	closed	fix mkimage.py script type processing
<a href="#">4263</a>	closed	Activate ehci_pci in rtems-libbsd
<a href="#">4266</a>	closed	motorola_powerpc bootloader images not linking correctly
<a href="#">4274</a>	closed	GR1553RT driver: fixes to memory allocation and locking on descriptor updates
<a href="#">4275</a>	closed	GR1553B: use new codec available in GR740 revision 1
<a href="#">4303</a>	closed	glib,gr1553bc: better check of the DMA area address alignment
<a href="#">4304</a>	closed	glib,grspw: SET_PACKET_SIZE could use old DMA address
<a href="#">4305</a>	closed	glib,ambapp: update GRLIB IP core ID list
<a href="#">4306</a>	closed	glib,can: introduce a new common CAN baud-rate timing calculating functions
<a href="#">4307</a>	closed	glib,grcanfd: extend the GRCAN driver with GRCANFD support
<a href="#">4308</a>	closed	glib,greth: added support for variable sized descriptor table sizes
<a href="#">4309</a>	closed	bsps,leon3: avoid BSP dependency on apbuart/timer driver
<a href="#">4310</a>	closed	bsps,leon3: BSP assumes that timer pre-scaler runs at 1MHz
<a href="#">4311</a>	closed	bsps,leon3: _st64() did not follow the SPARC ABI
<a href="#">4312</a>	closed	bsps,leon3: need to make cpucounter restart after underflow
<a href="#">4313</a>	closed	glib,grspw_router: add function to control SpaceWire run clock divisor
<a href="#">4314</a>	closed	glib,ahbstat: add new register definitions for AHBSTAT version 1
<a href="#">4315</a>	closed	glib,l2cache: prevent unused diagnostic access
<a href="#">4316</a>	closed	glib,grspw_pkt: SpaceWire link-state defines corrected
<a href="#">4347</a>	closed	Allow RTEMS_PRIORITY for MrsP semaphores
<a href="#">4357</a>	closed	rtems_semaphore_set_priority() uses an invalid SMP lock (cloned)
<a href="#">4359</a>	closed	Priority discipline is broken for semaphores and message queues in SMP configurations (cloned)
<a href="#">4369</a>	closed	RTEMS5: Add driver for cadence-spi device for xilinx based BSPs (cloned)
<a href="#">4370</a>	closed	RTEMS5: Add spi driver for AXI SPI ip core from Xilinx (cloned)
<a href="#">4371</a>	closed	RTEMS5: Shell: Backport commands for spi and i2c
<a href="#">4394</a>	closed	Workspace initialization is broken for arm/imx7 and arm/raspberrypi
<a href="#">4409</a>	closed	rtems_task_start() does not check that the entry point is not equal to NULL
<a href="#">4429</a>	closed	clock_nanosleep() may use wrong clock for relative times (cloned)
<a href="#">4452</a>	closed	libbsd/i386: Include header error through bus.h
<a href="#">4456</a>	closed	bsps/i386: TSC calibration inaccurate (cloned)
<a href="#">4505</a>	closed	posix_devctl() should return the errno directly not -1 and set errno
<a href="#">4512</a>	closed	Count of freed and libbsd is not set to zero for newly created state-semantic object (cloned)

ID	Status	Summary
4512	closed	Count of postponed jobs is not set to zero for a newly created rate-monotonic period object (cloned)
4514	closed	Support MVME2307 DEC Tulip driver
4515	closed	Make [out/in] le and be calls conditional
4516	closed	Map LibBSD bus space to the PCI base address for motorola_powerpc BSP
4520	closed	Re-add lost capability for custom stack allocator to allocate IDLE thread stacks
4523	closed	gdb 9.1 no longer builds on Cygwin (thread local error)
4549	closed	Timecounter: Add NTP support (cloned)
4555	new	Remove aarch64 and microblaze from RSB on 5 branch
4567	closed	Atomic store does not use the order parameter for C++ (cloned)
4649	closed	tcpdump: Fix dumping to file and reading from file
4651	closed	if_atsam: Fix checksum offload, add multicast and VLAN support
4653	closed	pfctl: Fix global state initialization
4655	closed	sync() whould synchronize all file descriptors
4676	closed	incorrect handling of "inactive_per_block" from "Objects_Information" structure
4683	closed	Leaked BSP section flags in Makefile.inc breaks EPICS
4687	closed	Documentation List for Releases Completely Missing 5.x
4704	assigned	Fix invalid RSB source URLs
4709	closed	Installed header break C++
4711	closed	RSB does not expand dir type macros correctly (cloned)
4715	reopened	RSB get sources misses a number of files
4716	closed	Backport RSB fixes from Development
4717	closed	Add RSB Deployment support
4725	assigned	Git commit message format instructions (cloned)
4727	closed	RSB decode exception stops build
4731	closed	rtems-source-builder doesn't generate tar archives for all packages any more
4733	closed	Set top in RSB version.py
4734	closed	RSB decode exception stops build
4752	closed	RTEMS docs do not build with a recent sphinx
4754	closed	Set RSB GDB source path to https
4755	closed	Docs build system does not build singlehtml
4757	closed	RSB freetype 2.4.10 source not hosted any longer
4758	closed	Net-Snmp referenced patch missing
4761	closed	RSB fatal error on missing hash checksums (cloned)

## RTEMS 5.2 Tickets By Category

### Owner

Owner	Closed	Total	Progress
Daniel Hellstrom	18	18	18/18
	11	12	11/11
Chris Johns	27	29	27/27
Pavel Pisa	1	1	1/1
Amar Takhar	3	3	3/3
Needs Funding	2	2	2/2
Joel Sherrill	4	2	2/2
Joel Sherrill <joel@...>	2	2	2/2
Sebastian Huber	24	24	24/24
Ryan Long <ryan.long@...>	2	2	2/2
Jan Sommer <jan.sommer@...>	3	3	3/3
Stephen Clark <stephen.clark@...>	1	1	1/1
Jan Sommer	5	5	5/5
Christian Mauderer	1	1	1/1

### Type

Type	Closed	Total	Progress
defect	84	87	84/84
enhancement	16	15	15/15
infra	1	1	1/1
task	2	3	2/2

### Priority

Priority	Closed	Total	Progress
normal	99	104	99/99
high	2	2	2/2
low	1	1	1/1

### Component

Component	Closed	Total	Progress
doc	4	5	4/4
tool/gdb	2	2	2/2
tool/rsb	11	14	11/11
arch/arm	4	4	4/4
admin	12	12	12/12
lib/block	1	1	1/1
tool/newlib	2	1	1/1
tool/gcc	1	1	1/1
network/libbsd	10	10	10/10
config	1	1	1/1
tool	4	4	4/4
bsps	27	27	27/27
shell	2	2	2/2
arch/sparc	2	2	2/2
lib	1	1	1/1
rtems	6	6	6/6
fs/rfs	1	1	1/1
score	4	4	4/4
posix	2	2	2/2
arch/powerpc	2	2	2/2
fs	1	1	1/1
tool/website	1	1	1/1
build	1	1	1/1
release	1	1	1/1

## Severity

Severity	Closed	Total	Progress
normal	98	103	98/98
major	1	1	1/1
critical	1	1	1/1
trivial	1	1	1/1
minor	1	1	1/1

## Reporter

Reporter	Closed	Total	Progress
Joel Sherrill	13	13	13/13
Chris Johns	28	31	28/28
Kevin Gordon	1	1	1/1
deuteriumoxide	0	0	0/0
Sebastian Huber	24	24	24/24
kgardas	1	1	1/1
Amar Takhar	2	2	2/2
Jan Sommer	9	9	9/9
Ryan Long	1	2	1/1
Frank Kuehndel	1	1	1/1
Stephen Clark	1	1	1/1
GabrielMoyano	2	2	2/2
Daniel Hellstrom	16	16	16/16
Adrian Varlan	1	1	1/1
Christian Mauderer	2	2	2/2

## Version

Version	Closed	Total	Progress
5	96	100	96/96
	4	3	3/3
4.11	2	2	2/2
4.5	1	1	1/1

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## RTEMS 5.2 Tickets

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### **2746 - RTEMS gdb python script do not load.**

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/2746">https://devel.rtems.org/ticket/2746</a> ( <a href="https://devel.rtems.org/ticket/2746">https://devel.rtems.org/ticket/2746</a> )
<b>Id</b>	2746
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 June 2016 23:49:05
<b>Modified</b>	9 November 2022 22:14:21
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

Loading the scripts does not work ...

```
(gdb) python import rtems
Traceback (most recent call last):
  File "", line 1, in
    import rtems
  File "/opt/work/rtems/4.12/share/gdb/python/rtems/__init__.py", line 31, in
    import rtems
  File "/opt/work/rtems/4.12/share/gdb/python/rtems/rtems.py", line 38, in
    import threads
  File "/opt/work/rtems/4.12/share/gdb/python/rtems/threads.py", line 39, in
    import rbtrees
ImportError: No module named rbtrees
Error while executing Python code.
(gdb)
```

**Comment 1**

1. **Chris Johns**, Fri, 24 Jun 2016 23:49:53 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Chris Johns**, Mon, 27 Mar 2017 06:48:47 GMT
2. **milestone:** changed from **4.12.1** to **4.12.0**

Move to the first 4.12 milestone.

**Comment 3**

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:47:58 GMT
2. **component:** changed from **unspecified** to **tool/gdb**

**Comment 4**

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:48:37 GMT
2. **milestone:** changed from **4.12.0** to **4.12.1**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:05 GMT
2. **milestone:** changed from **4.12.1** to **5.2**

Milestone renamed

**Comment 6**

1. **Chris Johns**, Wed, 09 Nov 2022 22:14:21 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

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.

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**2830 - throwing std::runtime on PC BSP fails.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2830">https://devel.rtems.org/ticket/2830</a> ( <a href="https://devel.rtems.org/ticket/2830">https://devel.rtems.org/ticket/2830</a> )
<b>Id</b>	2830
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 December 2016 05:10:06
<b>Modified</b>	21 September 2020 21:14:32
<b>Owner</b>	Needs Funding
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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`.

**Attachments:**

- 
- Chris Johns, Fri, 02 Dec 2016 05:10:43 GMT**  
attach: set to [cdtest-throw-std\\_runtime.diff](https://devel.rtems.org/ticket/2830/cdtest-throw-std_runtime.diff) ([https://devel.rtems.org/ticket/2830/cdtest-throw-std\\_runtime.diff](https://devel.rtems.org/ticket/2830/cdtest-throw-std_runtime.diff))
  - Michael Davidsaver, Sat, 19 Sep 2020 14:46:42 GMT**  
attach: set to [gcc-7.5.0-i386march-1.diff](https://devel.rtems.org/ticket/2830/gcc-7.5.0-i386march-1.diff) (<https://devel.rtems.org/ticket/2830/gcc-7.5.0-i386march-1.diff>)
  - Michael Davidsaver, Sat, 19 Sep 2020 14:53:28 GMT**  
attach: set to [0001-patch-gcc-i386-multiarch.patch](https://devel.rtems.org/ticket/2830/0001-patch-gcc-i386-multiarch.patch) (<https://devel.rtems.org/ticket/2830/0001-patch-gcc-i386-multiarch.patch>)
- 

**Comment 1**

- Chris Johns, Fri, 02 Dec 2016 05:12:22 GMT**
- description:** modified (diff)

**Comment 2**

- Sebastian Huber, Fri, 09 Dec 2016 07:02:30 GMT**  
Works at least on SPARC and ARM. On which BSP fails this?

**Comment 3**

- Chris Johns, Fri, 09 Dec 2016 11:24:02 GMT**  
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.

**Comment 4**

- Sebastian Huber, Wed, 15 Feb 2017 14:20:42 GMT**
- owner:** set to **Needs Funding**
- status:** changed from **new** to **assigned**
- milestone:** changed from **4.12** to **Indefinite**

**Comment 5**

- Michael Davidsaver, Thu, 10 Sep 2020 20:24:40 GMT**  
I'm observing a hang with RTEMS 5.1 with i386/pc686 which may be this issue, though it does not look to me to be in an exception class dtor. 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.

```

=> 0x3f1780 :   mov     $0x5,%eax
0x3f1785 :   mov     %eax,0xc(%esp)
0x3f1789 :   jmp    0x3f1780

```

The stack trace is:

```
(gdb) bt
#0  libat_fetch_add_4 (mptr=0x75d7bc, opval=4294967295, smodel=5) at ../../../../gcc-7.5.0/libatomic/fop_n.c:44
#1  0x003507fc in __gnu_cxx::__exchange_and_add (__val=-1, __mem=0x75d7bc)
    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
#2  __gnu_cxx::__exchange_and_add_dispatch (__val=-1, __mem=0x75d7bc)
    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
#3  __gnu_cxx::__eh_atomic_dec (__count=0x75d7bc) at ../../../../gcc-7.5.0/libstdc++-v3/libsupc++/eh_atomics.h:72
#4  __gxx_exception_cleanup (code= URC_FOREIGN_EXCEPTION_CAUGHT, exc=0x75d7fc)
    at ../../../../gcc-7.5.0/libstdc++-v3/libsupc++/eh_throw.cc:46
#5  0x003ad9cb in __Unwind_DeleteException (exc=0x75d7fc) at ../../../../gcc-7.5.0/libgcc/unwind.inc:271
#6  0x003af8d0 in __cxxabiv1::__cxa_end_catch () at ../../../../gcc-7.5.0/libstdc++-v3/libsupc++/eh_catch.cc:125
#7  0x001012fd in epicsTimeTest () at ../epicsTimeTest.cpp:116
```

#### Comment 6

1. **Sebastian Huber**, Fri, 11 Sep 2020 04:51:16 GMT

If this BSP uses libatomic to load a 32-bit value, then it uses an obsolete instruction set.

#### Comment 7

1. **Michael Davidsaver**, Fri, 11 Sep 2020 16:56:14 GMT

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'. '/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 `/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.

#### Comment 8

1. **Joel Sherrill**, Fri, 11 Sep 2020 22:07:20 GMT

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?

#### Comment 9

1. **Michael Davidsaver**, Fri, 11 Sep 2020 22:58:24 GMT

Could someone please try this test case with `-march=i486` as the compiler selection?

This seems to have the desired effect (emits a 'lock' instruction instead of calling `__atomic_fetch_add_4`).

I'm still perplexed that the 'pentiumpro' version of `libstdc++.a` appears to be built with `-march=i386`. All 6 versions seem to be. Is this how gcc's multilib is meant to work?

#### Comment 10

1. **Michael Davidsaver**, Fri, 11 Sep 2020 23:18:34 GMT

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 `'/make/custom/pc686.cfg'` has `-march=pentium`. What is the logic here?

```
MULTILIB_OPTIONS = mtune=i486/mtune=pentium/mtune=pentiumpro msoft-float
MULTILIB_DIRNAMES= m486 mpentium mpentiumpro soft-float
MULTILIB_MATCHES = msoft-float=mno-80387
MULTILIB_MATCHES += mtune?pentium=mtune?k6 mtune?pentiumpro=mtune?athlon
MULTILIB_EXCEPTIONS = \
mtune=pentium/*msoft-float* \
mtune=pentiumpro/*msoft-float*
```

#### Comment 11

1. **Sebastian Huber**, Sat, 12 Sep 2020 07:47:29 GMT

We have two different issues:

The i386 BSPs use probably obsolete instruction sets which lead to the use of libatomic. 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:



```

Breakpoint 2, libat_fetch_add_4 (mptr=0x203d798, opval=4294967295, smodel=4) at ../../gnu-mirror-gcc-c72alb6/libatomic/fop_n.c:164
164 ../../gnu-mirror-gcc-c72alb6/libatomic/fop_n.c: No such file or directory.
(gdb) bt
#0 libat_fetch_add_4 (mptr=0x203d798, opval=4294967295, smodel=4) at ../../gnu-mirror-gcc-c72alb6/libatomic/fop_n.c:164
#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-c72alb6-newlib-ece49e4-x86_64-linux-gnu-1/build/sparc-rtems6/libstdc++-v3/include/ext/atomicity.h:84
#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-c72alb6-newlib-ece49e4-x86_64-linux-gnu-1/build/sparc-rtems6/libstdc++-v3/include/ext/atomicity.h:84
#3 __gnu_cxx::__eh_atomic_dec (__count=0x203d798) at ../../gnu-mirror-gcc-c72alb6/libstdc++-v3/libsupc++/eh_atomics.h:72
#4 __gxx_exception_cleanup (code=_URC_FOREIGN_EXCEPTION_CAUGHT, exc=0x203d7d0) at ../../gnu-mirror-gcc-c72alb6/libstdc++-v3/libsupc++/eh_throw.cc:46
#5 0x0201e584 in Unwind_DeleteException (exc=0x203d7d0) at ../../gnu-mirror-gcc-c72alb6/libgcc/unwind.inc:283
#6 0x02001a44 in Foo_function () at ../../testsuites/samples/cdtest/main.cc:198
#7 main_task () at ../../testsuites/samples/cdtest/main.cc:212
#8 0x02006b8c in Thread_Entry_adaptor_numeric (executing=0x2032ae8 <_RTEMS_tasks_Objects>) at ../../cpukit/score/src/threadentryadaptornumeric.c:25
#9 0x02006c64 in Thread_Handler () at ../../cpukit/score/src/threadhandler.c:143
#10 0x02006c04 in Thread_Handler () at ../../cpukit/score/src/threadhandler.c:87

```

**Comment 12**

1. **Sebastian Huber**, Sat, 12 Sep 2020 10:29:03 GMT

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 :      mov     $0x5,%eax
0x3f1785 :      mov     %eax,0xc(%esp)
0x3f1789 :      jmp     0x3f1780

```

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.

**Comment 13**

1. **Joel Sherrill**, Sat, 12 Sep 2020 14:54:58 GMT

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.

**Comment 14**

1. **Michael Davidsaver**, Fri, 18 Sep 2020 21:36:49 GMT

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.

**Comment 15**

1. **Joel Sherrill**, Fri, 18 Sep 2020 21:53:00 GMT

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 a 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.

**Comment 16**

1. **Michael Davidsaver**, Sat, 19 Sep 2020 16:47:42 GMT

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](https://github.com/mdavidsaver/rsb/runs/1138090148?check_suite_focus=true#step:5:563)

**Comment 17**

1. **Joel Sherrill**, Sat, 19 Sep 2020 17:49:16 GMT

Congratulations! Can you confirm you tested code compiled with the resulting toolchain and it solved the problem?

**Comment 18**

1. **Michael Davidsaver**, Sat, 19 Sep 2020 19:44:55 GMT

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](https://github.com/mdavidsaver/rsb/runs/1138090148?check_suite_focus=true#step:8:71)

#### Comment 19

1. **Joel Sherrill**, Mon, 21 Sep 2020 19:43:58 GMT
2. **component**: changed from **unspecified** to **tool/gcc**
3. **description**: modified (diff)
4. **milestone**: changed from **Indefinite** to **5.2**

#### Comment 20

1. **Michael Davidsaver**, Mon, 21 Sep 2020 20:37:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In ebc3abe/rtems-source-builder:

```
patch gcc i386 multiarch
```

Add patch to change from mtune to march when building multilibs. The mtune argument tunes or optimizes for a specific CPU model but does not ensure the generated code is appropriate for the CPU model. Prior to this patch, i386 compatible code was always generated but tuned for later models.

Closes #2830.

#### Comment 21

1. **Michael Davidsaver**, Mon, 21 Sep 2020 21:14:32 GMT

In 1ea1c9c/rtems-source-builder:

```
patch gcc i386 multiarch
```

Add patch to change from mtune to march when building multilibs. The mtune argument tunes or optimizes for a specific CPU model but does not ensure the generated code is appropriate for the CPU model. Prior to this patch, i386 compatible code was always generated but tuned for later models.

This is the same fix as #2830 but applying to gcc 10.

Updates #4084.

## 3347 - tms570: Register Macro Redefinition

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3347">https://devel.rtems.org/ticket/3347</a> ( <a href="https://devel.rtems.org/ticket/3347">https://devel.rtems.org/ticket/3347</a> )
<b>Id</b>	3347
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 14:56:57
<b>Modified</b>	15 October 2018 06:45:51
<b>Owner</b>	Pavel Pisa
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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: warning: "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: warning: "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: warning: "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
```

**Comment 1**

1. **Joel Sherrill**, Thu, 15 Mar 2018 14:57:13 GMT
2. **owner:** set to **Pavel Pisa**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:51:07 GMT
2. **milestone:** changed from **5.1** to **5.2**

**Comment 3**

1. **Pavel Pisa**, Mon, 15 Oct 2018 06:45:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1822649/rtems:

```
bsp/tms570: Simple fix to resolve macro redefinitions.
closes #3347
```

**3540 - How To Use SPARC memscrub**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3540">https://devel.rtems.org/ticket/3540</a> ( <a href="https://devel.rtems.org/ticket/3540">https://devel.rtems.org/ticket/3540</a> )
<b>Id</b>	3540
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	5 October 2018 16:32:08
<b>Modified</b>	9 November 2022 23:06:34
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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?

**Comment 1**

1. **Joel Sherrill**, Fri, 05 Oct 2018 16:32:26 GMT
2. **owner:** set to **Daniel Hellstrom**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:54:56 GMT
2. **milestone:** changed from **5.1** to **5.2**

**Comment 3**

1. **Sebastian Huber**, Fri, 18 Jun 2021 09:24:45 GMT
2. **keywords:** **qualification** added

**Comment 4**

1. **Chris Johns**, Wed, 09 Nov 2022 23:06:34 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

Please reopen if this is going to be worked on.

**3571 - Stream of Unicode Warnings from git hook on Commit**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3571">https://devel.rtems.org/ticket/3571</a> ( <a href="https://devel.rtems.org/ticket/3571">https://devel.rtems.org/ticket/3571</a> )
<b>Id</b>	3571
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 October 2018 21:19:20
<b>Modified</b>	17 August 2022 06:08:55
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

When I pushed a commit this afternoon, I got so many of these that I can't scroll back to the git commit command:

```
remote: Code point 0x0000 is not Unicode, may not be portable at /data/support/git-support/hooks/hook_email.pl line 183.
remote: Malformed UTF-8 character (unexpected non-continuation byte 0x03, immediately after start byte 0xfd) in print at /data/support/git-support/hooks/hook_email.pl line 183.
remote: Code point 0x0000 is not Unicode, may not be portable at /data/support/git-support/hooks/hook_email.pl line 183.
remote: Malformed UTF-8 character (unexpected non-continuation byte 0xfe, immediately after start byte 0xf6) in print at /data/support/git-support/hooks/hook_email.pl line 183.
remote: Code point 0x0000 is not Unicode, may not be portable at /data/support/git-support/hooks/hook_email.pl line 183.
remote: Malformed UTF-8 character (unexpected non-continuation byte 0x04, immediately after start byte 0xfd) in print at /data/support/git-support/hooks/hook_email.pl line 183.
remote: Code point 0x0000 is not Unicode, may not be portable at /data/support/git-support/hooks/hook_email.pl linCKilled by signal 2.
```

**Comment 1**

1. **Amar Takhar**, Wed, 21 Nov 2018 23:15:42 GMT

Can you provide the rev hash that triggered this? Sorry I missed this ticket.

**Comment 2**

1. **Amar Takhar**, Wed, 05 Dec 2018 03:35:26 GMT

Any update on giving the hash that triggered this? Thanks.

**Comment 3**

1. **Amar Takhar**, Wed, 13 Feb 2019 20:03:19 GMT
2. **milestone:** changed from **5.1** to **5.2**

I haven't heard back on which hash triggered this. Moving to milestone:5.2

**Comment 4**

1. **Chris Johns**, Wed, 17 Aug 2022 06:08:55 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

There has been no feedback so lets consider it closed.

**3601 - Block device disk management implementation can underflow rtems\_disk\_device.uses**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3601">https://devel.rtems.org/ticket/3601</a> ( <a href="https://devel.rtems.org/ticket/3601">https://devel.rtems.org/ticket/3601</a> )
<b>Id</b>	3601
<b>Reporter</b>	Kevin Gordon
<b>Created</b>	12 November 2018 01:35:03
<b>Modified</b>	9 November 2022 23:08:11
<b>Owner</b>	Needs Funding
<b>Type</b>	defect
<b>Component</b>	lib/block
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The source file `diskdevs.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.

**Comment 1**

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:21:35 GMT
2. **component**: changed from **admin** to **lib/block**

This API is deprecated in RTEMS 5.1 and will be removed in RTEMS 6.1.

**Comment 2**

1. **Sebastian Huber**, Tue, 29 Jan 2019 08:06:16 GMT
2. **milestone**: changed from **5.1** to **5.2**

If you want to get this fixed, then please send a patch to `devel@...`. I would avoid this API and use `rtems_blkdev_create()` and `rtems_blkdev_create_partition()` instead.

**Comment 3**

1. **Sebastian Huber**, Mon, 13 Jul 2020 15:22:47 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**

**Comment 4**

1. **Chris Johns**, Wed, 09 Nov 2022 23:07:23 GMT
2. **milestone**: changed from **5.2** to **Indefinite**

**Comment 5**

1. **Chris Johns**, Wed, 09 Nov 2022 23:08:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**
4. **milestone**: changed from **Indefinite** to **5.2**

Sebastian has recommended avoiding this API.

---

**3619 - Docs location for docs.rtems.org**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3619">https://devel.rtems.org/ticket/3619</a> ( <a href="https://devel.rtems.org/ticket/3619">https://devel.rtems.org/ticket/3619</a> )
<b>Id</b>	3619
<b>Reporter</b>	Amar Takhar
<b>Created</b>	26 November 2018 01:09:58
<b>Modified</b>	9 November 2022 23:11:16
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	buildbot
<b>Cc</b>	Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Where do the built docs from Buildbot need to go for docs.rtems.org?  
Right now I see the top is 'master' so just replace those?

**Comment 1**

1. **Chris Johns**, Wed, 28 Nov 2018 06:48:19 GMT

The docs.rtems.org website is constructed using the files in this repo <https://git.rtems.org/chrisj/rtems-admin.git/>. This includes all the previous releases.  
I do not understand how buildbot built docs plug into this set up so I it would be good to get some understanding of how this will work.

How are the docs being built by buildbot? Is there a public repo for the buildbot config files? How do the docs move from buildbot jail to the docs jail? Is there somewhere Joel and I can review the buildbot built docs?

**Comment 2**

1. **Chris Johns**, Wed, 09 Nov 2022 23:11:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

Please reopen if this is to be worked on.

---

**3641 - Gitlab mirror**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3641">https://devel.rtems.org/ticket/3641</a> ( <a href="https://devel.rtems.org/ticket/3641">https://devel.rtems.org/ticket/3641</a> )
<b>Id</b>	3641
<b>Reporter</b>	Amar Takhar
<b>Created</b>	7 December 2018 17:27:33
<b>Modified</b>	9 November 2022 23:12:01
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	mirrors
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

I just registered the 'rtems' group over at gitlab.com.  
It doesn't cost us anything to run mirrors at both Github and Gitlab when I have a chance I will setup a Gitlab mirror though it's not a priority.  
I'll work out getting access to everyone through their Gitlab accounts at a later date.

**Comment 1**

1. **Chris Johns**, Sun, 09 Dec 2018 23:37:32 GMT

Do you have a link?

**Comment 2**

1. **Chris Johns**, Wed, 09 Nov 2022 23:12:01 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

Please reopen if this is to be worked on.

---

## **3676 - Move aio.h from RTEMS to newlib**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3676">https://devel.rtems.org/ticket/3676</a> ( <a href="https://devel.rtems.org/ticket/3676">https://devel.rtems.org/ticket/3676</a> )
<b>Id</b>	3676
<b>Reporter</b>	deuteriumoxide
<b>Created</b>	20 January 2019 17:44:12
<b>Modified</b>	9 November 2022 22:15:16
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	tool/newlib
<b>Status</b>	assigned
<b>Resolution</b>	
<b>Version</b>	
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

aio.h is one of the few POSIX headers that is provided by RTEMS and not newlib. The goal of this ticket is to move the header to newlib and remove it from RTEMS.

Unfortunately, patches to do this have been posted on the mailing list during the release 5 branching period. We do not want a disruption on the tools which impact all RTEMS builds to show up right now.

This requires a bit of discussion. Moving the file for 5 would require a newlib bump which is likely desirable to be easy assuming 5 has a long lifespan. We could add a patch to rtems5 which removes aio.h from newlib after it is added. This would allow bumping newlib versions with no discontinuity.

However, adding it to newlib and using it for the rtems6 toolchain is a given.

### **Attachments:**

1. **eshan dhawan, Mon, 04 May 2020 17:49:14 GMT**  
**attach:** set to [0001-Removed-aio.h-form-cpukit-include-and-added-to-newli.patch](https://devel.rtems.org/ticket/3676/0001-Removed-aio.h-form-cpukit-include-and-added-to-newli.patch) (<https://devel.rtems.org/ticket/3676/0001-Removed-aio.h-form-cpukit-include-and-added-to-newli.patch>)
  2. **eshan dhawan, Mon, 04 May 2020 19:26:28 GMT**  
**attach:** set to [0001-adding-aio.h-file-to-newlib-libc-include.patch](https://devel.rtems.org/ticket/3676/0001-adding-aio.h-file-to-newlib-libc-include.patch) (<https://devel.rtems.org/ticket/3676/0001-adding-aio.h-file-to-newlib-libc-include.patch>)
- 

### **Comment 1**

1. **Joel Sherrill, Thu, 07 Mar 2019 23:57:23 GMT**

aio.h is in RTEMS. It is cpukit/include/aio.h.

This is one of the POSIX header files in RTEMS not in newlib. Maybe it needs to get moved.

### **Comment 2**

1. **eshan dhawan, Mon, 04 May 2020 19:42:28 GMT**
2. **milestone:** changed from **Indefinite** to **6.1**

### **Comment 3**

1. **eshan dhawan, Mon, 04 May 2020 19:55:21 GMT**
2. **milestone:** changed from **6.1** to **5.2**

we need to decide how to manage this change through 5.2 and 6.x. If we decide it only applies to 6 in the end, we may need a patch to remove it from newlib for the 5.x series.

### **Comment 4**

1. **Joel Sherrill, Mon, 04 May 2020 22:16:30 GMT**
2. **description:** modified (diff)
3. **summary:** changed from **Add support for aio.h** to **Move aio.h from RTEMS to newlib**

### **Comment 5**

1. **Chris Johns, Wed, 09 Nov 2022 22:15:16 GMT**
2. **owner:** set to **Joel Sherrill**

3. **status:** changed from **new** to **assigned**

Has this been taken care of in 6?

---

## 4011 - Test compilation error in riscv bsps

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4011">https://devel.rtems.org/ticket/4011</a> ( <a href="https://devel.rtems.org/ticket/4011">https://devel.rtems.org/ticket/4011</a> )
<b>Id</b>	4011
<b>Reporter</b>	Jan Sommer
<b>Created</b>	22 June 2020 07:06:41
<b>Modified</b>	9 November 2022 22:17:48
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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
```

### Comment 1

1. **Chris Johns**, Wed, 09 Nov 2022 22:17:48 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

Please use the RISC-V support in RTEMS 6.

---

## 4024 - NFS Client is broken on 64-bit targets



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4024">https://devel.rtems.org/ticket/4024</a> ( <a href="https://devel.rtems.org/ticket/4024">https://devel.rtems.org/ticket/4024</a> )
<b>Id</b>	4024
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 July 2020 11:33:11
<b>Modified</b>	17 August 2022 06:09:40
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Packed and unpacked structures are mixed leading to invalid XDR encode/decode operations if addresses > 4GiB are used.

**Comment 1**

1. **Chris Johns**, Mon, 10 Aug 2020 05:44:39 GMT
2. **milestone**: changed from **5.1** to **5.2**

**Comment 2**

1. **Chris Johns**, Wed, 17 Aug 2022 06:09:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

Use master or RTEMS 6.

**4058 - RSB 5/rtems-riscv fails to build on Windows**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4058">https://devel.rtems.org/ticket/4058</a> ( <a href="https://devel.rtems.org/ticket/4058">https://devel.rtems.org/ticket/4058</a> )
<b>Id</b>	4058
<b>Reporter</b>	Chris Johns
<b>Created</b>	20 August 2020 22:33:34
<b>Modified</b>	8 September 2022 03:36:29
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

To repeat run rtems-release-test 5 1-rc2 on Windows.

```
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':
C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:202: undefined reference to `__memcpy_chk'
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':
C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:228: undefined reference to `__strcpy_chk'
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
strcpy_chk'
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':
C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:208: undefined reference to `__memset_chk'
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*, ...)':
C:/msys64/mingw64/x86_64-w64-mingw32/include/stdio.h:366: undefined reference to `__chk_fail'
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':
C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:234: undefined reference to `__strcat_chk'
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
emcpy_chk'
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
emcpy_chk'
```

I think this has been resolved in a later GDB version.

**Comment 1**

1. **Chris Johns**, Thu, 08 Sep 2022 03:36:29 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

Please use RTEMS 6. The RISCv is in the tier-4 list for this release.

**4059 - RSB: UnicodeDecodeError**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4059">https://devel.rtems.org/ticket/4059</a> ( <a href="https://devel.rtems.org/ticket/4059">https://devel.rtems.org/ticket/4059</a> )
<b>Id</b>	4059
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 August 2020 06:12:00
<b>Modified</b>	9 November 2022 22:21:25
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The RSB some times cannot create a report due to an Unicode decode error:

```
error: building powerpc-rtems5-gdb-9.1-x86_64-linux-gnu-1
Build FAILED
error: failure to create error report
Build Set: Time 0:01:29.712543
Traceback (most recent call last):
  File "../source-builder/sb/cmd-set-builder.py", line 26, in
    setbuilder.run()
  File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-builder/sb/setbuilder.py", line 736, in run
    b.build(deps, mail = mail)
  File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-builder/sb/setbuilder.py", line 473, in build
    self.build_package(configs[s], b)
  File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-builder/sb/setbuilder.py", line 258, in build_package
    build.make()
  File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-builder/sb/build.py", line 603, in make
    self.generate_report('Build: %s' % (gerr))
  File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-builder/sb/build.py", line 126, in _generate_report_
    self.opts, header, footer)
  File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/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 50: ordinal not in range(128)
RSB Error Report:
```

**Comment 1**

1. **Hilgad Montelo**, Fri, 17 Sep 2021 06:25:25 GMT

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

```
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)

## Comment 2

1. **Arne Ehrlich**, Wed, 22 Dec 2021 11:37:04 GMT

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.

## Comment 3

1. **Chris Johns**, Wed, 09 Nov 2022 22:21:25 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

Fixed here <https://git.rtems.org/rtems-source-builder/commit/?h=5&id=ddfcc320ab740cd6ac30d70aaff7987dda25ee7f>

## 4060 - The reworked <rtems/confdefs.h> has a cyclic dependency with RTEMS\_MULTIPROCESSING enabled

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4060">https://devel.rtems.org/ticket/4060</a> ( <a href="https://devel.rtems.org/ticket/4060">https://devel.rtems.org/ticket/4060</a> )
<b>Id</b>	4060
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 August 2020 06:47:02
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

The changes for #3875 introduced a cyclic dependency between and .

#### Comment 1

1. **Sebastian Huber**, Fri, 21 Aug 2020 18:03:24 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 7661402/rtems:

```
confdefs: Fix cyclic dependency
Close #4060.
```

#### Comment 2

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

### 4064 - RSB needs to support waf with no python command

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4064">https://devel.rtems.org/ticket/4064</a> ( <a href="https://devel.rtems.org/ticket/4064">https://devel.rtems.org/ticket/4064</a> )
<b>Id</b>	4064
<b>Reporter</b>	Chris Johns
<b>Created</b>	28 August 2020 00:25:08
<b>Modified</b>	9 November 2022 23:14:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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:

```
/usr/local/bin/python3.7 ./waf configure --prefix=blah/blah
```

#### Comment 1

1. **Chris Johns**, Wed, 09 Nov 2022 23:14:51 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

RTEMS 5 has a hack'ish detect that has been removed in RTEMS 6.

### 4068 - arm: arm\_cp15\_set\_translation\_table\_entries() should affect Inner Shareable domain

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4068">https://devel.rtems.org/ticket/4068</a> ( <a href="https://devel.rtems.org/ticket/4068">https://devel.rtems.org/ticket/4068</a> )
<b>Id</b>	4068
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 September 2020 13:43:16
<b>Modified</b>	17 September 2020 06:38:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The `arm_cp15_set_translation_table_entries()` uses the wrong TLB maintenance operation in multi-processor systems.

**Comment 1**

1. **Sebastian Huber**, Thu, 17 Sep 2020 06:38:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 20d8237/rtems:

```
arm: Fix arm_cp15_set_translation_table_entries()
```

In a multi-processor system we must broadcast the TLB maintenance operation to the Inner Shareable domain to ensure that the other processors update their TLB caches accordingly.

Close #4068.

**4071 - RSB does not pass BSP options correctly.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4071">https://devel.rtems.org/ticket/4071</a> ( <a href="https://devel.rtems.org/ticket/4071">https://devel.rtems.org/ticket/4071</a> )
<b>Id</b>	4071
<b>Reporter</b>	kgardas
<b>Created</b>	6 September 2020 22:19:37
<b>Modified</b>	9 November 2022 22:31:38
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
../source-builder/sb-set-builder
--prefix=$HOME/sfw/rtems/5.1-smp2-vga80x50-key-to-reset 5/bsps/pc
--with-rtems-tests --with-rtems-smp
--with-rtems-bspopts="BSP VIDEO 80x50=1 BSP PRESS KEY FOR RESET=1"
```

command fails with:

```
Build Set: Time 0:00:28.975685
Build Set: Time 0:03:36.556012
installing: 5/bsps/pc ->
/export/home/karel/sfw/rtems/5.1-smp2-vga80x50-key-to-reset
clean staging: 5/bsps/pc
Staging Size: 4.271GB
Build Set: Time 0:24:53.756984
Build Set: BSP PRESS KEY FOR RESET=1
error: no build set file found: BSP_PRESS_KEY_FOR_RESET=1.bset
Build Set: Time 0:00:00.000420
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.

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 22:31:38 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

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.

**4073 - libbsd: Back port ifmstat command**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4073">https://devel.rtems.org/ticket/4073</a> ( <a href="https://devel.rtems.org/ticket/4073">https://devel.rtems.org/ticket/4073</a> )
<b>Id</b>	4073
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 September 2020 11:27:43
<b>Modified</b>	10 September 2020 11:31:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The ifmcast command is a useful diagnostics command to track down issues with multicasts.

#### Comment 1

1. **Sebastian Huber**, Thu, 10 Sep 2020 11:31:09 GMT

Integrated in 7f47f2784138109b8363804c2aecd3d83231ab0f.

#### Comment 2

1. **Sebastian Huber**, Thu, 10 Sep 2020 11:31:20 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

---

## 4075 - POSIX Compliance Guide Missing Some math.h Methods

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4075">https://devel.rtems.org/ticket/4075</a> ( <a href="https://devel.rtems.org/ticket/4075">https://devel.rtems.org/ticket/4075</a> )
<b>Id</b>	4075
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	11 September 2020 21:30:39
<b>Modified</b>	14 September 2020 18:30:42
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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#### Description

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()

#### Comment 1

1. **Joel Sherrill**, Mon, 14 Sep 2020 18:29:42 GMT

2. **owner**: set to **Joel Sherrill** <joel@...>

3. **status**: changed from **new** to **closed**

4. **resolution**: set to **fixed**

In 6559511/rtems-docs:

Add missing methods implemented as macros on compiler builtins.

These methods have long been provided and this change is needed on the 5.x branch and master.

Closes #4075.

## **Comment 2**

1. **Joel Sherrill**, Mon, 14 Sep 2020 18:30:42 GMT

In 5642fe5/rtems-docs:

Add missing methods implemented as macros on compiler builtins.

These methods have long been provided and this change is needed on the 5.x branch and master.

Closes #4075.

## **4082 - License files missing on 5-freebsd-12 branch**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4082">https://devel.rtems.org/ticket/4082</a> ( <a href="https://devel.rtems.org/ticket/4082">https://devel.rtems.org/ticket/4082</a> )
<b>Id</b>	4082
<b>Reporter</b>	Christian Mauderer
<b>Created</b>	17 September 2020 09:23:31
<b>Modified</b>	28 September 2020 11:51:48
<b>Owner</b>	Christian Mauderer
<b>Type</b>	enhancement
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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.

### **Comment 1**

1. **Christian Mauderer**, Mon, 28 Sep 2020 11:51:26 GMT

Fixed with patches 640b2a03b87481bd1a3c80d6e33a2a8a13868734, 5b3ee7027991fbf290e982a4eaffe7ea7ad21ae6, 9dd0bc27e3338bad08eaaaf52d03265d2e7b9b4f7 in libbsd.

### **Comment 2**

1. **Christian Mauderer**, Mon, 28 Sep 2020 11:51:48 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

## **4092 - bsp/pc386: Add missing license header**

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4092">https://devel.rtems.org/ticket/4092</a> ( <a href="https://devel.rtems.org/ticket/4092">https://devel.rtems.org/ticket/4092</a> )
<b>Id</b>	4092
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 September 2020 13:19:03
<b>Modified</b>	23 September 2020 13:30:01
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

bspsmp.c is missing a licence header.

**Comment 1**

1. **Joel Sherrill**, Wed, 23 Sep 2020 13:30:01 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 1f77518/rtems:

(The changeset message doesn't reference this ticket)

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**4094 - RSB: pkgconfig.py uses python2 specific "unicode" keyword**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4094">https://devel.rtems.org/ticket/4094</a> ( <a href="https://devel.rtems.org/ticket/4094">https://devel.rtems.org/ticket/4094</a> )
<b>Id</b>	4094
<b>Reporter</b>	Stephen Clark
<b>Created</b>	24 September 2020 23:16:45
<b>Modified</b>	26 September 2020 01:01:38
<b>Owner</b>	Stephen Clark <stephen.clark@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

<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.

**Attachments:**

- 1 **Stephen Clark**, Fri, 25 Sep 2020 21:47:24 GMT

**attach:** set to [0001-pkgconfig.py-Removed-use-of-unicode-keyword-for-pyth.patch](https://devel.rtems.org/ticket/4094/0001-pkgconfig.py-Removed-use-of-unicode-keyword-for-pyth.patch) (<https://devel.rtems.org/ticket/4094/0001-pkgconfig.py-Removed-use-of-unicode-keyword-for-pyth.patch>)

---

**Comment 1**

1. **Stephen Clark**, Sat, 26 Sep 2020 01:00:05 GMT
2. **owner:** set to **Stephen Clark** <stephen.clark@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In e32e184/rtems-source-builder:

```
pkgconfig.py: Removed use of "unicode" keyword for python3 compatibility
Closes #4094.
```



**Comment 2**

1. **Stephen Clark**, Sat, 26 Sep 2020 01:01:38 GMT

In ed5030b/rtems-source-builder:

```
pkgconfig.py: Removed use of "unicode" keyword for python3 compatibility
Closes #4094.
```

**4096 - shell: CTRL-U sets the cursor to the wrong position**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4096">https://devel.rtems.org/ticket/4096</a> ( <a href="https://devel.rtems.org/ticket/4096">https://devel.rtems.org/ticket/4096</a> )
<b>Id</b>	4096
<b>Reporter</b>	Frank Kuehndel
<b>Created</b>	28 September 2020 12:12:11
<b>Modified</b>	28 September 2020 12:21:17
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 ):

```
~/src/rtems $ qemu-system-arm -net none -nographic -M realview-pbx-a9 -m 256M -kernel
build/arm/realview-pbx-a9-qemu/testsuites/libtests/dll10.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.I 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 key. Next type -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
```

**Comment 1**

1. **Frank Kuehndel**, Mon, 28 Sep 2020 12:21:17 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In 18549295/rtems:

Fixing bug in line editing of the shell with CTRL-U.

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 ):

```
~/src/rtems $ qemu-system-arm -net none -nographic -M realview-pbx-a9 \
```

```
-m 256M -kernel build/arm/realview_pbx_a9_gemu/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 key. Next type -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
```

Close #4096.

## 4099 - Enhance rtems-bsps to print canonical names of bsp

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4099">https://devel.rtems.org/ticket/4099</a> ( <a href="https://devel.rtems.org/ticket/4099">https://devel.rtems.org/ticket/4099</a> )
<b>Id</b>	4099
<b>Reporter</b>	Ryan Long
<b>Created</b>	28 September 2020 22:43:16
<b>Modified</b>	29 September 2020 12:59:41
<b>Owner</b>	Ryan Long <ryan.long@...>
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Attachments:

- Ryan Long, Mon, 28 Sep 2020 22:52:00 GMT**  
**attach:** set to [0001-rtems-bsps-add-ability-to-print-architecture-bsp-lis.patch](https://devel.rtems.org/ticket/4099/0001-rtems-bsps-add-ability-to-print-architecture-bsp-lis.patch) (<https://devel.rtems.org/ticket/4099/0001-rtems-bsps-add-ability-to-print-architecture-bsp-lis.patch>)

### Comment 1

- Ryan Long, Tue, 29 Sep 2020 05:11:25 GMT**
- owner:** set to **Ryan Long** <ryan.long@...>
- status:** changed from **new** to **closed**
- resolution:** set to **fixed**

In 0805930/rtems:

```
rtems-bsps: add ability to print architecture/bsp list
```

Closes #4099.

### Comment 2

1. **Ryan Long**, Tue, 29 Sep 2020 12:59:41 GMT

In fdbe9b7/rtems:

```
rtems-bsps: add ability to print architecture/bsp list
Closes #4099.
```

## 4102 - rtems-pairs includes invalid BSP

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4102">https://devel.rtems.org/ticket/4102</a> ( <a href="https://devel.rtems.org/ticket/4102">https://devel.rtems.org/ticket/4102</a> )
<b>Id</b>	4102
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	29 September 2020 22:00:07
<b>Modified</b>	9 November 2022 23:16:11
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

On both 5 and master, the list of BSP pairs includes bbxm which appears to come from the file bsp/arm/beagle/simscripts/bbxm.cfg which is obviously not a build configuration file.

```
arm: (families:21 bsp:57)
altcydv_devkit          altera-cyclone-v
atsamv                  atsam
bbxm                    beagle
beagleboardorig        beagle
beagleboardxm          beagle
beagleboneblack        beagle
beaglebonewhite        beagle
```

### Comment 1

1. **Joel Sherrill**, Tue, 29 Sep 2020 22:00:18 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Chris Johns**, Wed, 09 Nov 2022 23:16:11 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

## 4106 - RSB Missing BSP bset for xilinx\_zynq\_a9\_qemu

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4106">https://devel.rtems.org/ticket/4106</a> ( <a href="https://devel.rtems.org/ticket/4106">https://devel.rtems.org/ticket/4106</a> )
<b>Id</b>	4106
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 September 2020 15:52:28
<b>Modified</b>	9 November 2022 22:32:24
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

This needs to be added to the RSB for 5 and master.

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 22:32:24 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

Please reopen when the bset is added.

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**4114 - Cortex-A9 MPCore based BSPs should include the workaround for Errata 794072 and 845369**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4114">https://devel.rtems.org/ticket/4114</a> ( <a href="https://devel.rtems.org/ticket/4114">https://devel.rtems.org/ticket/4114</a> )
<b>Id</b>	4114
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 October 2020 09:34:40
<b>Modified</b>	16 October 2020 04:48:30
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 05 Oct 2020 06:46:34 GMT
2. **description**: modified (diff)
3. **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**

**Comment 2**

1. **Sebastian Huber**, Fri, 16 Oct 2020 04:48:26 GMT

In 3d7da435/rtems:

```
bsps/arm: Workaround for Errata 845369
```

```
Add a workaround for Cortex-A9 Errata 845369: Under Very Rare Timing Circumstances Transition into Streaming Mode Might Create Data Corruption.
```

```
Update #4114.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 16 Oct 2020 04:48:30 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In e71e271/rtems:

```
bsps/arm: Add workaround for Errata 794072
```

```
Add a workaround for Cortex-A9 Errata 845369: A short loop including a DMB instruction might cause a denial of service on another which executes a CP15 broadcast operation.
```

```
Close #4114.
```

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**4119 - rtems-bsp-tester: Off By One for Completed Jobs**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4119">https://devel.rtems.org/ticket/4119</a> ( <a href="https://devel.rtems.org/ticket/4119">https://devel.rtems.org/ticket/4119</a> )
<b>Id</b>	4119
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 October 2020 17:36:58
<b>Modified</b>	9 November 2022 23:17:29
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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:

```
Total Time      : 2:05:13.725904 for 1696 completed job(s)
Average BSP Build Time: 0:00:04.430262
.....
1695 profiling v850/v850sim build:
configure: /home/joel/rtems-cron-6/rtems/configure\
--target=v850-rtems6 --enable-rtemsbsp=v850sim --prefix=/home/joel\
/rtems-cron-6/tools/6/bsps --enable-profiling --disable-smp
```

I think there are 1695 jobs completed not 1696. :)

#### Comment 1

1. **Chris Johns**, Wed, 09 Nov 2022 23:17:29 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

Please reopen if this is still valid and important for the 5 branch.

### 4149 - RFS bit map search buffer overflow

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4149">https://devel.rtems.org/ticket/4149</a> ( <a href="https://devel.rtems.org/ticket/4149">https://devel.rtems.org/ticket/4149</a> )
<b>Id</b>	4149
<b>Reporter</b>	Chris Johns
<b>Created</b>	15 October 2020 06:13:07
<b>Modified</b>	16 October 2020 23:55:53
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	fs/rfs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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>

#### Comment 1

1. **Chris Johns**, Fri, 16 Oct 2020 23:55:53 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 7021c014/rtems:

```
libfs/rfs: Check search bit map end on last bit
Do not write past the last location of the search bit map
when it is being created.
Closes #4149
```

**4154 - Improve the workaround for the LEON3FT store-store errata: TN-0009**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4154">https://devel.rtems.org/ticket/4154</a> ( <a href="https://devel.rtems.org/ticket/4154">https://devel.rtems.org/ticket/4154</a> )
<b>Id</b>	4154
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 October 2020 05:45:40
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

See also:

<https://www.gaisler.com/doc/antrn/GRLIB-TN-0009.pdf>

Some areas were already fixed by #3057.

**Comment 1**

1. **Daniel Cederman**, Sun, 07 Mar 2021 15:56:20 GMT

In 980cdb8/rtems:

```
sparc: Remove sequences that the B2BST scan script warns about
Update #4154.
```

**Comment 2**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:36 GMT

In 3074eb0/rtems:

```
sparc,leon: avoid triggering TN-0009 bad sequence
Update #4154.
```

**Comment 3**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:40 GMT

In 2497a46a/rtems:

```
sparc,leon: avoid triggering LEON3FT errata TN-0009
Update #4154.
```

**Comment 4**

1. **Daniel Hellstrom**, Thu, 11 Mar 2021 15:17:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **6.1** to **5.2**

**Comment 5**

1. **Daniel Hellstrom**, Thu, 11 Mar 2021 17:01:09 GMT
2. **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**

**Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

**4165 - Fix NVMe disk synchronization and media block handling (cloned)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4165">https://devel.rtems.org/ticket/4165</a> ( <a href="https://devel.rtems.org/ticket/4165">https://devel.rtems.org/ticket/4165</a> )
<b>Id</b>	4165
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 October 2020 05:24:30
<b>Modified</b>	27 October 2020 05:27:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4164.

**Comment 1**

1. **Sebastian Huber**, Tue, 27 Oct 2020 05:27:52 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
- 

**4169 - Link problem of C++ tests when using libpci in BSP**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4169">https://devel.rtems.org/ticket/4169</a> ( <a href="https://devel.rtems.org/ticket/4169">https://devel.rtems.org/ticket/4169</a> )
<b>Id</b>	4169
<b>Reporter</b>	Jan Sommer
<b>Created</b>	29 October 2020 13:19:02
<b>Modified</b>	30 October 2020 02:22:13
<b>Owner</b>	Jan Sommer <jan.sommer@...>
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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/devel/2020-October/062981.html>

**Comment 1**

1. **Jan Sommer**, Fri, 30 Oct 2020 02:22:13 GMT
2. **owner**: set to **Jan Sommer** <jan.sommer@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In f84c4a5/rtems:

```
confdefs: Add extern C guards to libpci.h
Closes #4169
```

---

**4174 - devctl.h does not compile from C++**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4174">https://devel.rtems.org/ticket/4174</a> ( <a href="https://devel.rtems.org/ticket/4174">https://devel.rtems.org/ticket/4174</a> )
<b>Id</b>	4174
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 November 2020 21:34:40
<b>Modified</b>	10 December 2020 21:08:18
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:****1 Joel Sherrill, Mon, 09 Nov 2020 21:35:20 GMT**

**attach:** set to [0001-libc-include-newlib.h-Fix-C-compilation-issue.patch](https://devel.rtems.org/ticket/4174/0001-libc-include-newlib.h-Fix-C-compilation-issue.patch) (<https://devel.rtems.org/ticket/4174/0001-libc-include-newlib.h-Fix-C-compilation-issue.patch>)

---

**Comment 1****1. Joel Sherrill, Mon, 16 Nov 2020 14:19:02 GMT**

Fixed pushed to newlib.

<https://sourceware.org/git/?p=newlib-cygwin.git;a=commit;h=302b82afee423fcb5a447a222e2b771ef9c06ee0>

**Comment 2****1. Joel Sherrill, Tue, 17 Nov 2020 15:44:02 GMT****2. owner:** changed from **Joel Sherrill** to **Sebastian Huber**

Assigning to Sebastian since he is bumping the RSB recipes and can close when that is done.

**Comment 3****1. Joel Sherrill, Tue, 08 Dec 2020 17:47:04 GMT****2. owner:** changed from **Sebastian Huber** to **Joel Sherrill****3. description:** modified (diff)**Comment 4****1. Joel Sherrill, Thu, 10 Dec 2020 21:08:18 GMT****2. status:** changed from **assigned** to **closed****3. resolution:** set to **fixed**

In 803d42c/rtems-source-builder:

```
Add patch to newlib for devctl.h to compile with C++
```

```
Closes #4174.
```

---

**4185 - arm/bsps: Small MMU pages are rounded to 1 MiB (cloned)**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4185">https://devel.rtems.org/ticket/4185</a> ( <a href="https://devel.rtems.org/ticket/4185">https://devel.rtems.org/ticket/4185</a> )
<b>Id</b>	4185
<b>Reporter</b>	Jan Sommer
<b>Created</b>	24 November 2020 08:34:18
<b>Modified</b>	15 December 2020 10:27:33
<b>Owner</b>	Jan Sommer <jan.sommer@...>
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Jan Sommer**, Wed, 02 Dec 2020 12:39:29 GMT

To keep track of it during the Christmas break: The patch is here:

<https://lists.rtems.org/pipermail/devel/2020-November/063461.html>

**Comment 2**

1. **Jan Sommer**, Fri, 11 Dec 2020 05:55:49 GMT
2. **owner:** set to **Jan Sommer** <jan.sommer@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 21ed8d11/rtems:

```
bsps/arm: Fix MMU small pages support
For small tables only round to the next 4kiB instead of 1MiB
Close #4185.
```

**Comment 3**

1. **Sebastian Huber**, Tue, 15 Dec 2020 10:27:33 GMT

In 2a8f755/rtems:

```
bsps/arm: Fix MMU configuration
Update #4185.
```

**4189 - rtems\_interrupt\_server\_delete() does not destroy the ISR lock of the server control (cloned)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4189">https://devel.rtems.org/ticket/4189</a> ( <a href="https://devel.rtems.org/ticket/4189">https://devel.rtems.org/ticket/4189</a> )
<b>Id</b>	4189
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 November 2020 07:24:37
<b>Modified</b>	25 November 2020 07:33:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4158:

This leads to memory corruption if RTEMS\_PROFILING and RTEMS\_SMP is enabled.

**Comment 1**

1. **Sebastian Huber**, Wed, 25 Nov 2020 07:33:25 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1dbdf94e/rtems:

```
bsps: Fix rtems_interrupt_server_delete()
```

```
The ISR lock must be destroyed to prevent memory corruption if RTEMS_PROFILING and RTEMS_SMP is enabled.
```

```
Close #4189.
```

**4190 - Back port rtems\_interrupt\_server\_create() improvements**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4190">https://devel.rtems.org/ticket/4190</a> ( <a href="https://devel.rtems.org/ticket/4190">https://devel.rtems.org/ticket/4190</a> )
<b>Id</b>	4190
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 November 2020 07:31:46
<b>Modified</b>	25 November 2020 07:33:28
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Back port 99c73303deb09ad66d4cc1c89961f62e4e618938 to RTEMS 5 to fix "fman" network interface driver issues in libbsd.

**Comment 1**

1. **Sebastian Huber**, Wed, 25 Nov 2020 07:33:28 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In dedc3e1d/rtems:

```
rtems: Improve rtems_interrupt_server_create()
```

```
Also start interrupt server tasks on processors which do not have a scheduler. Applications may dynamically manage processors using rtems_scheduler_remove_processor() and rtems_scheduler_add_processor().
```

```
Close #4190.
```

**4224 - Missing "extern" in RTEMS\_LINKER\_ROSET\_ITEM\_ORDERED\_DECLARE() (cloned)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4224">https://devel.rtems.org/ticket/4224</a> ( <a href="https://devel.rtems.org/ticket/4224">https://devel.rtems.org/ticket/4224</a> )
<b>Id</b>	4224
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 January 2021 05:43:27
<b>Modified</b>	25 January 2021 05:48:17
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4223:

The fix for #3865 contains a typo. In RTEMS\_LINKER\_ROSET\_ITEM\_ORDERED\_DECLARE() there is a missing "extern".

**Comment 1**

1. **Sebastian Huber**, Mon, 25 Jan 2021 05:48:17 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5ae7ec9/rtems:

```
Fix RTEMS_LINKER_ROSET_ITEM_ORDERED_DECLARE()
Add "extern" similar to RTEMS_LINKER_RWSET_ITEM_ORDERED_DECLARE().
Close #4224.
```

---

**4232 - Timeout for automatic barriers is broken (cloned)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4232">https://devel.rtems.org/ticket/4232</a> ( <a href="https://devel.rtems.org/ticket/4232">https://devel.rtems.org/ticket/4232</a> )
<b>Id</b>	4232
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 February 2021 20:03:57
<b>Modified</b>	6 February 2021 20:35:12
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4230:

A barrier wait timeout at an automatic barrier doesn't decrement the count of waiting threads.

**Comment 1**

1. **Sebastian Huber**, Sat, 06 Feb 2021 20:35:05 GMT

In 5861e42/rtems:

```
score: Constify Thread_queue_First_operation
Update #4232.
```

**Comment 2**

1. **Sebastian Huber**, Sat, 06 Feb 2021 20:35:09 GMT

In cc2a237/rtems:

score: Make FIFO thread queue ops public

Update #4232.

### **Comment 3**

1. **Sebastian Huber**, Sat, 06 Feb 2021 20:35:12 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ef1ac8af/rtems:

score: Add barrier thread queue operations

This fixes a missing decrement of the number of waiting threads during a barrier wait timeout.

Close #4232.

## **4233 - MVME 2600/2700 has no console output (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4233">https://devel.rtems.org/ticket/4233</a> ( <a href="https://devel.rtems.org/ticket/4233">https://devel.rtems.org/ticket/4233</a> )
<b>Id</b>	4233
<b>Reporter</b>	Chris Johns
<b>Created</b>	7 February 2021 02:58:12
<b>Modified</b>	10 February 2021 06:36:01
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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.

### **Comment 1**

1. **Chris Johns**, Wed, 10 Feb 2021 06:36:01 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 6d9843e/rtems:

powerpc/shared: ISA bus bridge fails to enable the openpic irq  
 The call to enable the openpic irq for the ISA bridge fails  
 because the IRQ used is offset by the ISA bus signals and  
 the openpic call expects an IRQ relative to its signals. Add the MVME 2600/2700 to the list of boards with an ISA bridge.  
 Closes #4233

## **4234 - powerpc/motorola\_shared display current RTEMS on boot**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4234">https://devel.rtems.org/ticket/4234</a> ( <a href="https://devel.rtems.org/ticket/4234">https://devel.rtems.org/ticket/4234</a> )
<b>Id</b>	4234
<b>Reporter</b>	Chris Johns
<b>Created</b>	7 February 2021 03:00:53
<b>Modified</b>	10 February 2021 06:36:05
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The boot messages display the RTEMS version. Display the current version and not a hard coded version:

```
-----
Welcome to rtems-5.0.0 (PowerPC/Generic (classic FPU)/mvme2307) on MVME 2600/2700 with MVME761
-----
```

**Comment 1**

1. **Chris Johns**, Wed, 10 Feb 2021 06:36:05 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 388bd805/rtems:

```
bsp/motorola_powerp: Print RTEMS_VERSION from the bootloader
Close #4234
```

**4236 - bsp/zynq: termios not working correctly for stdin**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4236">https://devel.rtems.org/ticket/4236</a> ( <a href="https://devel.rtems.org/ticket/4236">https://devel.rtems.org/ticket/4236</a> )
<b>Id</b>	4236
<b>Reporter</b>	Jan Sommer
<b>Created</b>	9 February 2021 12:22:15
<b>Modified</b>	9 March 2021 08:30:38
<b>Owner</b>	Jan Sommer <jan.sommer@...>
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Kinsey Moore**, Tue, 09 Mar 2021 08:30:07 GMT

In 2f32370/rtems:

```
zynq-uart: Fix set_attributes implementation
```

The zynq-uart set\_attributes implementation was configured to always return false which causes spconsole01 to fail. This restores the disabled implementation which sets the baud rate registers appropriately and allows spconsole01 to pass. This also expands the set\_attributes functionality to allow setting of the stop bits, character width, and parity.

```
Updates #4236
```

**Comment 2**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Jan Sommer**, Tue, 09 Mar 2021 08:30:38 GMT
2. **owner:** set to **Jan Sommer** <jan.sommer@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 645dbc5/rtems:

bsps/shared: Allow setting baud rate for zynq uart

Closes #4236

## **4247 - Change motorola\_powerpc bsp to support irq-generic (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4247">https://devel.rtems.org/ticket/4247</a> ( <a href="https://devel.rtems.org/ticket/4247">https://devel.rtems.org/ticket/4247</a> )
<b>Id</b>	4247
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 February 2021 04:18:24
<b>Modified</b>	16 February 2021 20:30:07
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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.

### **Comment 1**

1. **Chris Johns**, Tue, 16 Feb 2021 20:30:07 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 2f56b737/rtems:

Update motorola\_power to irq-generic interrupt management  
 Add support to the BSP to enable irq-generic management Update the powerpc shared irq code to support irq-generic. This is an opt in option for existing powerpc bsp. This change should be simpler now Fix a number of issues in ISA IRQ controller handling by porting fixes from the i386 (PC) BSP  
 Closes #4247 Closes #4248

## **4248 - PowerPC shared ISA IRQ support is broken (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4248">https://devel.rtems.org/ticket/4248</a> ( <a href="https://devel.rtems.org/ticket/4248">https://devel.rtems.org/ticket/4248</a> )
<b>Id</b>	4248
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 February 2021 04:19:03
<b>Modified</b>	16 February 2021 20:30:07
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	i8258 irq interrupt
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

Cloned from #4239:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

#### Comment 1

1. **Chris Johns**, Tue, 16 Feb 2021 20:30:07 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 2f56b737/rtems:

```
Update motorola_power to irq-generic interrupt management
Add support to the BSP to enable irq-generic management Update the powerpc shared irq code to support irq-generic. This
is an opt in option for existing powerpc bsps. This change
should be simpler now Fix a number of issues in ISA IRQ controller handling by porting
fixes from the i386 (PC) BSP
Closes #4247 Closes #4248
```

## 4249 - fix mkimage.py script type processing

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4249">https://devel.rtems.org/ticket/4249</a> ( <a href="https://devel.rtems.org/ticket/4249">https://devel.rtems.org/ticket/4249</a> )
<b>Id</b>	4249
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 February 2021 05:21:34
<b>Modified</b>	16 February 2021 05:24:00
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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>

#### Comment 1

1. **Andre Nahrwold**, Tue, 16 Feb 2021 05:24:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In e621fd9/rtems-tools:

misc: tools: fix mkimage.py script type processing

Closes #4249

---

## 4263 - Activate ehci\_pci in rtems-libbsd

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4263">https://devel.rtems.org/ticket/4263</a> ( <a href="https://devel.rtems.org/ticket/4263">https://devel.rtems.org/ticket/4263</a> )
<b>Id</b>	4263
<b>Reporter</b>	GabrielMoyano
<b>Created</b>	22 February 2021 10:29:08
<b>Modified</b>	9 March 2021 10:38:24
<b>Owner</b>	Jan Sommer
<b>Type</b>	enhancement
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Import ehci\_pci from freebsd-org using freebsd-to-rtems.py

### Comment 1

1. **Jan Sommer**, Mon, 08 Mar 2021 17:18:19 GMT
2. **component**: changed from **admin** to **network/libbsd**

### Comment 2

1. **Jan Sommer**, Tue, 09 Mar 2021 10:37:15 GMT
2. **owner**: set to **Jan Sommer**
3. **status**: changed from **new** to **accepted**

### Comment 3

1. **Jan Sommer**, Tue, 09 Mar 2021 10:38:24 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

Fixed with <https://git.rtems.org/rtems-libbsd/commit/?h=5-freebsd-12&id=ea5d0c78038d92597983c0922a011a62f5dc2dea>

---

## 4266 - motorola\_powerpc bootloader images not linking correctly

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4266">https://devel.rtems.org/ticket/4266</a> ( <a href="https://devel.rtems.org/ticket/4266">https://devel.rtems.org/ticket/4266</a> )
<b>Id</b>	4266
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 February 2021 05:52:30
<b>Modified</b>	3 March 2021 19:58:04
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

The change to support code and data sections has broken creating net boot images for the MVME 2700 (mvme2307) BSP. The linker command file ppboot.lids does not handle the per function text sections.



**Comment 1**

1. **Chris Johns**, Wed, 24 Feb 2021 21:50:13 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3824960/rtems:

```
powerpc/motorola power: Link all text sections into the executable image
The change to building all code with code and data sections means
we have a section per function. Make sure all functions are
placed in the text section.
Closes #4266
```

**Comment 2**

1. **Chris Johns**, Fri, 26 Feb 2021 04:19:33 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

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:

[Nr]	Name	Type	Addr	Off	Size	ES	Flg	Lk	Inf	Al
[ 0]		NULL	00000000	000000	000000	00		0	0	0
[ 1]	.text	PROGBITS	00000000	010000	00f145	00	AX	0	0	32
[ 2]	.eh_frame	PROGBITS	0000f148	01f148	0017e0	00	A	0	0	4
[ 3]	.image	PROGBITS	00010928	020928	017778	00	WA	0	0	1
[ 4]	.reloc	PROGBITS	000280a0	0380a0	0002bc	00	WA	0	0	4
[ 5]	.handlers	PROGBITS	0002835c	03835c	0003ac	00	WA	0	0	1
[ 6]	.data	PROGBITS	00028720	038720	003c80	00	WA	0	0	32
[ 7]	.bss	NOBITS	0002c3a0	03c3a0	001158	00	WA	0	0	32
[ 8]	.gnu.attributes	GNU_ATTRIBUTES	00000000	03c3a0	000010	00		0	0	1
[ 9]	.symtab	SYMTAB	00000000	03c3b0	0066c0	10		10	698	4
[10]	.strtab	STRTAB	00000000	042a70	00616c	00		0	0	1
[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](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:

```
$ grep CPU_FLAGS powerpc-rtems5/c/mvme2307/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile
$
```

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:

```
CFLAGS =
CPPFLAGS =
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:

Remove the problem flags from the build Find a way to include the config with the flags

**Comment 3**

1. **Chris Johns**, Fri, 26 Feb 2021 07:14:46 GMT

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.

**Comment 4**

1. **Chris Johns**, Fri, 26 Feb 2021 19:04:37 GMT

Comparing the `zlib.o` ELF sections for RTEMS 5 and 6 the `.bss` size is almost 0:

[Nr]	Name	Type	Addr	Off	Size	ES	Flg	Lk	Inf	Al
[ 0]		NULL	00000000	000000	000000	00		0	0	0
[ 1]	.text	PROGBITS	00000000	000034	003cb8	00	AX	0	0	4
[ 2]	.rela.text	RELA	00000000	004890	000444	0c	I	16	1	4
[ 3]	.data	PROGBITS	00000000	003cec	00027c	00	WA	0	0	4
[ 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:

[Nr]	Name	Type	Addr	Off	Size	ES	Flg	Lk	Inf	Al
[ 0]		NULL	00000000	000000	000000	00		0	0	0
[ 1]	.text	PROGBITS	00000000	000034	003c7c	00	AX	0	0	4
[ 2]	.rela.text	RELA	00000000	005014	000444	0c	I	18	1	4
[ 3]	.data	PROGBITS	00000000	003cb0	00027c	00	WA	0	0	4
[ 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 boot loader has it working.

#### Comment 5

1. **Chris Johns**, Fri, 26 Feb 2021 19:06:17 GMT

GCC 10 defaults to -fno-common ...

[https://gcc.gnu.org/bugzilla/show\\_bug.cgi?id=85678](https://gcc.gnu.org/bugzilla/show_bug.cgi?id=85678)

#### Comment 6

1. **Chris Johns**, Fri, 26 Feb 2021 19:21:14 GMT

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.

#### Comment 7

1. **Chris Johns**, Sun, 28 Feb 2021 01:28:36 GMT

2. **status:** changed from **reopened** to **closed**

3. **resolution:** set to **fixed**

In d1bab98/rtems:

```
powerpc/motorola_power: Place any common data in the .bss section
It seems the compiler how defaults to -fcommon and this means
some uninitialised data is ignored.
Closes #4266
```

#### Comment 8

1. **Chris Johns**, Sun, 28 Feb 2021 03:37:18 GMT

In 75fb7a0e/rtems:

```
powerpc/motorola_power: Link all text sections into the executable image
The change to building all code with code and data sections means
we have a section per function. Make sure all functions are
placed in the text section.
Closes #4266
```

#### Comment 9

1. **Chris Johns**, Sun, 28 Feb 2021 03:37:22 GMT

In 96918af/rtems:

```
powerpc/motorola_power: Place any common data in the .bss section
It seems the compiler how defaults to -fcommon and this means
some uninitialised data is ignored.
Closes #4266
```

#### Comment 10

1. **Michael Davidsaver**, Wed, 03 Mar 2021 19:58:04 GMT

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>

---

## **4274 - GR1553RT driver: fixes to memory allocation and locking on descriptor updates**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4274">https://devel.rtems.org/ticket/4274</a> ( <a href="https://devel.rtems.org/ticket/4274">https://devel.rtems.org/ticket/4274</a> )
<b>Id</b>	4274
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	26 February 2021 15:23:59
<b>Modified</b>	9 March 2021 13:20:48
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

**Comment 1**

1. **Arvid Bjorkengren**, Sun, 07 Mar 2021 15:56:23 GMT

In a97a473/rtems:

```
leon,gr1553rt: Fixed memory leak
Update #4274.
```

**Comment 2**

1. **Arvid Bjorkengren**, Sun, 07 Mar 2021 15:56:26 GMT

In 1223f5e/rtems:

```
leon,gr1553rt: Fixed spinlock unlock
Update #4274.
```

**Comment 3**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:20:48 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
  4. **milestone**: changed from **6.1** to **5.2**
- 

**4275 - GR1553B: use new codec available in GR740 revision 1**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4275">https://devel.rtems.org/ticket/4275</a> ( <a href="https://devel.rtems.org/ticket/4275">https://devel.rtems.org/ticket/4275</a> )
<b>Id</b>	4275
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	26 February 2021 15:46:50
<b>Modified</b>	9 March 2021 13:21:45
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Select the new 1553 codec available specifically in GR740.

**Comment 1**

1. **Arvid Bjorkengren**, Sun, 07 Mar 2021 15:56:30 GMT

In 14fcf388/rtems:

```
leon,gr1553b: set codec version
```

This is enables the updated codec for GR740 and is backwards compatible with all other versions of the IP.

Updates #4275.

**Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:21:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **6.1** to **5.2**

**4303 - glib,gr1553bc: better check of the DMA area address alignment**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4303">https://devel.rtems.org/ticket/4303</a> ( <a href="https://devel.rtems.org/ticket/4303">https://devel.rtems.org/ticket/4303</a> )
<b>Id</b>	4303
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 13:26:40
<b>Modified</b>	9 March 2021 13:22:56
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

GR1553 BC hardware truncates unaligned DMA memory addresses. Need to check input and the final DMA address and fail if unaligned address.

**Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 13:46:56 GMT
2. **component:** changed from **admin** to **bsps**

**Comment 2**

1. **Arvid Bjorkengren**, Sun, 07 Mar 2021 15:56:33 GMT

In 8004ffb/rtems:

```
leon,gr1553b: Only align allocated memory. Verify alignment of memory.
```

Update #4303.

**Comment 3**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:22:56 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **6.1** to **5.2**

Minor fix, no need to add to 5.2 Changelog.

**4304 - glib,grspw: SET\_PACKET\_SIZE could use old DMA address**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4304">https://devel.rtems.org/ticket/4304</a> ( <a href="https://devel.rtems.org/ticket/4304">https://devel.rtems.org/ticket/4304</a> )
<b>Id</b>	4304
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 13:37:08
<b>Modified</b>	9 March 2021 13:23:36
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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 reallocating the DMA tables because there is no configuration option to it.

#### Comment 1

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 13:37:33 GMT
2. **summary:** changed from **leon,grspw: SET\_PACKET\_SIZE could use old DMA address** to **glib,grspw: SET\_PACKET\_SIZE could use old DMA address**

#### Comment 2

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 13:47:21 GMT
2. **component:** changed from **admin** to **bsps**

#### Comment 3

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:36 GMT

In 84fb340/rtems:

```
leon,grspw: fix for SET_PACKET_SIZE
```

```
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 reallocating the DMA tables because there is no configuration option to it. Therefore the DMA tables allocation is moved to a separate function never called from SET_PACKETSIZE.
```

```
Update #4304.
```

#### Comment 4

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:23:36 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **6.1** to **5.2**

---

## **4305 - glib,ambapp: update GRLIB IP core ID list**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4305">https://devel.rtems.org/ticket/4305</a> ( <a href="https://devel.rtems.org/ticket/4305">https://devel.rtems.org/ticket/4305</a> )
<b>Id</b>	4305
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 13:41:16
<b>Modified</b>	9 March 2021 13:24:23
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	trivial
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Add the new AMBA PnP IDs of the new cores.

**Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 13:47:46 GMT
2. **component**: changed from **admin** to **bsps**

**Comment 2**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:39 GMT

In 0ab993b/rtems:

```
glibc,ambapp: added new IP core IDs
Update #4305.
```

**Comment 3**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:24:23 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **6.1** to **5.2**

Minor improvement, no need to add to 5.2 changelog.

---

**4306 - glibc,can: introduce a new common CAN baud-rate timing calculating functions**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4306">https://devel.rtems.org/ticket/4306</a> ( <a href="https://devel.rtems.org/ticket/4306">https://devel.rtems.org/ticket/4306</a> )
<b>Id</b>	4306
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 13:46:26
<b>Modified</b>	9 March 2021 13:25:01
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:43 GMT

In da7cb87/rtems:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

leon,cn: introduce common CAN baud-rate calculation function  
 Reimplemented the baud-rate algorithm from scratch to cope with GRCAN, GRCANFD and OC\_CAN devices.  
 Update #4306.

**Comment 2**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:46 GMT

In 78b45cc5/rtems:

leon,grcan: use common CAN baud-rate calculation routine  
 Update #4306.

**Comment 3**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:49 GMT

In 7db032cf/rtems:

leon,occan: use common CAN baud-rate calculation routine  
 Update #4306.

**Comment 4**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:25:01 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **6.1** to **5.2**

**4307 - grlib,grcanfd: extend the GRCAN driver with GRCANFD support**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4307">https://devel.rtems.org/ticket/4307</a> ( <a href="https://devel.rtems.org/ticket/4307">https://devel.rtems.org/ticket/4307</a> )
<b>Id</b>	4307
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:00:03
<b>Modified</b>	9 March 2021 13:25:50
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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).

**Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:53 GMT

In e1062fae/rtems:

grrlib: added 64-bit read no-cache function  
 Update #4307.

**Comment 2**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:56 GMT

In c41e7ba/rtems:

leon,grcan: added support for GRCANFD

The new GRCAN\_FD IP supports CAN FD standard and is mostly backwards compatible with GRCAN SW interface. The GRCAN driver have been extended to support the GRCANFD IP using the same driver.

Additional functions have been added that uses a new CAN FD frame format and read/write/baud-rate functions that supports both GRCANFD and GRCAN. To keep the SW API fully backwards compatible with GRCAN, the old functions remain.

Update #4307.

### Comment 3

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:56:59 GMT

In e180f281/rtems:

leon,grcanfd: split out GRCANFD specific support in separate file

Update #4307.

### Comment 4

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:03 GMT

In 23cc5a6/rtems:

leon,grcan: split out GRCAN non-FD specific support in separate file

Update #4307.

### Comment 5

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:25:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **6.1** to **5.2**

## 4308 - glib,greth: added support for variable sized descriptor table sizes

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4308">https://devel.rtems.org/ticket/4308</a> ( <a href="https://devel.rtems.org/ticket/4308">https://devel.rtems.org/ticket/4308</a> )
<b>Id</b>	4308
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:06:05
<b>Modified</b>	9 March 2021 13:26:25
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

### Comment 1

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:06 GMT

In c13205f/rtems:

leon,greth: added support for variable sized descriptor table sizes

The descriptor table size is equal to its alignment and set when configuring the HW IP through VHDL generics. This SW patch simply probes the HW how large the RX/TX descriptor tables are and adjusts accordingly.

The number of descriptors actual used are controlled by other settings (rxDescs and txDescs) controlled by the user.

Update #4308.

### Comment 2

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html



1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:26:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **6.1** to **5.2**

Minor improvement, no need to add to 5.2 changelog.

---

### **4309 - bsp,leon3: avoid BSP dependency on apbuart/timer driver**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4309">https://devel.rtems.org/ticket/4309</a> ( <a href="https://devel.rtems.org/ticket/4309">https://devel.rtems.org/ticket/4309</a> )
<b>Id</b>	4309
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:13:17
<b>Modified</b>	9 March 2021 13:26:49
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:09 GMT

In `Oed294b6/rtems`:

```
leon3: avoid dependency on apbuart/timer driver
```

```
Moves drvmgr_drivers[] from amba.c to a separate file in order to avoid the dependency on APBUART/GPTIMER drivers. This has an effect when user configured not to use timer or uart in their project.
```

```
Update #4309.
```

#### **Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:26:49 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
  4. **milestone**: changed from **6.1** to **5.2**
- 

### **4310 - bsp,leon3: BSP assumes that timer pre-scaler runs at 1MHz**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4310">https://devel.rtems.org/ticket/4310</a> ( <a href="https://devel.rtems.org/ticket/4310">https://devel.rtems.org/ticket/4310</a> )
<b>Id</b>	4310
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:19:31
<b>Modified</b>	20 October 2021 08:16:23
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### Comment 1

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:12 GMT

In 81e4a15/rtems:

```
leon,ckinit: avoid assuming 1MHz timer pre-scaler clock
Update #4310.
```

#### Comment 2

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:27:14 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **6.1** to **5.2**

#### Comment 3

1. **Andrea**, Wed, 20 Oct 2021 08:16:23 GMT

Is there the same assumption in RTEMS 4.8 too?

---

### **4311 - bsp,leon3: \_st64() did not follow the SPARC ABI**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4311">https://devel.rtems.org/ticket/4311</a> ( <a href="https://devel.rtems.org/ticket/4311">https://devel.rtems.org/ticket/4311</a> )
<b>Id</b>	4311
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:29:23
<b>Modified</b>	9 March 2021 13:27:56
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

STD instruction requires even register alignment for 64-bit data.

#### Comment 1

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:19 GMT

In d9d96f0/rtems:

```
sparc: fix bad register alignment for 64 bit store
Update #4311.
```

#### Comment 2

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:27:56 GMT
  2. **status:** changed from **assigned** to **closed**
  3. **resolution:** set to **fixed**
  4. **milestone:** changed from **6.1** to **5.2**
- 

### **4312 - bsp,leon3: need to make cpucounter restart after underflow**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4312">https://devel.rtems.org/ticket/4312</a> ( <a href="https://devel.rtems.org/ticket/4312">https://devel.rtems.org/ticket/4312</a> )
<b>Id</b>	4312
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:34:33
<b>Modified</b>	9 March 2021 13:28:21
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Fix for the BSP timer initialization when GPTIMER is used as the cpucounter. Without restarting in HW the cpucounter would stop after some time.

**Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:16 GMT

In cb8379d/rtems:

```
leon: restart and load timer counter at initialization

Without this smp05 and smpthreadlife01 tests may fail depending on how the boot loader initialized the GPTIMER. Before the time counter stopped counting when reaching zero, but tests could work since it could take 232 us before stopping.

The timer driver will potentially overwrite this, but it happens later due to the initialization order having RTEMS_SYSINIT_CPU_COUNTER very early.

Update #4312.
```

**Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:28:21 GMT
  2. **status:** changed from **assigned** to **closed**
  3. **resolution:** set to **fixed**
  4. **milestone:** changed from **6.1** to **5.2**
- 

**4313 - grlib,grspw\_router: add function to control SpaceWire run clock divisor**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4313">https://devel.rtems.org/ticket/4313</a> ( <a href="https://devel.rtems.org/ticket/4313">https://devel.rtems.org/ticket/4313</a> )
<b>Id</b>	4313
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:37:36
<b>Modified</b>	9 March 2021 13:28:44
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The driver needs to allow the user to set SpaceWire? run clock divisor for an individual port.

**Comment 1**

1. **Martin Aberg**, Sun, 07 Mar 2021 15:57:22 GMT

In 1161e1f/rtems:

```
leon, grspw_router: added router_port_link_div()

Allows user to set SpaceWire? run clock divisor for an individual port.
```

Update #4313.

**Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:28:44 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
  4. **milestone**: changed from **6.1** to **5.2**
- 

**4314 - glib,ahbstat: add new register definitions for AHBSTAT version 1**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4314">https://devel.rtems.org/ticket/4314</a> ( <a href="https://devel.rtems.org/ticket/4314">https://devel.rtems.org/ticket/4314</a> )
<b>Id</b>	4314
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:40:01
<b>Modified</b>	9 March 2021 13:29:07
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This is needed for GR740 users.

**Comment 1**

1. **Martin Aberg**, Sun, 07 Mar 2021 15:57:26 GMT

In b0eb9524/rtems:

```
leon, ahbstat: register definitions for AHBSTAT version 1
Update #4314.
```

**Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:29:07 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
  4. **milestone**: changed from **6.1** to **5.2**
- 

**4315 - glib,l2cache: prevent unused diagnostic access**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4315">https://devel.rtems.org/ticket/4315</a> ( <a href="https://devel.rtems.org/ticket/4315">https://devel.rtems.org/ticket/4315</a> )
<b>Id</b>	4315
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:42:54
<b>Modified</b>	9 March 2021 13:29:33
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	minor
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

**Comment 1**

1. **Martin Aberg**, Sun, 07 Mar 2021 15:57:30 GMT

In 8cfaa0eb/rtems:

```
leon, l2cache: prevent unused diagnostic access
Update #4315.
```

**Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:29:33 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **6.1** to **5.2**

Minor improvement, no need to add to 5.2 changelog.

---

**4316 - grlib,grspw\_pkt: SpaceWire link-state defines corrected**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4316">https://devel.rtems.org/ticket/4316</a> ( <a href="https://devel.rtems.org/ticket/4316">https://devel.rtems.org/ticket/4316</a> )
<b>Id</b>	4316
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	7 March 2021 14:45:22
<b>Modified</b>	9 March 2021 13:30:05
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Numbering of SPW\_LS\_CONNECTING and SPW\_LS\_STARTED was swapped.

**Comment 1**

1. **Daniel Hellstrom**, Sun, 07 Mar 2021 15:57:33 GMT

In 29126711/rtems:

```
grlib,grspw_pkt: correct link state enum numbering
Not used by the driver itself, but should be correct if used by application.
Update #4316.
```

**Comment 2**

1. **Daniel Hellstrom**, Tue, 09 Mar 2021 13:30:05 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
  4. **milestone**: changed from **6.1** to **5.2**
- 

**4347 - Allow RTEMS\_PRIORITY for MrsP semaphores**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4347">https://devel.rtems.org/ticket/4347</a> ( <a href="https://devel.rtems.org/ticket/4347">https://devel.rtems.org/ticket/4347</a> )
<b>Id</b>	4347
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 March 2021 13:27:05
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 17 Mar 2021 09:47:01 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0965b7c8/rtems:

```
rtems: Require RTEMS_PRIORITY for MrsP semaphores
```

```
MrsP semaphores are a generalization of the priority ceiling semaphores for SMP configurations. Priority ceiling semaphores are required to use the priority task wait queue discipline. Require this discipline also for MrsP semaphores.
```

```
Close #4347.
```

#### Comment 2

1. **Sebastian Huber**, Wed, 17 Mar 2021 09:48:57 GMT

In 3a66586/rtems:

```
rtems: Allow RTEMS_PRIORITY for MrsP semaphores
```

```
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.
```

```
Close #4347.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 17 Mar 2021 13:05:34 GMT

In 7c43a4b/rtems-docs:

```
c-user: Update MrsP semaphore documentation
```

```
Update #4347.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

---

### **4357 - rtems\_semaphore\_set\_priority() uses an invalid SMP lock (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4357">https://devel.rtems.org/ticket/4357</a> ( <a href="https://devel.rtems.org/ticket/4357">https://devel.rtems.org/ticket/4357</a> )
<b>Id</b>	4357
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 March 2021 17:14:20
<b>Modified</b>	9 November 2022 23:24:24
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4356:

If the priority of a locked priority ceiling mutex is set, the used SMP lock sequence is invalid.

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 23:24:24 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

Please use RTEMS 6 for SMP

---

**4359 - Priority discipline is broken for semaphores and message queues in SMP configurations (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4359">https://devel.rtems.org/ticket/4359</a> ( <a href="https://devel.rtems.org/ticket/4359">https://devel.rtems.org/ticket/4359</a> )
<b>Id</b>	4359
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 March 2021 08:09:28
<b>Modified</b>	9 November 2022 23:25:23
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 23:25:23 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

Please use RTEMS 6 for SMP. Please reopen if this is to be fixed on the RTEMS 5 branch.

---

**4369 - RTEMS5: Add driver for cadence-spi device for xilinx based BSPs (cloned)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4369">https://devel.rtems.org/ticket/4369</a> ( <a href="https://devel.rtems.org/ticket/4369">https://devel.rtems.org/ticket/4369</a> )
<b>Id</b>	4369
<b>Reporter</b>	Jan Sommer
<b>Created</b>	31 March 2021 07:15:07
<b>Modified</b>	6 April 2021 13:16:22
<b>Owner</b>	Jan Sommer
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Jan Sommer**, Wed, 31 Mar 2021 07:15:33 GMT
2. **owner**: set to **Jan Sommer**
3. **status**: changed from **new** to **accepted**

**Comment 2**

1. **Jan Sommer**, Tue, 06 Apr 2021 13:16:11 GMT

In c86d5136/rtems:

```
bsps/xilinx_zynq: Add SPI driver for cadence-spi
Updates #4369
```

**Comment 3**

1. **Jan Sommer**, Tue, 06 Apr 2021 13:16:22 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 14e74e4/rtems:

```
bsps/xilinx_zynq: Add cadence SPI driver to build system
Closes #4369
```

---

**4370 - RTEMS5: Add spi driver for AXI SPI ip core from Xilinx (cloned)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4370">https://devel.rtems.org/ticket/4370</a> ( <a href="https://devel.rtems.org/ticket/4370">https://devel.rtems.org/ticket/4370</a> )
<b>Id</b>	4370
<b>Reporter</b>	Jan Sommer
<b>Created</b>	31 March 2021 08:06:09
<b>Modified</b>	6 April 2021 13:16:42
<b>Owner</b>	Jan Sommer
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4321: --> Backport to RTEMS5



Add a spidev compatible driver for the xilinx axi quad spi ip core for standard SPI mode

#### Comment 1

1. **Jan Sommer**, Wed, 31 Mar 2021 08:06:22 GMT
2. **owner**: set to **Jan Sommer**
3. **status**: changed from **new** to **accepted**

#### Comment 2

1. **Jan Sommer**, Tue, 06 Apr 2021 13:16:32 GMT

In ce2b276/rtems:

```
bsps/xilinx_zynq: Add SPI driver for xilinx-axi-spi
Updates #4370
```

#### Comment 3

1. **Jan Sommer**, Tue, 06 Apr 2021 13:16:42 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In ec26605/rtems:

```
bsps/xilinx_zynq: Add Xilinx AXI SPI driver to build
Closes #4370
```

---

## 4371 - RTEMS5: Shell: Backport commands for spi and i2c

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4371">https://devel.rtems.org/ticket/4371</a> ( <a href="https://devel.rtems.org/ticket/4371">https://devel.rtems.org/ticket/4371</a> )
<b>Id</b>	4371
<b>Reporter</b>	Jan Sommer
<b>Created</b>	31 March 2021 08:27:57
<b>Modified</b>	6 April 2021 13:16:51
<b>Owner</b>	Jan Sommer
<b>Type</b>	enhancement
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Backport the i2c and spi shell commands of Christian Mauderer.

#### Comment 1

1. **Jan Sommer**, Wed, 31 Mar 2021 08:28:09 GMT
2. **owner**: set to **Jan Sommer**
3. **status**: changed from **new** to **accepted**

#### Comment 2

1. **Christian Mauderer**, Tue, 06 Apr 2021 13:16:51 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In a274b6f/rtems:

```
shell: Add i2c and spi commands
This adds some commands that are usefull for debugging simple serial interfaces.
Even if they are a complete re-implementation, the i2c* commands use a simmilar call like the Linux i2c tools.
```

## 4394 - Workspace initialization is broken for arm/imx7 and arm/raspberrypi

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4394">https://devel.rtems.org/ticket/4394</a> ( <a href="https://devel.rtems.org/ticket/4394">https://devel.rtems.org/ticket/4394</a> )
<b>Id</b>	4394
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	29 April 2021 11:38:16
<b>Modified</b>	29 April 2021 11:41:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

The ARMV7\_CP15\_START\_WORKSPACE\_ENTRY\_INDEX has a wrong value. The bug was introduced by the fix for #4185.

### Comment 1

1. **Sebastian Huber**, Thu, 29 Apr 2021 11:41:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In d697769/rtems:

```
bsps/arm: ARMV7_CP15_START_WORKSPACE_ENTRY_INDEX
```

```
Change the ARMV7_CP15_START_WORKSPACE_ENTRY_INDEX value to be in line with the workspace entry in ARMV7_CP15_START_DEFAULT_SECTIONS.
```

```
Close #4394.
```

---

## 4409 - rtems\_task\_start() does not check that the entry point is not equal to NULL

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4409">https://devel.rtems.org/ticket/4409</a> ( <a href="https://devel.rtems.org/ticket/4409">https://devel.rtems.org/ticket/4409</a> )
<b>Id</b>	4409
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 May 2021 07:12:33
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Bug was introduced by commit 33829ce155069462ba410d396da431386369ed08 related to #2555.

### Comment 1

1. **Sebastian Huber**, Fri, 14 May 2021 07:23:24 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 06427c8d/rtems:

```
rtems: Check entry point in rtems_task_start()
```

```
Close #4409.
```

---

Comment 2

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** `qualification` added

**4429 - clock\_nanosleep() may use wrong clock for relative times (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4429">https://devel.rtems.org/ticket/4429</a> ( <a href="https://devel.rtems.org/ticket/4429">https://devel.rtems.org/ticket/4429</a> )
<b>Id</b>	4429
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 May 2021 18:45:29
<b>Modified</b>	4 May 2022 13:55:19
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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).

Comment 1

1. **Sebastian Huber**, Wed, 04 May 2022 13:55:19 GMT
2. **status:** changed from `assigned` to `closed`
3. **resolution:** set to `fixed`

In 5d73509/rtems:

```
posix: Fix use of clock for relative times
Close #4429.
```

**4452 - libbsd/i386: Include header error through bus.h**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4452">https://devel.rtems.org/ticket/4452</a> ( <a href="https://devel.rtems.org/ticket/4452">https://devel.rtems.org/ticket/4452</a> )
<b>Id</b>	4452
<b>Reporter</b>	Jan Sommer
<b>Created</b>	8 June 2021 13:51:48
<b>Modified</b>	9 June 2021 19:02:41
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Currently compilations of applications fails at rtemsbsd/include/bus.h:

```
#ifdef i386
#error "your include paths are wrong"
#endif
```

Proposed solution:  
Install the header files for i386, so that the original ones from FreeBSD will be used.

**Comment 1**

1. **Jan Sommer**, Wed, 09 Jun 2021 19:02:17 GMT

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>

**Comment 2**

1. **Jan Sommer**, Wed, 09 Jun 2021 19:02:41 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

**4456 - bsp/i386: TSC calibration inaccurate (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4456">https://devel.rtems.org/ticket/4456</a> ( <a href="https://devel.rtems.org/ticket/4456">https://devel.rtems.org/ticket/4456</a> )
<b>Id</b>	4456
<b>Reporter</b>	Jan Sommer
<b>Created</b>	11 June 2021 06:32:36
<b>Modified</b>	21 June 2021 08:15:12
<b>Owner</b>	Jan Sommer
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	i386 clock
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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

```
for (i = rtems_clock_get_ticks_per_second() * pc386_isrs_per_tick;
     i != 0; --i) {
    /* We know we've just completed a tick when timer goes from low to high */
    then_lsb = then_msb = 0xff;
    do {
        READ 8254(now_lsb, now_msb);
        if ((then_msb < now_msb) ||
            ((then_msb == now_msb) && (then_lsb < now_lsb)))
            break;
        then_lsb = now_lsb;
        then_msb = now_msb;
    } while (1);
}
```

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.

**Comment 1**

1. **Jan Sommer**, Fri, 11 Jun 2021 06:32:53 GMT

2. **owner**: set to **Jan Sommer**

3. **status**: changed from **new** to **accepted**

**Comment 2**

1. **Jan Sommer**, Mon, 21 Jun 2021 08:15:12 GMT

2. **status**: changed from **accepted** to **closed**

3. **resolution:** set to **fixed**

In 4925ab4/rtems:

```
bsps/i386: Update calibration of TSC to be more accurate
Closes #4456
```

---

**4505 - posix\_devctl() should return the errno directly not -1 and set errno**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4505">https://devel.rtems.org/ticket/4505</a> ( <a href="https://devel.rtems.org/ticket/4505">https://devel.rtems.org/ticket/4505</a> )
<b>Id</b>	4505
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	20 August 2021 19:23:54
<b>Modified</b>	20 September 2021 19:08:11
<b>Owner</b>	Ryan Long <ryan.long@...>
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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`.

**Comment 1**

1. **Joel Sherrill**, Tue, 24 Aug 2021 18:35:37 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Ryan Long**, Mon, 20 Sep 2021 19:08:11 GMT
2. **owner:** set to **Ryan Long** <ryan.long@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In e9712e78/rtems:

```
pxcdevctl: Adjust for standard (5 branch)

psxdevctl is supposed to return the value in errno. Before, it was returning -1 and setting errno. Changed the tests to reflect these changes. Added code from RRADE's posix_devctl.c.
Closes #4505
```

---

**4512 - Count of postponed jobs is not set to zero for a newly created rate-monotonic period object (cloned)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4512">https://devel.rtems.org/ticket/4512</a> ( <a href="https://devel.rtems.org/ticket/4512">https://devel.rtems.org/ticket/4512</a> )
<b>Id</b>	4512
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 September 2021 13:15:54
<b>Modified</b>	9 September 2021 13:16:23
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 09 Sep 2021 13:16:23 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ff94ddc/rtems:

```
rtems: Initialize count of postponed jobs
```

The rtems\_rate\_monotonic\_get\_status() directive returns an arbitrary number for the count of postponed jobs if it is called for a newly created period object. Set the count of postponed jobs to zero during object creation.

Close #4512.

---

**4514 - Support MVME2307 DEC Tulip driver**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4514">https://devel.rtems.org/ticket/4514</a> ( <a href="https://devel.rtems.org/ticket/4514">https://devel.rtems.org/ticket/4514</a> )
<b>Id</b>	4514
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 September 2021 07:46:06
<b>Modified</b>	22 September 2021 04:43:39
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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

**Comment 1**

1. **Chris Johns**, Wed, 22 Sep 2021 04:43:37 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In afb3616/rtems-libbsd:

```
rtemsbsd/bus: Add PCI support to the nexus bus
Add PCI IO region support Add support map buffers to PCI address space Add BSP conditional IO space support. Some PC implementations
```

have PCI IO space mapped differently to memory space and this needs to be reflected in the busspace. Include bsp.h to pick per BSP configuration.  
Closes #4514

**Comment 2**

1. **Chris Johns**, Wed, 22 Sep 2021 04:43:39 GMT

In 332cc9f/rtems-libbsd:

bsp/motorola\_powerpc: Add dc, ukphy and legacy PCI support  
Add the dc net dev to the BSP Add the ukphy support Add PCI Legacy bus support to the PowerPC  
Closes #4514

**4515 - Make [out/in] le and be calls conditional**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4515">https://devel.rtems.org/ticket/4515</a> ( <a href="https://devel.rtems.org/ticket/4515">https://devel.rtems.org/ticket/4515</a> )
<b>Id</b>	4515
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 September 2021 08:07:01
<b>Modified</b>	9 November 2022 23:26:38
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

These calls clash with the Linux IO header in LibBSD. Making these conditional here means BSPs build and the imported Linux header is untouched.

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 23:26:38 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed <https://git.rtems.org/rtems/commit/?h=5&id=cfef84a007bac32b6f3852ab3d9367f7cdcf2c6b>

**4516 - Map LibBSD bus space to the PCI base address for motorola\_powerpc BSP**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4516">https://devel.rtems.org/ticket/4516</a> ( <a href="https://devel.rtems.org/ticket/4516">https://devel.rtems.org/ticket/4516</a> )
<b>Id</b>	4516
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 September 2021 08:08:55
<b>Modified</b>	22 September 2021 01:05:17
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This provides the per BSP support for a split PCI address space in LibBSD for this the MVME2307 BSP

**Comment 1**

1. **Chris Johns**, Wed, 22 Sep 2021 01:05:17 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 99698fb/rtems:

```
powerpc/motorola_powerpc: Map LibBSD bus space to the PCI base address
Closes #4516
```

---

## 4520 - Re-add lost capability for custom stack allocator to allocate IDLE thread stacks

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4520">https://devel.rtems.org/ticket/4520</a> ( <a href="https://devel.rtems.org/ticket/4520">https://devel.rtems.org/ticket/4520</a> )
<b>Id</b>	4520
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	4 October 2021 14:15:46
<b>Modified</b>	12 October 2021 17:48:47
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Joel Sherrill**, Mon, 11 Oct 2021 13:41:14 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c8a10609/rtems:

```
Add support for IDLE Thread stack allocator
```

```
Add a stack allocator hook specifically for allocation of IDLE thread stacks. This allows the user to decide if IDLE thread stacks are statically allocated or handled by the same custom allocator mechanism as other thread stacks.
```

```
Closes #4520.
```

### Comment 2

1. **Joel Sherrill**, Tue, 12 Oct 2021 17:48:47 GMT

In 30e5832/rtems-docs:

```
task-stack-alloc.rst: Add CONFIGURE_TASK_STACK_FROM_ALLOCATOR
```

```
Updates #4520.
```

---

## 4523 - gdb 9.1 no longer builds on Cygwin (thread local error)

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4523">https://devel.rtems.org/ticket/4523</a> ( <a href="https://devel.rtems.org/ticket/4523">https://devel.rtems.org/ticket/4523</a> )
<b>Id</b>	4523
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	6 October 2021 14:22:54
<b>Modified</b>	13 October 2021 16:36:57
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---



**Description**

The Cygwin link error is:

```
cp-support.o: in function `gdb demangle(char const*, int)':
/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_seg_v_handler'
/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_seg_v_handler'
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.

**Attachments:**


---

1 **Joel Sherrill**, Wed, 06 Oct 2021 15:53:24 GMT

**attach:** set to [gdb-9-1-thread-local.diff](#) (<https://devel.rtems.org/ticket/4523/gdb-9-1-thread-local.diff>)

---

**Comment 1**

1. **Joel Sherrill**, Wed, 13 Oct 2021 16:36:57 GMT

2. **owner:** set to **Joel Sherrill** <[joel@...](mailto:joel@...)>

3. **status:** changed from **new** to **closed**

4. **resolution:** set to **fixed**

In 9be3668/rtems-source-builder:

```
rtems-gdb-9.1-1.cfg: Add patch for Cygwin
```

The patch is needed to address link failures introduced when Cygwin apparently changed their base address for executables. This is not an issue with gdb 10 and this is a minimalistic approach to addressing this failure on the 5 branch.

Closes #4523.

---

**4549 - Timecounter: Add NTP support (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4549">https://devel.rtems.org/ticket/4549</a> ( <a href="https://devel.rtems.org/ticket/4549">https://devel.rtems.org/ticket/4549</a> )
<b>Id</b>	4549
<b>Reporter</b>	GabrielMoyano
<b>Created</b>	15 November 2021 11:37:22
<b>Modified</b>	9 November 2022 22:34:48
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #2348:

The FreeBSD timecounter implementation supports the NTP. This support is currently disabled in RTEMS.

**Comment 1**

1. **Sebastian Huber**, Tue, 30 Nov 2021 14:41:11 GMT

In 5382f61/rtems:

```
score: Add _Timecounter_Set_NTP_update_second()
```

Allow the installation of an NTP update second handler which may be used by an NTP service.

Update #4549.

---

**Comment 2**

1. **Joel Sherrill**, Fri, 17 Dec 2021 17:02:39 GMT

Is all the work done on this? Can it be closed? What's left?

#### **Comment 3**

1. **GabrielMoyano**, Mon, 10 Jan 2022 07:47:56 GMT

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

#### **Comment 4**

1. **Chris Johns**, Wed, 09 Nov 2022 22:34:48 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Closing as instructed.

## **4555 - Remove aarch64 and microblaze from RSB on 5 branch**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4555">https://devel.rtems.org/ticket/4555</a> ( <a href="https://devel.rtems.org/ticket/4555">https://devel.rtems.org/ticket/4555</a> )
<b>Id</b>	4555
<b>Reporter</b>	Ryan Long
<b>Created</b>	1 December 2021 16:38:37
<b>Modified</b>	9 November 2022 22:36:10
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	new
<b>Resolution</b>	
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

These tools don't have a port to RTEMS 5, so there's no reason for them to be on the 5 branch.

#### **Comment 1**

1. **Ryan Long**, Fri, 17 Dec 2021 15:24:08 GMT
2. **milestone**: changed from **5.1** to **Indefinite**

#### **Comment 2**

1. **Joel Sherrill**, Fri, 17 Dec 2021 15:35:56 GMT
2. **milestone**: changed from **Indefinite** to **5.2**

Should be 5.2 not Indefinite

#### **Comment 3**

1. **Chris Johns**, Wed, 09 Nov 2022 22:36:10 GMT

This was changed to 5.2 last year. Should it be closed?

## **4567 - Atomic store does not use the order parameter for C++ (cloned)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4567">https://devel.rtems.org/ticket/4567</a> ( <a href="https://devel.rtems.org/ticket/4567">https://devel.rtems.org/ticket/4567</a> )
<b>Id</b>	4567
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 December 2021 11:07:44
<b>Modified</b>	7 December 2021 11:25:53
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	SMP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4566:

This could result in invalid inline code for the SMP ticket locks if used from C++.

**Comment 1**

1. **Sebastian Huber**, Tue, 07 Dec 2021 11:25:53 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 18bbfc7/rtems:

```
score: Fix atomic stores for C++
Close #4567.
```

**4649 - tcpdump: Fix dumping to file and reading from file**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4649">https://devel.rtems.org/ticket/4649</a> ( <a href="https://devel.rtems.org/ticket/4649">https://devel.rtems.org/ticket/4649</a> )
<b>Id</b>	4649
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 May 2022 06:44:07
<b>Modified</b>	12 May 2022 05:49:57
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 11 May 2022 06:44:56 GMT
2. **version**: set to **5**

**Comment 2**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:33 GMT

In 6364f45/rtems-libbsd:

```
tcpdump01: New test
Update #4649.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:36 GMT

In 5c88a52/rtems-libbsd:

```
Add program destructor support
Update #4649.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:40 GMT

In a5bdd7a/rtems-libbsd:

```
tcpdump: Make loop monitor cooperative
This helps a bit if the fgetc() is non-blocking.
Update #4649.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:43 GMT

In d5fdfbb/rtems-libbsd:

```
tcpdump: Use rtems_task_exit()
Update #4649.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:47 GMT

In cb01e5b/rtems-libbsd:

```
tcpdump: Close pcap dumper at program exit
Update #4649.
```

**Comment 7**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:50 GMT

In 47ec4b8/rtems-libbsd:

```
tcpdump: No loop monitor if reading from file
Update #4649.
```

**Comment 8**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:54 GMT

In 45c9bd2/rtems-libbsd:

```
tcpdump: Ensure loop monitor termination
Update #4649.
```

**Comment 9**

1. **Sebastian Huber**, Thu, 12 May 2022 05:49:57 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In ea80d58/rtems-libbsd:

```
tcpdump: Do not use signals and chroot
Close #4649.
```

**4651 - if\_atsam: Fix checksum offload, add multicast and VLAN support**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4651">https://devel.rtems.org/ticket/4651</a> ( <a href="https://devel.rtems.org/ticket/4651">https://devel.rtems.org/ticket/4651</a> )
<b>Id</b>	4651
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 May 2022 06:48:30
<b>Modified</b>	1 June 2022 07:51:10
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 12 May 2022 05:39:56 GMT

In a4b878c/rtems-libbsd:

```
if_atsam: Fix warnings
Update #4651.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 12 May 2022 05:39:58 GMT

In 79e7421/rtems-libbsd:

```
if_atsam: Enable all capabilities
Update #4651.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 12 May 2022 05:39:59 GMT

In 4780eff/rtems-libbsd:

```
if_atsam: Do not disable the Ethernet CRC
The Ethernet CRC and padding must be always generated by the MAC.
Update #4651.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 12 May 2022 05:40:00 GMT

In 46ec9d7/rtems-libbsd:

```
if_atsam: Fix interrupt setup
The interrupt is enabled by rtems_interrupt_handler_install().
Update #4651.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 12 May 2022 05:40:02 GMT

In 1fe1bc6/rtems-libbsd:

```
if_atsam: Fix start/stop of interface
```

Update #4651.

**Comment 6**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:03 GMT

In 58162da/rtems-libbsd:

if\_atsam: Add multicast support

Update #4651.

**Comment 7**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:05 GMT

In 1fee8dd/rtems-libbsd:

if\_atsam: Optimize transmit

Use the transmit interface handler to avoid a transmit task/interrupt. Use a compile-time constant for the transmit DMA descriptor count to simplify calculations.

Update #4651.

**Comment 8**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:06 GMT

In 204a487/rtems-libbsd:

if\_atsam: Optimize receive

Do not use the interface mutex in the receive loop. Avoid multiple reads of DMA descriptor words. Use a compile-time constant for the receive DMA descriptor count to simplify calculations.

Update #4651.

**Comment 9**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:07 GMT

In 245ca94/rtems-libbsd:

if\_atsam: Support IFCAP\_VLAN\_HWTAGGING

This is required to enable checksum offload for vlan interfaces.

Update #4651.

**Comment 10**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:09 GMT

In 2a174be/rtems-libbsd:

if\_atsam: Do not use rtems\_bsdnet\_newproc()

Update #4651.

**Comment 11**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:10 GMT

In c1b15c7/rtems-libbsd:

if\_atsam: Support transmit bpf

Update #4651.

**Comment 12**1. **Sebastian Huber**, Thu, 12 May 2022 05:40:12 GMT2. **status:** changed from **assigned** to **closed**3. **resolution:** set to **fixed**

In a661df0/rtems-libbsd:

```
if_atsam: Fix interface stop
Close #4651.
```

### **Comment 13**

1. **Sebastian Huber**, Wed, 01 Jun 2022 07:51:05 GMT

In f05e625/rtems-libbsd:

```
if_atsam: Allow stats reset via sysctl
Update #4651.
```

### **Comment 14**

1. **Sebastian Huber**, Wed, 01 Jun 2022 07:51:06 GMT

In 8e5a933/rtems-libbsd:

```
if_atsam: Add register sysctls
Update #4651.
```

### **Comment 15**

1. **Sebastian Huber**, Wed, 01 Jun 2022 07:51:08 GMT

In c78ec59/rtems-libbsd:

```
if_atsam: Add tx/rx desc sysctls
Update #4651.
```

### **Comment 16**

1. **Sebastian Huber**, Wed, 01 Jun 2022 07:51:09 GMT

In 62d320d/rtems-libbsd:

```
if_atsam: Shorten sysctl names
Update #4651.
```

### **Comment 17**

1. **Sebastian Huber**, Wed, 01 Jun 2022 07:51:10 GMT

In 29f9822/rtems-libbsd:

```
if_atsam: Recover from receive freezes
```

Under unknown conditions the receive path ended up in a frozen state. In this state, the DMA and driver descriptor head were equal and all receive descriptors had the used bit set. So, the DMA was unable to store received frames. However, the receive daemon was never woken up to refill the receive buffers. It seems that the RXUBR interrupt can be used to recover from this state.

```
Update #4651.
```

---

## **4653 - pfctl: Fix global state initialization**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4653">https://devel.rtems.org/ticket/4653</a> ( <a href="https://devel.rtems.org/ticket/4653">https://devel.rtems.org/ticket/4653</a> )
<b>Id</b>	4653
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 May 2022 11:37:02
<b>Modified</b>	11 May 2022 13:21:04
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The last update introduced a static variable in `get_query_socket()` which was not initialized.

**Comment 1**

1. **Sebastian Huber**, Wed, 11 May 2022 13:21:02 GMT

In d1b5468/rtems-libbsd:

```
pf02: Fix shell environment initialization
Update #4653.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 11 May 2022 13:21:04 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In e00ca96/rtems-libbsd:

```
pfctl: Fix global state initialization
Close #4653.
```

**4655 - sync() would synchronize all file descriptors**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4655">https://devel.rtems.org/ticket/4655</a> ( <a href="https://devel.rtems.org/ticket/4655">https://devel.rtems.org/ticket/4655</a> )
<b>Id</b>	4655
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 May 2022 10:58:34
<b>Modified</b>	17 May 2022 13:24:35
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

According to POSIX

<https://pubs.opengroup.org/onlinepubs/9699919799/functions/sync.html>

we have

```
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 `fdatsync()` for all file descriptors.

**Comment 1**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html



1. **Sebastian Huber**, Tue, 17 May 2022 13:24:35 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 8d54187/rtems:

```
Synchronize all file descriptors in sync()
Synchronize all file descriptors and not just the ones associated with a FILE object.
Close #4655.
```

## 4676 - incorrect handling of "inactive\_per\_block" from "Objects\_Information" structure

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4676">https://devel.rtems.org/ticket/4676</a> ( <a href="https://devel.rtems.org/ticket/4676">https://devel.rtems.org/ticket/4676</a> )
<b>Id</b>	4676
<b>Reporter</b>	Adrian Varlan
<b>Created</b>	12 July 2022 06:45:56
<b>Modified</b>	21 July 2022 07:17:33
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	CONFIGURE_UNLIMITED_OBJECTS inactive_per_block
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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"

```
block = _Objects_Get_index( the_object->id ) - OBJECTS_INDEX_MINIMUM;

if ( block > objects_per_block ) {
    block /= objects_per_block;

    information->inactive_per_block[ block ]--;
    information->inactive--;
}
}
```

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

- create 17 "RTEMS\_SIMPLE\_BINARY\_SEMAPHORE" semaphore objects id's 1 -> 17.
- delete semaphores 11, 12, 13, 14, 15, 16, 17 (order is important)
- lock semaphore 9
- delete semaphore 10 -> at this point, block 1 is freed although semaphore 9 is still active
- 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 ">".

### Comment 1

1. **Sebastian Huber**, Tue, 12 Jul 2022 07:33:52 GMT
2. **owner**: set to **Sebastian Huber**
3. **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:

```

commit 21275b58a5a69c3c838082ffc8a7a3641f32ea9a
Author: Sebastian Huber
Date: Thu Nov 22 19:14:51 2018 +0100
    score: Static Objects Information initialization
    Statically allocate the objects information together with the initial
    set of objects either via . Provide default object
    informations with zero objects via librtemscpu.a. This greatly
    simplifies the workspace size estimate. RTEMS applications which do not
    use the unlimited objects option are easier to debug since all objects
    reside now in statically allocated objects of the right types.
    Close #3621.
diff --git a/cpukit/score/src/objectallocate.c b/cpukit/score/src/objectallocate.c
index 9213cf8eb7..ad73884a07 100644
--- a/cpukit/score/src/objectallocate.c
+++ b/cpukit/score/src/objectallocate.c
@@ -68,13 +68,18 @@ Objects_Control *_Objects_Allocate_unprotected(
     }
     if ( the_object != NULL ) {
+   Objects_Maximum_objects_per_block;
+   Objects_Maximum_block;
+   objects_per_block = information->objects_per_block;
+   block = _Objects_Get_index( the_object->Id ) - OBJECTS_INDEX_MINIMUM;
-   block /= information->objects_per_block;
-   information->inactive_per_block[ block ]--;
-   information->inactive--;
+   if ( block > objects_per_block ) {
+     block /= objects_per_block;
+
+     information->inactive_per_block[ block ]--;
+     information->inactive--;
+   }
     }
 }
}

```

**Comment 2**

1. **Adrian Varlan**, Tue, 12 Jul 2022 15:27:33 GMT

Hello,

if not too much trouble then I think it's best you add a test case.

**Comment 3**

1. **Sebastian Huber**, Thu, 21 Jul 2022 07:17:31 GMT

In fc7584d7/rtems:

```
score: Fix _Objects_Active_count()
```

With unlimited objects the object maximum may be larger than the sum of active and inactive objects.

Update #4676.

**Comment 4**

1. **Sebastian Huber**, Thu, 21 Jul 2022 07:17:33 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In b9de5b3b/rtems:

```
score: Fix unlimited objects support
```

Commit 21275b58a5a69c3c838082ffc8a7a3641f32ea9a ("score: Static Objects\_Information initialization") introduced an off-by-one error in the maintenance of inactive objects.

Close #4676.

**4683 - Leaked BSP section flags in Makefile.inc breaks EPICS**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4683">https://devel.rtems.org/ticket/4683</a> ( <a href="https://devel.rtems.org/ticket/4683">https://devel.rtems.org/ticket/4683</a> )
<b>Id</b>	4683
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 July 2022 05:47:07
<b>Modified</b>	9 November 2022 22:39:30
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 21 Jul 2022 05:52:08 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Joel Sherrill**, Thu, 21 Jul 2022 14:26:42 GMT

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?

**Comment 3**

1. **Chris Johns**, Wed, 09 Nov 2022 22:39:30 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**

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.

**4687 - Documentation List for Releases Completely Missing 5.x**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4687">https://devel.rtems.org/ticket/4687</a> ( <a href="https://devel.rtems.org/ticket/4687">https://devel.rtems.org/ticket/4687</a> )
<b>Id</b>	4687
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	27 July 2022 18:27:48
<b>Modified</b>	9 November 2022 23:29:04
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

See <https://docs.rtems.org/releases.html> and fix it. :)

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 23:29:04 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

The website now handles the 5.1 release correctly.

**4704 - Fix invalid RSB source URLs**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4704">https://devel.rtems.org/ticket/4704</a> ( <a href="https://devel.rtems.org/ticket/4704">https://devel.rtems.org/ticket/4704</a> )
<b>Id</b>	4704
<b>Reporter</b>	Chris Johns
<b>Created</b>	17 August 2022 06:12:26
<b>Modified</b>	17 August 2022 06:12:26
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	assigned
<b>Resolution</b>	
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Some packages now have invalid source URLs

---

### 4709 - Installed header break C++

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4709">https://devel.rtems.org/ticket/4709</a> ( <a href="https://devel.rtems.org/ticket/4709">https://devel.rtems.org/ticket/4709</a> )
<b>Id</b>	4709
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 August 2022 01:38:01
<b>Modified</b>	29 August 2022 03:23:10
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Some headers generate C++ errors and so cannot be included.

#### Comment 1

1. **Chris Johns**, Mon, 29 Aug 2022 03:23:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c5b7942/rtems:

```
cpukit/include: Fix including in C++
```

```
Closes #4709
```

---

### 4711 - RSB does not expand dir type macros correctly (cloned)

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4711">https://devel.rtems.org/ticket/4711</a> ( <a href="https://devel.rtems.org/ticket/4711">https://devel.rtems.org/ticket/4711</a> )
<b>Id</b>	4711
<b>Reporter</b>	Chris Johns
<b>Created</b>	28 August 2022 22:34:28
<b>Modified</b>	9 November 2022 23:32:16
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
%{mydir}/abc.cfg
```

with a path of:

```
%define mydir x:y:z
```

results in:

```
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:

```
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.

**Comment 1**

1. **Chris Johns**, Wed, 09 Nov 2022 23:32:16 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed with backports from main for deployment.

**4715 - RSB get sources misses a number of files**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4715">https://devel.rtems.org/ticket/4715</a> ( <a href="https://devel.rtems.org/ticket/4715">https://devel.rtems.org/ticket/4715</a> )
<b>Id</b>	4715
<b>Reporter</b>	Chris Johns
<b>Created</b>	8 September 2022 03:40:07
<b>Modified</b>	15 November 2022 23:10:26
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	reopened
<b>Resolution</b>	
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Mon, 19 Sep 2022 21:24:53 GMT

In 3138ff5/rtems-source-builder:

```
sb/getsources: Fix getting sources
Back ported from the development branch
Updates #4715
```

**Comment 2**

1. **Chris Johns**, Mon, 19 Sep 2022 21:24:56 GMT

In db3d470/rtems-source-builder:

```
sb/getsources: Fixes to configurations
Updates #4715
```

**Comment 3**

1. **Chris Johns**, Wed, 09 Nov 2022 23:32:33 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**Comment 4**

1. **Chris Johns**, Fri, 11 Nov 2022 02:57:37 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

More missed files.

**Comment 5**

1. **Chris Johns**, Mon, 14 Nov 2022 20:58:24 GMT

In 5992bc9/rtems-source-builder:

```
bare/gcc: Remove gcc-4.8.2 because newlib references the unsupported CVS
Updates #4715
```

**Comment 6**

1. **Chris Johns**, Mon, 14 Nov 2022 22:36:16 GMT

In b57948f/rtems-source-builder:

```
rtems: Update source and patch URLs to valid locations
Updates #4715
```

**Comment 7**

1. **Chris Johns**, Tue, 15 Nov 2022 21:42:36 GMT

In 3ec6441/rtems-source-builder:

```
rtems: Update source and patch URLs to valid locations
Updates #4715
```

**Comment 8**

1. **Chris Johns**, Tue, 15 Nov 2022 23:10:26 GMT

In 1116c5f/rtems-source-builder:

```
rtems: Add back gcc-4.6 build configuration
Updates #4715
```

---

**4716 - Backport RSB fixes from Development**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4716">https://devel.rtems.org/ticket/4716</a> ( <a href="https://devel.rtems.org/ticket/4716">https://devel.rtems.org/ticket/4716</a> )
<b>Id</b>	4716
<b>Reporter</b>	Chris Johns
<b>Created</b>	8 September 2022 05:31:58
<b>Modified</b>	9 November 2022 23:32:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Backport RSB fixes from the development branch.

#### Comment 1

1. **Chris Johns**, Mon, 19 Sep 2022 21:24:54 GMT

In 6116d9c/rtems-source-builder:

```
sb: Back port fixes from the development branch
Updates #4716
```

#### Comment 2

1. **Chris Johns**, Mon, 19 Sep 2022 21:24:58 GMT

In e85e2a7/rtems-source-builder:

```
sb/setbuilder: Support line continuation
Updates #4716
```

#### Comment 3

1. **Chris Johns**, Mon, 19 Sep 2022 21:24:59 GMT

In 0253d81/rtems-source-builder:

```
sb/config: Correctly handle multiple config paths
Add rtems/config to the config directories searched to better
support deployment Correctly expand the configdir and path searches
Updates #4716
```

#### Comment 4

1. **Chris Johns**, Mon, 19 Sep 2022 21:25:01 GMT

In 828feec/rtems-source-builder:

```
sb/setbuilder: Correctly create build set tar files
Make a single tarfile for all buildsets built Use the staging tree as the tarfile source Use python's tarfile module Create a config.file
object without loading a .cfg file
Updates #4716
```

#### Comment 5

1. **Chris Johns**, Mon, 19 Sep 2022 21:25:02 GMT

In 25972d9/rtems-source-builder:

```
sb/setbuilder: Do not install if --no-install option is used
This is a bug introduced in the recent bset tar file changes
Updates #4716
```

#### Comment 6

1. **Chris Johns**, Mon, 19 Sep 2022 21:25:05 GMT

In 6afc04b/rtems-source-builder:

```
sb/setbuilder: Install the build when staggng or configured to install
Updates #4716
```

#### Comment 7

1. **Chris Johns**, Wed, 09 Nov 2022 23:32:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

## 4717 - Add RSB Deployment support

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4717">https://devel.rtems.org/ticket/4717</a> ( <a href="https://devel.rtems.org/ticket/4717">https://devel.rtems.org/ticket/4717</a> )
<b>Id</b>	4717
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 September 2022 07:09:32
<b>Modified</b>	9 November 2022 23:33:09
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Chris Johns**, Mon, 19 Sep 2022 21:25:04 GMT

In 16d4f2c/rtems-source-builder:

```
rtems/kernel: Support deployment standard buildset configs
Check and optionally support arch/bsp format 'with_rtems_bsp' defines
Updates #4717
```

#### Comment 2

1. **Chris Johns**, Fri, 30 Sep 2022 20:19:04 GMT

In 369b60a/rtems-source-builder:

```
rtems/bsps: Optionally support arch/bsp if used
Updates #4717
```

#### Comment 3

1. **Chris Johns**, Wed, 09 Nov 2022 23:33:09 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

## 4725 - Git commit message format instruncions (cloned)



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4725">https://devel.rtems.org/ticket/4725</a> ( <a href="https://devel.rtems.org/ticket/4725">https://devel.rtems.org/ticket/4725</a> )
<b>Id</b>	4725
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 September 2022 01:50:47
<b>Modified</b>	15 November 2022 10:29:58
<b>Owner</b>	Joel Sherrill
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	assigned
<b>Resolution</b>	
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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?

**Comment 1**

1. **Chris Johns**, Tue, 15 Nov 2022 10:29:58 GMT

Why is this on the 5 branch?

---

**4727 - RSB decode exception stops build**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4727">https://devel.rtems.org/ticket/4727</a> ( <a href="https://devel.rtems.org/ticket/4727">https://devel.rtems.org/ticket/4727</a> )
<b>Id</b>	4727
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 September 2022 05:39:18
<b>Modified</b>	9 November 2022 23:48:42
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Building in a Rocky VM on FB 12 with 5 I got:

```
Traceback (most recent call last):
  File "/usr/lib64/python3.9/threading.py", line 973, in _bootstrap_inner
    self.run()
  File "/usr/lib64/python3.9/threading.py", line 910, in run
    self._target(*self._args, **self._kwargs)
  File "/opt/work/chris/rtems/rsb/rtems-source-builder.git/source-builder/sb/execute.py", line 204, in _readthread
    data = data.decode(sys.stdout.encoding)
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.

**Comment 1**

1. **Chris Johns**, Mon, 26 Sep 2022 05:39:53 GMT
2. **summary:** changed from **RSB decode exception stops build (cloned)** to **RSB decode exception stops build**

**Comment 2**

1. **Chris Johns**, Wed, 09 Nov 2022 23:48:42 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed <https://git.rtems.org/rtems-source-builder/commit/?h=5&id=ddfcc320ab740cd6ac30d70aaff7987dda25ee7f>

---

**4731 - rtems-source-builder doesn't generate tar archives for all packages any more**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4731">https://devel.rtems.org/ticket/4731</a> ( <a href="https://devel.rtems.org/ticket/4731">https://devel.rtems.org/ticket/4731</a> )
<b>Id</b>	4731
<b>Reporter</b>	Christian Mauderer
<b>Created</b>	29 September 2022 08:12:46
<b>Modified</b>	30 September 2022 20:19:03
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Chris Johns**, Thu, 29 Sep 2022 23:13:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 6f1e914/rtems-source-builder:

```
sb/set-builder: Fix staging and tar file generation with a single config build
Closes #4731
```

#### Comment 2

1. **Chris Johns**, Fri, 30 Sep 2022 02:24:57 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

This has broken staging for multiple packages in a top level buildset.

#### Comment 3

1. **Chris Johns**, Fri, 30 Sep 2022 20:19:03 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

In d592ee8/rtems-source-builder:

```
sb/set-bulder: Fix installing builds when a single buildset
Always stage a build Install if installable and outter most buildset instance
Closes #4731
```

---

### **4733 - Set top in RSB version.py**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4733">https://devel.rtems.org/ticket/4733</a> ( <a href="https://devel.rtems.org/ticket/4733">https://devel.rtems.org/ticket/4733</a> )
<b>Id</b>	4733
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 September 2022 08:15:41
<b>Modified</b>	29 September 2022 23:13:12
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 29 Sep 2022 23:13:12 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 08ca387/rtems-source-builder:

```
sb/version: Set top from external package
Closes #4733
```

---

**4734 - RSB decode exception stops build**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4734">https://devel.rtems.org/ticket/4734</a> ( <a href="https://devel.rtems.org/ticket/4734">https://devel.rtems.org/ticket/4734</a> )
<b>Id</b>	4734
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 September 2022 23:11:12
<b>Modified</b>	30 September 2022 20:19:01
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Cloned from #4726:

Building in a Rocky VM on FB 12 with 5 I got:

```
Traceback (most recent call last):
  File "/usr/lib64/python3.9/threading.py", line 973, in _bootstrap_inner
    self.run()
  File "/usr/lib64/python3.9/threading.py", line 910, in run
    self._target(*self._args, **self._kwargs)
  File "/opt/work/chris/rtems/rsb/rtems-source-builder.git/source-builder/sb/execute.py", line 204, in _readthread
    data = data.decode(sys.stdout.encoding)
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.

**Comment 1**

1. **Chris Johns**, Thu, 29 Sep 2022 23:13:14 GMT

In ddfcc32/rtems-source-builder:

sb/execute: Use a decoder that maintains state across blocks

Update #4734

## Comment 2

1. **Chris Johns**, Fri, 30 Sep 2022 20:19:01 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In af0f612/rtems-source-builder:

sb/execute: Fix incremental decoder with --dry-run

Closes #4734

## 4752 - RTEMS docs do not build with a recent sphinx

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4752">https://devel.rtems.org/ticket/4752</a> ( <a href="https://devel.rtems.org/ticket/4752">https://devel.rtems.org/ticket/4752</a> )
<b>Id</b>	4752
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 November 2022 04:00:02
<b>Modified</b>	10 November 2022 04:28:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

The build does not configure:

```
$ ./waf distclean configure --prefix=/opt/src/rtems/test --pdf --singlehtml
'distclean' finished successfully (0.000s)
Setting top to : /opt/work/chris/rtems/docs/rtems-docs.git
Setting out to : /opt/work/chris/rtems/docs/rtems-docs.git/build
Checking for program 'git' : /usr/local/bin/git
Checking for program 'sphinx-build' : /opt/work/chris/rtems/releasing/rng/bin/sphinx-build
Checking for program 'aspell' : /usr/local/bin/aspell
Checking if Sphinx is at least 1.3 : yes (5.3)
Checking Sphinx Options : none
Checking Sphinx Nit-Pick mode : no
Checking for 'sphinx.ext.autodoc' : found
Checking for 'sphinx.ext.coverage' : found
Checking for 'sphinx.ext.doctest' : found
Checking for 'sphinx.ext.graphviz' : found
Checking for 'sphinx.ext.intersphinx' : found
Checking for 'sphinx.ext.mathjax' : found
Checking for 'sphinxcontrib.bibtex' : not found (see README.txt)
The configuration failed
[complete log in /opt/work/chris/rtems/docs/rtems-docs.git/build/config.log]
```

## Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 04:28:51 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 07f151f/rtems-docs:

waf: Backport from main build fixes

Closes #4752

## 4754 - Set RSB GDB source path to https

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4754">https://devel.rtems.org/ticket/4754</a> ( <a href="https://devel.rtems.org/ticket/4754">https://devel.rtems.org/ticket/4754</a> )
<b>Id</b>	4754
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 November 2022 20:43:01
<b>Modified</b>	14 November 2022 20:58:22
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Backport <https://git.rtems.org/rtems-source-builder/commit/?id=949cf500b4f4ab560a77c2ac60cd9ac0f47aa852>

**Comment 1**

1. **Sebastian Huber**, Mon, 14 Nov 2022 20:58:22 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 2eda12e/rtems-source-builder:

```
gdb: Use https for downloads
```

```
Close #4754
```

---

**4755 - Docs build system does not build singlehtml**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4755">https://devel.rtems.org/ticket/4755</a> ( <a href="https://devel.rtems.org/ticket/4755">https://devel.rtems.org/ticket/4755</a> )
<b>Id</b>	4755
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 November 2022 22:04:50
<b>Modified</b>	10 November 2022 22:14:54
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The configure logic does not handle the inliner detection correctly.

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 22:14:54 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 031cb12/rtems-docs:

```
waf: Handle the enable options for singlehtml and ditaa/puml
```

```
Close #4755
```

---

**4757 - RSB freetype 2.4.10 source not hosted any longer**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4757">https://devel.rtems.org/ticket/4757</a> ( <a href="https://devel.rtems.org/ticket/4757">https://devel.rtems.org/ticket/4757</a> )
<b>Id</b>	4757
<b>Reporter</b>	Chris Johns
<b>Created</b>	11 November 2022 02:34:00
<b>Modified</b>	15 November 2022 10:31:23
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	release
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Tue, 15 Nov 2022 10:31:23 GMT
  2. **status**: changed from **new** to **closed**
  3. **resolution**: set to **fixed**
- 

**4758 - Net-Snmp referenced patch missing**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4758">https://devel.rtems.org/ticket/4758</a> ( <a href="https://devel.rtems.org/ticket/4758">https://devel.rtems.org/ticket/4758</a> )
<b>Id</b>	4758
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 November 2022 20:59:29
<b>Modified</b>	14 November 2022 20:58:25
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The Net-SNMP configuration references a patch that is missing. I cannot find it. Update to 5.9.3 and for the libbsd stack.

**Attachments:**

- 1 **Chris Johns**, Sun, 13 Nov 2022 22:49:57 GMT  
**attach**: set to [rtems-net-snmp-5.9.3-20221113.patch](https://devel.rtems.org/ticket/4758/rtems-net-snmp-5.9.3-20221113.patch) (<https://devel.rtems.org/ticket/4758/rtems-net-snmp-5.9.3-20221113.patch>)
- 

**Comment 1**

1. **Chris Johns**, Mon, 14 Nov 2022 20:58:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c7e85e3/rtems-source-builder:

```
rtems/net-snmp: Update to 5.9.3 with the RTEMS patch
```

```
The 5.7.2.1 patch referenced in the configuration cannot be located so update the version to the latest. Checked with Zynq A9 gemu and libbsd.
```

```
Closes #4758
```

---

**4761 - RSB fatal error on missing hash checksums (cloned)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4761">https://devel.rtems.org/ticket/4761</a> ( <a href="https://devel.rtems.org/ticket/4761">https://devel.rtems.org/ticket/4761</a> )
<b>Id</b>	4761
<b>Reporter</b>	Chris Johns
<b>Created</b>	15 November 2022 02:25:36
<b>Modified</b>	15 November 2022 21:42:34
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.2
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Tue, 15 Nov 2022 10:33:25 GMT
2. **milestone**: changed from **5.3** to **5.2**

**Comment 2**

1. **Chris Johns**, Tue, 15 Nov 2022 21:42:34 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0a7ecef/rtems-source-builder:

```
sb/downloads: Raise errors on no hash present
Close #4761
```

## RTEMS Release 5.1

---

### RTEMS 5.1 Release Notes

#### RTEMS Improvements

In this section, we discuss public API level changes as well as improvements to the implementation of those API routines.

Public API changes usually fall into one of the following categories:

- Addition of new methods
- Modifications to prototypes
- Deletion of obsoleted methods

Implementation improvements usually fall into one of the following categories:

- Algorithm improvements in execution time or memory usage
- Critical section reduction

#### API Changes

- The header file <rtems.h> no longer includes <limits.h> and <string.h>.

- Most services use now statically allocated resources and no longer need accounting in the application configuration.
- The work area initialization (RTEMS Work Space and C Program Heap) changed. BSPs must provide now a `_Memory_Get()` function.
- POSIX timers and signals are now the only POSIX resources which are enabled by the POSIX API.

#### API Additions

- Support for recording of high-frequency events in particular on SMP systems
- Termios supports now generation of signals.
- New fatal sources:
  - `RTEMS_FATAL_SOURCE_EXCEPTION`
  - `RTEMS_FATAL_SOURCE_PANIC`
  - `RTEMS_FATAL_SOURCE_SMP`
  - `RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE`
  - `RTEMS_FATAL_SOURCE_HEAP`
- New chain API function: `rtems_chain_get_first_unprotected()`
- Add user defined thread names: `pthread_setname_np()` and `pthread_getname_np()`
- Support for xz compression/decompression
- Added `rtems_scheduler_ident_by_processor()`
- Added `rtems_scheduler_ident_by_processor_set()`
- Added `RTEMS_PREDICT_TRUE()` and `RTEMS_PREDICT_FALSE()` for static branch prediction hints
- Added `rtems_malloc()` and `rtems_calloc()`
- Added `rtems_scheduler_get_maximum_priority()`
- Added `rtems_scheduler_get_processor()`
- Added `rtems_scheduler_get_processor_maximum()`

#### API Implementation Improvements

- Priority inheritance is now transitive.
- POSIX key destructors are now called during thread restart.
- More robust thread dispatching on SMP and ARM Cortex-M

#### API Deprecations

- `rtems_iterate_over_all_threads()`. Use `rtems_task_iterate()` instead.
- `rtems_get_current_processor()`. Use `rtems_scheduler_get_processor()` instead.
- `rtems_get_processor_count()`. Use `rtems_scheduler_get_processor_maximum()` instead.
- `boolean` is deprecated. Use `bool` instead.
- `single_precision` is deprecated. Use `float` instead.
- `double_precision` is deprecated. Use `double` instead.
- `proc_ptr` is deprecated. Use a proper function pointer type.
- `rtems_context`
- `rtems_context_fp`
- `rtems_extension`
- `rtems_io_lookup_name()` is deprecated. Use `stat()` instead.
- `region_information_block`
- `rtems_thread_cpu_usage_t` is deprecated. Use `struct timespec` instead.



- `rtems_rate_monotonic_period_time_t` is deprecated. Use `struct timespec` instead.
- `_Copyright_Notice` is deprecated. Use `rtems_get_copyright_notice()` instead.
- `_RTEMS_version` is deprecated. Use `rtems_get_version_string()` instead.
- `RTEMS_MAXIMUM_NAME_LENGTH` is deprecated. Use `sizeof(rtems_name)` instead.
- `RTEMS_COMPILER_NO_RETURN_ATTRIBUTE` is deprecated. Use `RTEMS_NO_RETURN` instead.
- `RTEMS_COMPILER_PURE_ATTRIBUTE` is deprecated. Use `RTEMS_PURE` instead.
- `RTEMS_COMPILER_DEPRECATED_ATTRIBUTE` is deprecated. Use `RTEMS_DEPRECATED` instead.
- `RTEMS_COMPILER_UNUSED_ATTRIBUTE` is deprecated. Use `RTEMS_UNUSED` instead.
- `RTEMS_COMPILER_PACKED_ATTRIBUTE` is deprecated. Use `RTEMS_PACKED` instead.
- Including `<rtems/system.h>` is deprecated. This header file will be removed in RTEMS 6.

### API Removals

- `rtems_clock_get()`
- API defined by `<rtems/debug.h>`
- Task notepads
- Task variables

### SMP Support Improvements

- Reimplementation of the Multiprocessor Resource Sharing Protocol (MrsP) to address performance issues.
- Implementation of the O(m) Independence-Preserving Protocol (OMIP).
- Support for thread pinning (enables support for Epoch Based Reclamation; used by libbsd)
- The default SMP scheduler supports now EDF scheduling, one-to-one and one-to-all thread to processor affinities, and thread pinning.
- Timers (watchdogs) use now per-processor data structures.
- Improved POSIX key to value look up.
- The Ada runtime supports now SMP configurations.

### Configuration Changes

- All configuration options are now documented.
- Most resources are now statically allocated and no longer use the workspace.
- New configuration options:
  - `CONFIGURE_MAXIMUM_THREAD_NAME_SIZE`
  - `CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE`
  - `CONFIGURE_DIRTY_MEMORY`
  - `CONFIGURE_RECORD_EXTENSIONS_ENABLED`
  - `CONFIGURE_RECORD_FATAL_DUMP_BASE64`
  - `CONFIGURE_RECORD_FATAL_DUMP_BASE64_ZLIB`
  - `CONFIGURE_RECORD_PER_PROCESSOR_ITEMS`
  - `CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION`
  - `CONFIGURE_IMFS_ENABLE_MKFIFO`
  - `CONFIGURE_IMFS_DISABLE_MKNOD_FILE`
- Renamed configuration options:
  - `CONFIGURE_SMP_MAXIMUM_PROCESSORS` to `CONFIGURE_MAXIMUM_PROCESSORS`

- `CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR`s to `CONFIGURE_MAXIMUM_FILE_DESCRIPTOR`s

- Removed configuration options:

- `CONFIGURE_SMP_APPLICATION`
- `CONFIGURE_HAS_OWN_CONFIGURATION_TABLE`
- `CONFIGURE_HAS_OWN_BDBUF_TABLE`
- `CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE`
- `CONFIGURE_HAS_OWN_FILESYSTEM_TABLE`
- `CONFIGURE_HAS_OWN_INIT_TABLE`
- `CONFIGURE_HAS_OWN_MOUNT_TABLE`
- `CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE`
- `CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE`
- `CONFIGURE_DISABLE_SMP_CONFIGURATION`
- `CONFIGURE_MAXIMUM_DEVICES`

- The helper macro for the clustered scheduler configuration `RTEMS_SCHEDULER_EDF_SMP()` has now only one parameter.

---

## RTEMS Shell Improvements

The following improvements were made to the RTEMS Shell:

- Telnet now supports `joel` script output. Running a `joel` script in a telnet session now sees the output. Nested `joel` scripts also output to the telnet session.

---

## General

- The system initialization is now performed by system initialization handlers registered in a special linker set (similar to global constructors in C++).
- API header files have been collected from the various locations in the RTEMS source tree and placed under `cpukit/include` and for BSPs under `bsps/include`. There is no header pre-install phase when building RTEMS.
- Improved parallel build performance. Nested `make` calls now run in parallel.
- Added support for the RISC-V 32-bit and 64-bit architecture.
- Added support for the 64-bit PowerPC architecture using the ELFv2 ABI.
- Synchronized support for Journalling Flash File System, Version 2 (JFFS2) with Linux 4.17.
- Import of `libfdt` from device tree compiler project.
- Added `libdebugger`, a thread aware GDB debug server with TCP transport support. Currently the supported architectures are i386 and ARM. The ARM support is experimental.
- Most BSP use now function and data sections to support the linker garbage collection.
- This is the last release of RTEMS with the `autoconf/automake` build system. RTEMS will be moving to a `waf` based build system driven from YAML specifications files. The effort is part of the on-going work in the RTEMS project to support qualification of the operating system.

---

## Architectures

Removed obsolete architectures:

- AVR
- H8300
- M32C
- M32R

Obsoleted architectures:

- Epiphany
  - PowerPC SPE
- 

## BSPs and Device Drivers

- General
  - BSP source code moved from `c/src/lib/libbsp` to `bsps` in the source tree. The configure and some other related pieces are still held in the original path.
- New BSPs
  - BSPs for ARM
    - `atsamv` - Microchip (former Atmel) SAM V71 series
    - `xilinx-zynqmp` - Xilinx Zynq UltraScale+ MPSoC platform
  - BSPs for RISC-V
    - `riscv` - Family of generic BSPs
    - `griscv` - BSP based on the GRLIB
- Significant updates to existing BSPs
  - `powerpc/qoriq`: 64-bit support
- Removal of obsoleted BSPs
  - `arm/gdbarmsim`
  - `arm/nds`
  - `arm/gp32`
  - `arm/ep1a`
  - `arm/score603e`
  - `m68k/idp`
- Obsoleted BSPs
  - `m68k/gen68302`
  - `m68k/ods68302`
  - `powerpc/brs51`
  - `powerpc/brs61`
  - `powerpc/dp2`
  - `powerpc/mbx8xx`
  - `powerpc/mpc5566evb_spe`
  - `powerpc/mpc56431_dpu`
  - `powerpc/mpc56431_evb`
  - `powerpc/mpc5674f_ecu508_app`
  - `powerpc/mpc5674f_ecu508_boot`
  - `powerpc/mpc5674fevb_spe`
  - `powerpc/mpc5674f_rsm6`
- Drivers
  - Drivers for `getentropy()`
  - New I2C device driver framework supporting the Linux user-space API
  - New SPI device driver framework supporting the Linux user-space API

## Newlib Changes

- `time_t` is now 64-bit to address the year 2038 problem.
- General improvements in the feature test macros support.
- Newlib internal locks are now supported, e.g. for FILE objects.
- The standard input, output, and error FILE objects are now global and no longer thread-specific.
- Added support for C++17 `std::aligned_alloc`

## Ecosystem

- RSB support to build a BSP software stack of tools, kernel, libbsd, and supported 3rd party packages.
- RTEMS Tester (`rtems-test`) support for DHCP/TFTP target hardware testing.
- RTEMS Trace addition of a new trace record support for target tracing.
- RTEMS Bootimage, a tool to portably create SD card images.

## RTEMS 5.1 Ticket Overview

Total	Closed	In_progress	New	Assigned	Percentage
844	844	0	0	0	100%

## RTEMS 5.1 Ticket Summary

ID	Status	Summary
1247	closed	RTEMS does not implement locks needed by multithreaded newlib
1394	closed	<code>scandir()</code> fails due to <code>MAXNAMELEN</code> is incorrect
1662	closed	<code>termios.c</code> : semaphore not deleted, consequently resulting in failure of <code>rtems_termios_open</code>
1747	closed	Heap extend allows discontinuous memory regions.
1971	closed	Memory leak in <code>tmpfile()</code>
2132	closed	<code>&lt;rtems/score/basedefs.h&gt;</code> superfluously includes <code>&lt;limits.h&gt;</code>
2133	closed	<code>&lt;rtems/score/basedefs.h&gt;</code> superfluously includes <code>&lt;string.h&gt;</code>
2135	closed	<code>times()</code> and <code>_times()</code> are subject to integer overflows
2173	closed	Potential integer overflow problem in EDF scheduler
2176	closed	fishy behavior in <code>termios tx</code> task mode
2198	closed	Automate doxygen build
2207	closed	RTEMS tar does not overwrite.
2251	closed	Decreased performance for whetstone benchmark using GCC $\geq 4.5$
2313	closed	Add coverage report generation support to <code>rtems-tools</code>

Summary
Move bsp_pretasking_hook() into files named bsppretaskinghook.c
h8300 gets error linking dl0* tests
rtems_ada_self is broken on SMP
sp07 needs to be split into an user extensions and a notepad test
powerpc/mvme5500/vectors/exceptionhandler.c uses task variables
Change uniprocessor INIT task mode to preempt.
Broken console driver infrastructure for SPARC
Second argument of ualarm() is ignored
One watchdog ticks header per scheduler instance
Replace red-black tree implementation, change API
SPARC: Several shared drivers are not SMP ready
SPARC: Silent FP context corruption possible
Create a Public API for the Atomic Operations
Documentation of User Extensions needs more information
rtems_waf: Tools without a version are not supported
Warning from commit "bsps/arm: Do not use <b>ARM_ARCH_7A</b> "
Enable function and data sections
Linker set based initialization
Improved priority inheritance implementation
RSB %source file fails
rtems_iterate_over_all_threads lacks user callback private pointer pass through
Add 4.12 Tool Target Configurations to RSB
lpc1768 variants fail to build with error in gpio.c
Remove avrtest BSP
Remove AVR Architectural Port
Remove m68k/mvme136 BSP

4 3 2 1	St at us	Summary
2 4 4 4 5	clo se d	Remove m68k/sim68000 BSP
2 4 4 4 6	clo se d	Remove M32R Architectural Port
2 4 4 4 7	clo se d	Remove m32r/m32rsim
2 4 4 4 8	clo se d	Remove mips/mongoose BSP
2 4 4 4 9	clo se d	Remove arm/gba BSP
2 4 4 5 0	clo se d	Remove arm/nds
2 4 4 5 1	clo se d	Remove arm/gp32 BSP
2 4 4 5 2	clo se d	Remove H8300 Architectual Port
2 4 4 5 3	clo se d	Remove h8300/h8sim BSP
2 4 4 5 4	clo se d	Warning in threadqops.c
2 4 4 5 5	clo se d	Warning in spsimplsched02
2 4 4 5 6	clo se d	Remove powerpc/ep1a BSP
2 4 4 5 7	clo se d	Remove powerpc/score603e BSP
2 4 4 5 8	clo se d	Add rtems_chain_get_first_unprotected() to chain API
2 4 4 6 0	clo se d	RSB: Tool patches use the RTEMS version
2 4 4 6 1	clo se d	Add Thread Local Storage (TLS) support on x86
2 4 4 6 2	clo se d	Remove <rtems/debug.h>
2 4 4 6 3	clo se d	Should <a href="https://devel.rtems.org/wiki/TBR/Delete/SpecBuilder">https://devel.rtems.org/wiki/TBR/Delete/SpecBuilder</a> be Deleted?
2 4 4 6 4	clo se d	Vagrant Scripts
2 4 4 6 5	clo se d	RSB: Use SHA512 instead of MD5
2 4 4 6 6	clo se d	Remove notepads
2 4 4 6 7	clo se d	Remove task variables
2 4 4 6 8	clo se d	mvme5500 BSP: Exception Handler uses deprecated Notepads.
2 4 4 6 9	clo se d	Should " <a href="https://devel.rtems.org/wiki/TBR/Delete/BSP_Template">https://devel.rtems.org/wiki/TBR/Delete/BSP_Template</a> " be replaced?
2 4 4 7 0	clo se d	Remove m68k/idp BSP
2 4 4 7 1	clo	Make POSIX API mandatorv (except signals and the sporadic server)

id	Status	Summary
1386	closed	score/libcpu API Layering Violation
	closed	Move pc386/tools/bin2boot to rtems-tools
	closed	BSP for the Atmel SAM V71/V70/E70/S70 chip platform
	closed	RSB allows use of insecure hash algorithms like MD5 and SHA1
	closed	Use Newlib exec*() variants and remove RTEMS versions
	closed	Review cxx_iostream size change per function-section changes
	closed	Obsolete gen68302 BSP
	closed	Obsolete m68k/ods68302
	closed	Obsolete mbx8xx BSP
	closed	Obsolete idp BSP
	closed	[mvme3100] boot_card() broken by 37030e38
	closed	New watchdog handler implementation
	closed	Eliminate the Giant lock
	closed	Implement the O(m) Independence-Preserving Protocol (OMIP)
	closed	Add word splitting to print output
	closed	Delete the EXTERN pattern
	closed	smdk2410 is broken due to gp32 removal
	closed	RSB Docs Quick Start version number
	closed	arm/lpc176x: linker script update (add KEEP() sections)
	closed	alarm() uses seconds watchdog and thus is affected by clock changes
	closed	POSIX Condition Variables Clock Attribute Support
	closed	rtems_heap_allocate_aligned_with_boundary() body and prototype inconsistent
	closed	Fix the year 2038 problem
	closed	Use one lookup tree per-thread for the POSIX keys
	closed	Unify thread cancel/join and delete
	closed	Fix CPU time used for threads on SMP

Status	Summary
closed	Avoid home-grown condition variable implementation in the Classic Regions
closed	Use an ISR lock to protect the state of Classic Rate Monotonic objects
closed	rtems-tester failure
closed	waf build failed for rtems-libbsd
closed	New warning in pc386 VESA driver
closed	pc386: ld -r issue with per function sections
closed	configure: enable-rtemsbsp doesn't warn if bsp does not exist
closed	sis does not run on gdb 7.11 but does on gdb 7.9
closed	RSB remove 4.11, 4.10 and 4.9 from the master branch.
closed	pc386 BSP has complex dependencies
closed	spclock_err02
closed	Update OpenRISC toolchain in 4.12
closed	After latest patches with Objects_Get_by_name rtems-master not compiling without --enable-posix
closed	CORE spinlock implementation is next to be useless
closed	Obsolete clock_get() directive
closed	Add pthread_setconcurrency() and pthread_getconcurrency()
closed	Configuration table's smp_enabled conditional on RTEMS_SMP
closed	rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122: duplicate if
closed	c/src/lib/libbsp/arm/atsam/network/if_atsam.c:409: possible bad if statement
closed	POSIX key destructors must be called during thread restart
closed	User extensions execution order must be clarified
closed	Update doc to reflect obsoleting rtems_clock_get()
closed	linking issue for htonl, etc when using -std=c99
closed	Add libatomic for RTEMS
closed	Unpredictable errno value returned by sem_wait() in case of semaphore deletion
closed	GCC 6.1 is broken for microblaze



6 5 4 3 2	Stat us	Summary
2 7 0 0 0	clo se d	cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition
2 7 0 0 1	clo se d	Rename asm file with .S(upper case) ext. name
2 7 0 0 2	clo se d	Remove descriptor objects for POSIX message queues
2 7 0 0 6	clo se d	Buffer allocation of capture engine is broken on SMP configurations
2 7 0 0 7	clo se d	Unsafe use of current processor index in capture engine
2 7 1 4 1	clo se d	A pthread_detach() does not lead to a resource reclamation
2 7 1 8 8	clo se d	Blocking _CORE_message_queue_Submit() may lead to unpredictable results
2 7 2 5 2	clo se d	SEM_VALUE_MAX is unusually small on RTEMS
2 7 2 5 3	clo se d	CPUINFO command to report per-processor information
2 7 2 5 4	clo se d	Classic binary semaphores without a locking protocol can be released by everyone
2 7 2 5 6	clo se d	grascs.c: Questionable use of binary semaphore
2 7 2 5 7	clo se d	FAT file systems use wrong semaphore for mutual exclusion
2 7 2 5 8	clo se d	Pipes use wrong semaphore for mutual exclusion
2 7 2 5 9	clo se d	TFTP client uses wrong semaphore for mutual exclusion
2 7 2 6 2	clo se d	Add clock_nanosleep()
2 7 2 6 3	clo se d	pthread_setschedprio() is missing
2 7 2 6 4	clo se d	pthread_setschedparam() sets the priority not according to POSIX
2 7 2 6 5	clo se d	pthread_getschedparam() returns wrong priority values
2 7 2 6 6	clo se d	Add CLOCK_DRIVER_USE_ONLY_BOOT_PROCESSOR
2 7 2 6 7	clo se d	Suboptimal type for Timestamp_Control
2 7 2 6 0	clo se d	New warning from printf plugin changes
2 7 2 6 1	clo se d	New warning in SHM driver
2 7 2 6 2	clo se d	Use clock from pthread_condattr in pthread_cond_timedwait
2 7 2 6 5	clo se d	Move RTEMS-specific socket wake-up to RTEMS-specific <rtems/rtems_bsdnet.h>
2 7 2 6 8	clo se d	rtems_task_set_scheduler() has insufficient parameters
2 7 2 6 9	clo	Compile Error When Multiprocessing Enabled

7  
5  
9**Stat  
us Summary**

- 
- 2 clo Thread dispatch via interrupt is broken at least on ARM and PowerPC  
7 se  
5 d
  - 2 clo Relax execution enviroment for thread begin extensions  
7 se  
5 d
  - 2 clo no .strtab section  
7 se  
5 d
  - 2 clo Application level deadlocks may lead to SMP lock level deadlocks  
7 se  
6 d
  - 2 clo untar does not keep permissions correctly.  
7 se  
6 d
  - 2 clo rtems-syms does not clean up temp files.  
7 se  
6 d
  - 2 clo Missing documentation for RTEMS\_LINKER\_ROSET\_CONTENT and RTEMS\_LINKER\_RWSET\_CONTENT  
7 se  
7 d
  - 2 clo Empty C++ file with just <rtems.h> does not compile with HEAD.  
7 se  
7 d
  - 2 clo ARM CP15 arm\_cp15\_set\_translation\_table\_entries fails if TTB in read-only memory  
7 se  
7 d
  - 2 clo SPI Framework  
7 se  
7 d
  - 2 clo Remove librtems++  
7 se  
7 d
  - 2 clo Add function to get the current priority of a task by scheduler instance  
7 se  
8 d
  - 2 clo RTEMS I2C API only defines Standard-mode (Sm) speed as a default.  
7 se  
8 d
  - 2 clo Linker sets broken with GCC 7  
7 se  
9 d
  - 2 clo Overrun Handling for general real-time models  
7 se  
9 d
  - 2 clo Add ability to add/remove processors to/from a scheduler instance  
7 se  
9 d
  - 2 clo Fix POSIX timer interval  
7 se  
9 d
  - 2 clo qoriq variants failing to build  
7 se  
9 d
  - 2 clo Test "libdl (RTL) 5" fails on SPARC targets  
7 se  
9 d
  - 2 clo Get rid of CPU\_BIG\_ENDIAN and CPU\_LITTLE\_ENDIAN  
7 se  
9 d
  - 2 clo Use SPRG0 on PowerPC for current per-CPU control (SMP only)  
7 se  
9 d
  - 2 clo Undocumented confdefs.h Configure Options  
7 se  
9 d
  - 2 clo rtems-docs repository is not known to trac  
7 se  
9 d
  - 2 clo Conditionally provide rtems\_interrupt\_frame  
7 se  
9 d
  - 2 clo Reduce interrupt latency on SMP configurations during thread dispatch  
7 se  
9 d
  - 2 clo Remove sparc/sis BSP variant  
7 se  
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**Status****Summary**

- closed More robust thread dispatching on SMP and ARM Cortex-M
- closed Many ARM BSPs have Static Assert
- closed All Blackfin BSPs do not Compile on Master
- closed NIOS2 Does Not Compile on Master
- closed powerpc-ss555 does not compile on master
- closed All SPARC64 BSPs do not Build on master
- closed No BSPs Build on Master
- closed m32csim does not build on master
- closed Nearly all m68k BSPs do not Build on Master
- closed arm/lpc23xx\_tli800 no longer links tar01
- closed Improve the fatal error handling chapter of the user manual
- closed arm\_cp15\_get\_translation\_table\_base\_control\_register warning.
- closed xz git URL in README is broken
- closed Ada support is broken on SMP configurations
- closed Add posix\_devctl()
- closed Termios task driven mode should use mutex for device operations
- closed Add new interrupt server driven Termios mode
- closed Use self-contained mutexes for Termios framework
- closed Add NXP SC16IS752 serial device driver
- closed Change C11 threads support to use Classic tasks instead of POSIX threads
- closed Use self-contained objects instead of Classic API for drivers and support libraries
- closed JFFS2: Add IO controls to get filesystem instance information and force a garbage collection
- closed Add I2C framework documentation
- closed ATA/IDE support in RTEMS is out-dated
- closed Driver manual covers non-existent Analog Driver
- closed Driver manual covers non-existent Discrete Driver

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## Stat us

### Summary

- Driver manual covers non-existent Non-Volatile Memory Driver
- Add user defined thread names
- Implement POSIX Shared Memory Objects
- docs.rtems.org Add support to ReST format releases.
- Update POSIX 1003.1 Compliance Guide for ReST
- docs.rtems.org Automatic update of branches content when a rtems-doc.git change is made.
- Coverpage installed when building the docs repeats catalogue.xml entries
- Fix exclude rule in rtems-test-check
- src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c: 3 \* pointless local variables ?
- src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320: defective error checking ?
- src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt\_timer.c: 4 \* pointless check ?
- DHCP client fails on complex networks
- src/c/src/lib/libbsp/sparc/shared/can/occan.c:1573: broken error checking ?
- src/cpukit/libdebugger/rtems-debugger-server.c: four problems
- src/cpukit/libfs/src/jffs2/src/readinode.c:189: faulty logic
- src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248: strange expression ?
- Fix rtems\_rate\_monotonic\_postponed\_job\_count() prototype
- RTEMS\_STACK\_CHECKER\_EXTENSION has incomplete definition
- \_RBTree\_Initialize\_node generates warnings
- Remove CONFIGURE\_SMP\_APPLICATION
- Rename CONFIGURE\_SMP\_MAXIMUM\_PROCESSORS to CONFIGURE\_MAXIMUM\_PROCESSORS
- Prefix the confdefs.h internal defines with an underscore
- RSB requirements are missing pax
- Update termios.h to match the latest FREEBSD definitions
- Merge LEON
- rtems-doc waf configure does not detect sphinxcontrib.bibtex status

Stat	Summary
closed	xz: Support for 64-bit CRC is build although XZ_USE_CRC64 is not defined
closed	libdebugger: control reaches end of non-void function
closed	termios: Change receive callback invocation to enable select() and poll() support
closed	termios: Make write POSIX compatible
closed	libdl unresolved externals that use more than one block or multiple entries corrupts.
closed	Questionable Code in resource_snapshot.c
closed	Warnings in SPARC BSPs
closed	Warnings in rtl-obj-cache.c on some targets
closed	Coverity Reports Out of Bounds Read in drvmgr_print.c
closed	Flexibleassignto is broken on new ticket page.
closed	Termios task driven mode not compatible with SMP
closed	building rsb freezes
closed	rtems building error
closed	rtems building error
closed	Many failures on LEON3 with SMP disabled
closed	Add a top level global testsuite configuration file (.tcfg) and a 'user-input' test state.
closed	Questionable patch organization in RTEMS tools and RSB
closed	Error path in rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg
closed	ARM: Optimize context switch
closed	Shared memory support internal locking is broken
closed	Add some popular benchmark programs to the testsuite
closed	arm/libdl: C++ exception index tables may not be ordered correctly
closed	Set test configurations to reflect test results.
closed	Add a testsuite top level configuration file that is common to all tests.
closed	bootstrap sort inconsistent with sb-bootstrap for acinclude
closed	ARM: Change ABI to not use short enums

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## Stat us

### Summary

- newlib inttypes.h is missing some methods
- qoriq BSPs depend on mkimage which is not always available
- warnings in rtems-debugger-server.c
- warnings in Dhrystone Benchmark
- pc586-sse does not compile fsjffs2gc01
- testdata excludes on included tcfg files does not work
- LibBSD broken with GCC+RTEMS changes
- Create <rtems/inttypes.h> to consolidate extensions to <inttypes.h>
- Changing Trac milestone page fails.
- RTEMS Source Builder Fails on Windows Builds
- Long path crashes the RSB when listing a directory.
- SMP assert in \_Thread\_Executing in libdebugger
- tar01 XZ error
- Missing bsets
- Monitor config command does not handle unlimited objects.
- RTEMS User Manual Quick Start does not cover releases.
- sb-check on Cygwin
- Setting interrupt level in the mode arg on SMP returns RTEMS\_UNSATISFIED
- SMP build of RTEMS Testsuite does not set CONFIGURE\_MAXIMUM\_PROCESSORS
- FAT does not support clusters bigger than 32K
- SPARC LEON3 BSP SMP build is broken.
- ARM caching issues
- missing pax causes install failures
- Provide invalid link handler for docs.rtems.org so old docs can be removed.
- src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition
- Error compiling xilinx zyna zedboard.

Issue	Summary
clo se d	Global C++ IO streams are broken (cout, cin, cerr)
clo se d	ProgrammingError: (1064, "You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sid='nikolaykomashinskiy' AND authenticated=1 AND name='force_change_passwd' at line 1")
clo se d	interrupt vector indexing is assuming BSP_INTERRUPT_VECTOR_MIN = 0 for this code.
clo se d	Add support for IBM PPC 750 chip
clo se d	missing a couple register names + a <code>#ifndef ASM</code> around serial.h inclusion
clo se d	improvement in pci.h
clo se d	RSB cannot compile tool chain in CentOS 7.
clo se d	Review tests using CONFIGURE_DISABLE_SMP_CONFIGURATION
clo se d	Parameter of CPU_COPY() are in wrong order
clo se d	m32c/m32csim does not build linpack-pc.c
clo se d	RTEMS source builder fails when building gcc documentation with newer versions of gcc
clo se d	CPU_NAND_S() implementation is not in line with FreeBSD
clo se d	CPU_CMP() implementation is not in line with FreeBSD
clo se d	Cannot use RTEMS mailing list archive for patches
clo se d	4.11/rtems-nios2 does not build on Windows.
clo se d	4.12/rtems-moxie missing release number.
clo se d	Remove docs directory from the RSB
clo se d	Warnings in libdebugger
clo se d	RSB: powerpc GDB build broken on Apple Darwin
clo se d	gdb 7.12.1 on RSB 4.12 branch fail to build on Archlinux
clo se d	Add EDF SMP scheduler
clo se d	Add a workaround for the LEON3FT store-store errata
clo se d	Add a simple processor affinity support to the EDF SMP scheduler
clo se d	including 'unistd.h' in C++ does not build.
clo se d	Make the EDF scheduler the default SMP scheduler
clo	Add rtems scheduler ident by processor()

id	status	summary
3070103	closed	Add rtems_scheduler_ident_by_processor_set()
3070111	closed	Create an interrupt server for every processor in the system
3070222	closed	Declaration of global functions in driver source files
3070333	closed	Test suite failures due to floating point usage
3070633	closed	SPARC: Add lazy floating point context switching
3070733	closed	Ada tests do not build
3070833	closed	Infinite loop in SPARC rtems_invalidate_multiple_instruction_lines()
3070933	closed	Add 64-bit support for PowerPC
3071033	closed	parallel make not working
3071133	closed	Makefile recipe override warning has returned
3071233	closed	Add hypervisor support for QorIQ BSPs
3071333	closed	RSB rtems-gdb-7.12-1.cfg MD5 value is ERROR
3071433	closed	shell test in testsuites/samples/fileio many COMMANDs is Lost
3071533	closed	Inconsistent blocking addressing in RFS
3071633	closed	Add BSP for i.MX 7
3071733	closed	Core Dump in powerpc-rtems4.12-ld
3071833	closed	Shell internal commands should be public.
3071933	closed	Add new RTEMS repos to github.
3072033	closed	Add RTEMS FDT wrapper and shell command to libmisc
3072133	closed	Add Xilinx AXI I2C driver
3072233	closed	Add I2C Drivers for LM25066A, TMP112, ADS1113 and ADS1115
3072333	closed	rtems-exeinfo does not decode ARM static constructors.
3072433	closed	rtems-tools on CentOS 7 Build Failure
3072533	closed	Add RISC-V support
3072633	closed	Newlib: Change time_t and clock_t integer types to 64-bit
3072733	closed	POSIX: Make pthread_mutex_t self-contained



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## Stat us

### Summary

- 3 POSIX: Make pthread\_cond\_t self-contained
- 3 POSIX: Make pthread\_barrier\_t self-contained
- 3 POSIX: Make pthread\_rwlock\_t self-contained
- 3 POSIX: Make sem\_t self-contained
- 3 score: Optimize \_Thread\_queue\_Enqueue() timeout handling
- 3 clock() implementation in Newlib is broken
- 3 Simplify and unify BSP\_output\_char
- 3 GDB 8.0.1 is broken on FreeBSD 11
- 3 Ignore pshared attribute for POSIX semaphores
- 3 Accept PTHREAD\_PROCESS\_SHARED for POSIX mutexes
- 3 Accept PTHREAD\_PROCESS\_SHARED for POSIX barriers
- 3 MIPS tool build on Darwin (MacOS) fails.
- 3 RTEMS Tools corvar does not build on Windows.
- 3 RTEMS Tools covoar build fails on Windows
- 3 RTEMS Doxygen.in latex output does not build
- 3 Add reference counting to file descriptors
- 3 Remove rtems\_libio\_t::driver
- 3 Remove LIBIO\_FLAGS\_CREATE
- 3 Devel mailing list doesn't work and Git push impossible due to disk full
- 3 Use FIFO for file descriptor free list
- 3 Accept PTHREAD\_PROCESS\_SHARED for POSIX condition variables
- 3 Remove old ISR parameter from Clock\_driver\_support\_install\_isr() and make it optional
- 3 CPU Kit broken with --enable-rtems-debug
- 3 Change the BSP Howto's name to something smaller.
- 3 POSIX: Reduce size of pthread\_once\_t and make it zero-initialized
- 3 PSXRDWRV Test failure on Beaglebone Black

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## Stat us

### Summary

- 3 Beaglebone Black crashes on u-boot master build.
- 3 Accept PTHREAD\_PROCESS\_SHARED for POSIX rwlocks
- 3 PowerPC tools don't build on 32-bit hosts
- 3 Examples v2 does not build
- 3 Examples v2 trace linker ini files reference non-existing dump-on-error
- 3 Trace linker score support is broken
- 3 Add I2C device driver for temperature sensor LM75A
- 3 New default ticket assignee: NeedsReview
- 3 Internal status codes must not depend on RTEMS\_POSIX\_API
- 3 Simplify POSIX\_API\_Control
- 3 Use BSP\_output\_char via RTEMS printer or simple console driver for test output by default
- 3 RSB GCC does not build on High Sierra and APFS
- 3 i386 PC BSP does not reset when bsp\_reset is called.
- 3 Xilinx AXI I2C driver IP race condition causes clock glitch.
- 3 Remove rtems\_pthread\_attribute\_compare()
- 3 Merge FreeBSD timecounter changes from 2015-01-20 to now
- 3 \_\_getreent in libc.a and generated by confdefs.h
- 3 Replace/update POSIX Compliance Guide
- 3 Update sh-rtems4.12 bset to use rtems-default (using old gcc)
- 3 New warnings from Time Changes
- 3 ar warning: u' modifier ignored since 'D' is the default (see 'U')
- 3 Various cc1plus warnings for "valid for C/ObjC but not for C++"
- 3 CLOCK\_REALTIME timeout implementation is not POSIX compliant
- 3 Change uptime seconds to int32\_t
- 3 smptests/Makefile.am Issues
- 3 Add C11 Threading Examples

Summary
MUTEX_INITIALIZER missing braces warning
RTEMS Tester covoar does not link on MacOS
RTEMS Tester covoar dies with no arguments.
Add lazy update of line control and baud divisor to NS16550 serial driver
m32c tests don't build -- test_context too large
epiphany tools checksum error
or1k tools build error
Upgrade trac to fix numerous problems.
Exception in rtems-test
Relative timespec timeouts are subject to integer overflows
Supported Architectures Page is out of date
RSB should fail on this error
Improve the RSB build email message
Fix pthread_create() with user provided stack
Qemu Fails to Build, RSB Gives Odd Traceback
Move erc32, leon2, leon3, psim and jmr3904 to Tier 2
Configuring a System Still Includes Notepads and Has Wrong Heading
Replace vprintk() implementation
Add RTEMS version, build and tools details to tests
Termios canonical mode (ICANON) does not return input line by line
Zynq BSP missing linker option --gc-sections
Change RTEMS release number scheme from 4.12 to 5
RSB wiki page duplicates documentation
Upgrade or1k and m32c to Binutils 2.29
Upgrade m32c to GDB 8.0.1
adb: or 16827. fix sim on Mavrck

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## Stat us

### Summary

- clo sb-check fails on Msys2 64-bit
- se
- d
- clo aarch64 missing from 5/rtems-all build set
- se
- d
- clo Add index to all documents.
- se
- d
- clo RTEMS Top level README needs updating.
- se
- d
- clo Use of `.. include::` in the User Manual should be changed.
- se
- d
- clo Quick Start Instructions Inconsistent
- se
- d
- clo Fix `rtems_semaphore_flush()` for priority inheritance semaphores
- se
- d
- clo Fix thread queue owner priority update in `_Thread_queue_Flush_critical()`
- se
- d
- clo Fix priority ceiling updates
- se
- d
- clo Git push to Trac with more than one commit does not update tickets.
- se
- d
- clo Add `getentropy()` implementation provided by each BSP
- se
- d
- clo `cpukit/libmisc/stackchk/check.c` stack addresses formatted incorrectly.
- se
- d
- clo Workarounds for UT699, UT700, and GR712RC errata
- se
- d
- clo Simplify global construction
- se
- d
- clo Change `rtems_panic()` implementation and document this function
- se
- d
- clo Replace `BSP_panic()` with `rtems_panic()`
- se
- d
- clo Remove `_BSP_Fatal_error()`
- se
- d
- clo Remove BSP-specific defaults for `RTEMS_BSP_CLEANUP_OPTIONS()`
- se
- d
- clo Add `BSP_VERBOSE_FATAL_EXTENSION` to `RTEMS_BSP_CLEANUP_OPTIONS`
- se
- d
- clo `imx7` does not link `getentropy01` test on master
- se
- d
- clo Reorganize header files to avoid "make preinstall"
- se
- d
- clo Warnings on 64-bit targets
- se
- d
- clo Ada run-time needs support for self-contained POSIX synchronization objects
- se
- d
- clo `libpci` depends on BSP-specific header files
- se
- d
- clo A couple of documentation typos
- se
- d
- clo Add monotonic `watchdog` based on `uptime`

Issue	Summary
closed	Use second one based uptime for CLOCK_MONOTONIC for FreeBSD compatibility
closed	cpukit/libpci references BSP headers.
closed	rtems/status-checks.h calls printk without including the needed header.
closed	PowerPC BSP include naming mess.
closed	Remove unused support for MPC505
closed	QorIQ: Add MAC-less DPAA driver to libbsd
closed	bsp-builder has incorrect print (%s in output)
closed	Add epiphany support to GDB 8.0.0
closed	Bad URL in OpenOCD/Xilinx_Zynq Wiki Page
closed	RSB uses hard coded GCC binary paths
closed	Reorganize BSP source directory
closed	Add device tree support to Altera/Intel Cyclone V BSP
closed	gcc version report for released tools is wrong.
closed	dlerror non-conformance
closed	Add paravirtualization support to ARM
closed	Add paravirtualization support to PowerPC
closed	PowerPC linkcmds.base missing wildcards on some sections
closed	rtems_task_create's initial_mode SMP update
closed	RSB macro calls such as define fail on unicode keys.
closed	Move expat's home site to github from SF.
closed	Improve INTERNAL_ERROR_THREAD_EXITTED to show the id and thread name
closed	Add a simple task console driver
closed	mhttpd's http etag can result in invalid caching in a browser.
closed	Simplify clustered scheduler configuration
closed	Eliminate score/cpu/*../types.h
closed	bootstrap uses non-POSIX compliant echo -e





Status	Summary
closed	examples-v2: no MIPS BSPs pass configuration step
closed	examples-v2: PowerPC fails to build fat_ramdisk
closed	Remove Simple SMP Priority Scheduler
closed	Add SMP support for RISC-V
closed	Add CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configuration option
closed	Add test case for CONFIGURE_BSP_PREREQUISITE_DRIVERS configuration option
closed	Remove clock driver Clock_driver_support_shutdown_hardware() hook
closed	Replace use of printk() in free() with a fatal error
closed	Remove shgen program
closed	Remove nios2gen program
closed	Remove multigen script
closed	Remove cvsignore-add.sh script
closed	Remove rtems-testsuite-autostuff script
closed	Remove size_rtems script
closed	Update RISC-V tool chain to support standard 64-bit chips
closed	Add RISC-V GDB
closed	Tracing Framework Documentation in User Manual
closed	Remove install-if-change script
closed	rtems-test should not use the env PATH to find covoar
closed	Rework initialization and interrupt stack support
closed	GDB 8 SIS LEON2 LEON3 Patches
closed	Canadian cross compilation of RTEMS tools not supported for x86_64-w64-mingw32
closed	Convert covoar to use DWARF function data
closed	Integrate all changes from Linux v3.11 to v4.17 made in the JFFS2 sources
closed	Update libfdt as of date 2018-07-09
closed	Update of libbsd to a version close to the FreeBSD 12 release



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## Summary

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3	clo	Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch prediction hints
4	sed	
4	sed	
7	sed	
15	sed	
3	clo	RISCV BSP Tester Cleanup Needed
4	sed	
7	sed	
18	sed	
3	clo	CONFIGURE_MINIMUM_TASK_STACK_SIZE may affect CONFIGURE_INTERRUPT_STACK_SIZE
4	sed	
8	sed	
3	clo	Relax the buffer alignment required by rtems_partition_create()
4	sed	
8	sed	
2	clo	RFS: Remove stray call of rtems_disk_release() in rtems_rfs_buffer_sync()
3	sed	
4	sed	
14	sed	
3	clo	Use uintptr_t and size_t instead of uint32_t in rtems_partition_create()
4	sed	
8	sed	
100	sed	
3	clo	Remove CONFIGURE_HAS_OWN_MOUNT_TABLE
4	sed	
8	sed	
3	clo	Obsolete CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
4	sed	
8	sed	
3	clo	Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
4	sed	
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3	clo	Align mprotect() prototype with POSIX
4	sed	
8	sed	
3	clo	Remove superfluous interrupt enable in _Thread_Dispatch_enable()
4	sed	
8	sed	
3	clo	Command and Variable Index is empty
4	sed	
8	sed	
3	clo	The "Index" chapter is empty
4	sed	
8	sed	
3	clo	Change rtems_waf's RTEMS path check from bin to share/rtems`
4	sed	
8	sed	
3	clo	MSR_RI defined multiple places
4	sed	
8	sed	
3	clo	PL111_LCD_CONTROL_LCD_BPP_16 Redefined
4	sed	
8	sed	
3	clo	PDF Documentation is missing an index
4	sed	
8	sed	
3	clo	Warning and formatting in bsps/powerpc/mpc55xxevb/dev/dspi.c
4	sed	
8	sed	
3	clo	powerpc/virtex redefined warning
4	sed	
8	sed	
3	clo	waf for building RTEMS applications needs updating
4	sed	
8	sed	
3	clo	Add flexible per-CPU data
4	sed	
8	sed	
3	clo	Add support for thread to processor pinning
4	sed	
8	sed	
3	clo	ATA driver uses deprecated rtems_blkdev services
4	sed	
8	sed	
3	clo	int/pointer size warnings in powerpc-qoriq_e6500_64
4	sed	
8	sed	
3	clo	sb-check:No python command with Python 2 and Python 3 installed
4	sed	
8	sed	
3	clo	Convert tam8xx console driver to new Termios API

Stat	Summary
closed	sb-set-builder should report disk usage of build
closed	RSB Ubuntu Host Requirements Missing Some
closed	RSB MacOS Nits
closed	RSB does not strictly check args
closed	Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE
closed	Update mDNSResponder to Apple version v878.30.4
closed	Add FEC network interface driver for TQM8XX
closed	Add MMC/SDCard support for i.MX 7Dual BSP
closed	Convert PTY driver to new Termios API
closed	Remove undocumented and untested CONFIGURE_MAXIMUM_PTYS
closed	Fix issues raised by Coverity Scan for Telnet server
closed	Fix issues raised by Coverity Scan for FTP server
closed	Add POSIX Attribute Reports for More Than Scheduler (examples-v2)
closed	RSB source only download is host specific
closed	Add rtems_task_exit()
closed	Remove stdin, stdout, stderr convenience routines for CEXP
closed	Move RTEMS configuration data to a common <code>config</code> directory
closed	RSB and RTEMS Tools Support for python2 and python3
closed	Classic API Barrier Wait Section Title Has Wrong Name
closed	Remove CPU_PROVIDES_IDLE_THREAD_BODY
closed	Remove keep_stdio feature from Telnet service
closed	Change Telnet server to allocate most resources during initialization
closed	Support O_DIRECTORY open() flag
closed	Support O_NOFOLLOW open() flag
closed	Support O_CLOEXEC open() flag
closed	Obsolete powerpc/virtex BSP

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## Status

### Summary

- clo Move default configuration to separate library
- se
- d
- clo cpu usage error in SMP mode
- se
- d
- clo rtems-libbsd Missing waf in Top Directory
- se
- d
- clo rtems-libbsd README.waf Needs an Update Sweep
- se
- d
- clo IRC bots need to be registered to join #rtems
- se
- d
- clo Test ticket
- se
- d
- clo Update TracSpamFilter
- se
- d
- clo Fix NavAdd plugin.
- se
- d
- clo Fix FlexibleAssignTo
- se
- d
- clo Migrate to CommitTicketUpdater
- se
- d
- clo Use a short paths for the RSB temporary build path on Windows
- se
- d
- clo RSB: UnboundLocalError: local variable 'build\_max\_size\_human' referenced before assignment
- se
- d
- clo waf version in various rtems-repositories incompatible with python 3.7
- se
- d
- clo gdb 8.0.1 sis does not build on Cygwin
- se
- d
- clo Avoid CLooG and ISL host dependencies for target GCC
- se
- d
- clo testsuite's rtems-test-check.py python version support
- se
- d
- clo Add rtems\_malloc() and rtems\_calloc()
- se
- d
- clo Deprecate proc\_ptr
- se
- d
- clo Deprecate rtems\_context
- se
- d
- clo Deprecate rtems\_context\_fp
- se
- d
- clo Deprecate region\_information\_block
- se
- d
- clo Deprecate rtems\_thread\_cpu\_usage\_t
- se
- d
- clo Deprecate rtems\_rate\_monotonic\_period\_time\_t
- se
- d
- clo Move internal types of API objects to separate header file
- se
- d
- clo Remove m32c architecture port
- se
- d
- clo Update or1k tools to use GCC master

Status	Summary
closed	Update or1k tool chain to use the upstream GCC
closed	Remove support for 16-bit object identifiers
closed	RTL Unresolved Symbols from common section on i386/pc686 (cloned)
closed	RTL Allows Unloading a Module other Modules Depend Upon (cloned)
closed	Update Spike Version in RSB (RISC-V simulator)
closed	RTL unresolved compaction does not update string indexes after removing a string
closed	CommitTicketUpdater does not process commits in order
closed	Statically initialize object information structures
closed	Remove cache routines working with a processor set
closed	MSYS2 builds appear to ignore tcfg file
closed	RTL Allows Unloading a Module other Modules Depend Upon (cloned)
closed	sigtimedwait() needed when POSIX is disabled
closed	Add RSB reporting section to the documentation.
closed	Build of rtems-tools fails with i686-w64-mingw32
closed	Add rtems_scheduler_get_maximum_priority()
closed	Fix rtems_task_restart() argument type
closed	Error with IRC announcing in examples-v2 commits.
closed	Sphinx 1.8 PDF (latex) on FreeBSD does not build
closed	RSB config parsing slow on python3
closed	Add low level event recording infrastructure
closed	Add support for C++17 std::aligned_alloc
closed	Support data cache disable on ARMv7-AR
closed	Commit message in examples-v2 and libbsd didn't trigger a ticket update.
closed	rtems-docs.git does not build with Sphinx 1.8.2 and 1.8.3
closed	examples-v2 uses deprecated or obsolete RTEMS interfaces
closed	No i386 BSP can link all tests after cache manager changes

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## Summary

- closed xilinx\_zynq\_a9\_qemu - fails to link psxconfig01
- closed Raspberry Pi Fails to Build
- closed RSB: Change default prefix to OS prefix + "rtems" + \$rtems\_version
- closed ARM BSP contains ARM code in THUMB only build
- closed Add RISC-V BSP with support for the grlib
- closed Add BSP for Xilinx Zynq UltraScale+ MPSoC platform
- closed Git clone via HTTPS does not give much interactive feedback
- closed rtems\_print\_buffer is broken
- closed Add large memory support to libdl
- closed Add library searching and loading to libdl
- closed Add architecture section support to libdl and support PowerPC's small data.
- closed rtems-docs fails to build with python3
- closed libdl does not honour write unlock/lock for sections
- closed libdl incorrectly handles MIPS16hi/lo relocs
- closed shm\_open has logically unreachable code (Coverity ID: 1399706, 1399714)
- closed Basic Support for Trace Compass
- closed Wrong system register specified for ARM virtual timer value retrieval
- closed Remove Doxygen comments from confdefs.h
- closed mfill shell command uses the wrong arguments for the memset()
- closed bsp/lpc24xx: Convert SSP driver to Linux API
- closed bsp/lpc24xx: Convert I2C driver to Linux API
- closed Set small data section to max size for mvme5500 and motorola\_powerpc BSPs
- closed Add rtems\_scheduler\_get\_processor()
- closed Add rtems\_scheduler\_get\_processor\_maximum()
- closed Add general reg support to libdebugger
- closed Add RTEMS\_CONST attribute

Stat	Summary
37753353377333637743744137442374433744637447374483744937451374523745337454374553745637457374583745937460374613746237463374643746537466374673746837469374703747137472374733747437475374763747737478374793748037481374823748337484374853748637487374883748937490374913749237493374943749537496374973749837499	Remove CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	PowerPC Beatnik BSP C++ exceptions broken
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	libdl loading ELF objects from libbsd NFS file system ends in a deadlock
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	T_config conflicting type qualifiers for 'config'
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RSB os and arch config logic is broken
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	libdl test dl05.exe failing
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Address Cortex-M3 Errata 602117
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	libdl uses a linear symbol search on object file symbols
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	No documentation on Region Get Information Directives
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Users Guide Ubuntu Instructions Have Typo
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Condition codes in PSR are destroyed by lazy FP context switch
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	BBB MMU update crashes
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Return the current handler from ARM cp15 set exception call
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RSB SIS build fails on FreeBSD
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Add staging support to Makefile.inc
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RSB BSP Buildsets
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RSB 3rd party packages failing to build
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RPi fails to boot
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RPi2 SMP does not build
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	libdl does not handle ARM mode reloc tramp parsing
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	libdl ARM does not support ARM mode trampolines.
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	libdl object unload debugger delete support is broken
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	RSB crashes in case the host as an unreadable directory in "/"
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	MSYS2 RSB build error
37753353377333637743774437745377463774737748377493775037751377523775337754377553775637757377583775937760377613776237763377643776537766377673776837769377703777137772377733777437775377763777737778377793778037781377823778337784377853778637787377883778937790377913779237793377943779537796377973779837799	Add RISC-V BSP with support for the Freedom E310 Artv A7 FPGA









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## Summary

- closed C++ thread-local storage broken on sparc64
- closed Many (~40) BSPs Fail to Link all Tests
- closed qorIQ\_e500 BSP bset fails
- closed Update DTC example on [rtems-docs/user/rsb/configuration.rst](#)
- closed `clock_settime()` can lead to a failed `_Assert()`
- closed `rtems_extensions_create()` accepts a NULL pointer table
- closed RSB BSP build with tests does not keep a copy
- closed Add to FreeBSD host setup information
- closed bsps/arm: CPU counter based on arm generic timer doesn't work correctly
- closed RSB bare version number if wrong.
- closed Release source package list is out of date
- closed symlinks in RTEMS source tree
- closed dl06 fails on all libdl supported architectures
- closed Deprecate use `_RTEMS_version` at API level
- closed Deprecate use of `RTEMS_MAXIMUM_NAME_LENGTH`
- closed Deprecate `<rtems/system.h>`
- closed Add `rtems_get_copyright_notice()` and deprecate `_Copyright_Notice`
- closed Deprecate ephipany port in rtems5 and remove in rtems6
- closed Released RSB qemu4 source download fails.
- closed ARMv7-M Exception handler does not store the SP
- closed Release URL path with sources is wrong
- closed Release doxygen support is broken
- closed Beaglebone and PC BSP stacks do not build
- closed Remove `RTEMS_MP_NOT_CONFIGURED` error condition
- closed `rtems-test target_exe_filter` fails when there is no filter
- closed Update mDNSResponder to Apple version v878.30.4

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**Summary**

- 
- 4 clo RSB RTEMS 5 Post Branch Clean
  - 4 clo Sqliite has stopped http access
  - 4 clo shm\_unlink uses uninitialized obj\_err on successful return from \_POSIX\_Shm\_Get\_by\_name
  - 4 clo RSB --host and --target option trigger the bset tarball
  - 4 clo PowerPC for libbsd does not build
  - 4 clo i386: SMP-System hangs with non-consecutive APIC IDs
  - 4 clo i386: ISR can overwrite its own stack during system initialization
  - 4 clo Add rtems\_interrupt\_server\_create() and rtems\_interrupt\_server\_destroy()
  - 4 clo arm/atsam/SC16IS752: Make interrupt server configurable
  - 4 clo RTEMS version number 5.1 breaks RTEMS version code
  - 4 clo libbsd test fails to build
  - 4 clo bsp/xilinx-zynq: Flush TX-Buffer before initializing the zynq-uart (cloned)
  - 4 clo RSB 5/rtems-arm fails to build on Windows
  - 4 clo i386: bad asm in smp mode (rtems.git/5)
  - 4 clo The select mechanism does not support asynchronous device communication
  - 4 clo the atomicity of some operations cannot be guaranteed.
  - 4 clo low efficiency of sending inter-core interrupts
  - 4 clo Raspberry Pi booting files from master branch not working
  - 4 clo rtems-record-ltng '-e' option does not verify existence
  - 4 clo Ubuntu's gcc preventing QEMU from being built
  - 4 clo about get cpu number
  - 4 clo the pci initialization part cannot pass the initialization
  - 4 clo about error number
  - 4 clo grlib/genirq: Bad returned value when enabling/disabling interrupt
  - 4 clo shell command problem
  - 4 clo m68k/uC5282: fini epiloa is missing

4	Summary
4	rtems-tools does not build with up-to-date llvm
4	access JFFS2 sb->s_root question
4	access JFFS2 sb->s_root
4	mutex is not initilaized in jffs2_new_inode
4	mutex is not initilaized in jffs2_read_inode
4	rtems_filesystem_table compile
4	rtems_jffs2_rmnode function problem
4	Adapt improved mailer.py for rtems-tools 5 branch
4	Adapt improved mailer.py for RSB 5 branch
4	Fix build issue with qemu4 on Ubuntu
4	Bump dtc on rtems5 to match rtems6
4	about MIPS architecture support
4	support pmu under MIPS platform
4	non-alignment exception
4	support for 64KB clusters DOSFS
4	support commands such as rename
4	Added support for Intel I210
4	Telnet client protocols
4	TFTP client protocols
4	TFTP server protocols
4	Added support for Intel 82580
4	support for DMA access
4	Spike failing to build with RSB 5 on Ubuntu 21.04
4	Python 3.8 introduces new warning about using operator "is" with a literal

## RTEMS 5.1 Tickets By Category

## Owner

Owner	Closed	Total	Progress
Chris Johns	173	173	173/173
Sebastian Huber	353	353	353/353
Daniel Hellstrom	12	12	12/12
	100	100	100/100
joel.sherrill@...	18	18	18/18
chrisj@...	12	12	12/12
Amar Takhar	22	22	22/22
joel@...	3	3	3/3
Gedare Bloom <gedare@...>	5	5	5/5
joel	1	1	1/1
Sebastian Huber <sebastian.huber@...>	18	18	18/18
Chris Johns <chrisj@...>	14	14	14/14
Christian Mauderer <christian.mauderer@...>	1	1	1/1
Joel Sherrill	43	43	43/43
Needs Funding	4	4	4/4
Aun-Ali Zaidi <admin@...>	8	8	8/8
Joel Sherrill <joel@...>	16	16	16/16
Ralph Holmes <ralph@...>	1	1	1/1
Ben Gras	1	1	1/1
Joel Sherrill <joel.sherrill@...>	1	1	1/1
Gedare Bloom	13	13	13/13
Pavel Pisa <ppisa@...>	1	1	1/1
Pavel Pisa	1	1	1/1
Andreas Kölbl <andreas.koelbl@...>	1	1	1/1
Fan Deng	1	1	1/1
Hesham Almatary	3	3	3/3
amar@...	1	1	1/1
Frédéric Jouault <f.jouault@...>	1	1	1/1
Vidushi Vashishth	1	1	1/1
Christian Mauderer	3	3	3/3
Jiri Gaisler	1	1	1/1
Kinsey Moore <kinsey.moore@...>	1	1	1/1
Jan Sommer <jan.sommer@...>	3	3	3/3
Moyano Gabriel <gabriel.moyano@...>	1	1	1/1
Alex White <alex.white@...>	2	2	2/2
Ryan Long <ryan.long@...>	3	3	3/3
Stavros Passas <stavros.passas@...>	1	1	1/1

## Type

Type	Closed	Total	Progress
infra	16	16	16/16
defect	524	524	524/524
enhancement	213	213	213/213
project	9	9	9/9
task	82	82	82/82

## Priority

Priority	Closed	Total	Progress
highest	30	30	30/30
high	51	51	51/51
normal	746	746	746/746
low	14	14	14/14
lowest	3	3	3/3

## Component

Component	Closed	Total	Progress
doc	56	56	56/56
arch/arm	45	45	45/45
arch/sparc	16	16	16/16
unspecified	87	87	87/87
fs	11	11	11/11
arch/powerpc	34	34	34/34
tool/rsb	74	74	74/74
build	29	29	29/29
score	94	94	94/94
posix	46	46	46/46
tool	50	50	50/50
tool/gcc	17	17	17/17
admin	33	33	33/33
tool/newlib	12	12	12/12
test	5	5	5/5
bsps	22	22	22/22
release	4	4	4/4
tool/website	6	6	6/6
config	31	31	31/31
arch/i386	10	10	10/10
examples	2	2	2/2
lib/dl	21	21	21/21
network/libbsd	12	12	12/12
arch/m68k	6	6	6/6
arch/mips	3	3	3/3
rtems	34	34	34/34
network/legacy	11	11	11/11
fs/fat	3	3	3/3
dev/serial	5	5	5/5
shell	7	7	7/7
arch/riscv	7	7	7/7
tool/gdb	6	6	6/6
arch/epiphany	2	2	2/2
arch/or1k	3	3	3/3
lib	20	20	20/20
tool/binutils	1	1	1/1
dev	3	3	3/3
arch/sparc64	2	2	2/2
arch/bfin	1	1	1/1
lib/block	3	3	3/3
fs/jffs2	6	6	6/6
fs/rfs	1	1	1/1
arch/m32c	1	1	1/1
lib/debugger	2	2	2/2

## Severity

Severity	Closed	Total	Progress
blocker	47	47	47/47
critical	35	35	35/35
normal	740	740	740/740
major	18	18	18/18
minor	1	1	1/1
trivial	3	3	3/3

## Reporter

Reporter	Closed	Total	Progress
Gedare Bloom	10	10	10/10
Joel Sherrill	191	191	191/191
Sebastian Huber	339	339	339/339
strauman	1	1	1/1
Chris Johns	169	169	169/169
Amar Takhar	9	9	9/9
Kuan	1	1	1/1
Bharath Suri	1	1	1/1
Daniel Hellstrom	1	1	1/1
Andrey Mozzhuhin	1	1	1/1
daniel.cederman	1	1	1/1
Jakob Viketoft	1	1	1/1
Jeffrey Hill	2	2	2/2
Aun-Ali Zaidi	1	1	1/1
Santosh Vattam	1	1	1/1
Nick Withers	1	1	1/1
joguín	1	1	1/1
aurelio	1	1	1/1
Stefan Wallentowitz	1	1	1/1
Serg Kruglov	1	1	1/1
David Binderman	11	11	11/11
printk	1	1	1/1
Christian Mauderer	4	4	4/4
Alexander Krutwig	1	1	1/1
Patrick Gauvin	1	1	1/1
Stavros Passas	5	5	5/5
Kevin Kirspel	1	1	1/1
Tanu Hari Dixit	1	1	1/1
Martin Aberg	1	1	1/1
DHANPAL SINGH	3	3	3/3
alexgerbor	1	1	1/1
Worth Burruss	2	2	2/2
Hassan Karim	2	2	2/2
munster	2	2	2/2
phongvanpham	5	5	5/5
Nikolay Komashinskiy	1	1	1/1
Arturo Pérez	1	1	1/1
AndiK	1	1	1/1
likangbei	2	2	2/2
Fan Deng	1	1	1/1
Jeff Mayes	3	3	3/3
Andrei Chichak	1	1	1/1
Frédéric Jouault	1	1	1/1
Amaan Cheval	1	1	1/1
Vidushi Vashishth	1	1	1/1
Jens Schweikhardt	2	2	2/2
Justin	1	1	1/1
jameszsj	2	2	2/2
Malte Münch	1	1	1/1
Joseph Hickey	1	1	1/1
Kevin Gordon	2	2	2/2
Markus Bernd Moessner	1	1	1/1
Kinsey Moore	2	2	2/2
dufault	1	1	1/1
pragnesh	1	1	1/1
Andreas Werner	1	1	1/1
Jan Sommer	3	3	3/3
only_yipie	6	6	6/6
Miguel Garcia-Gordillo	1	1	1/1
Ryan Long	7	7	7/7
GabrielMoyano	1	1	1/1
tianye	1	1	1/1
chenjin_zhong	6	6	6/6
ostyche	11	11	11/11
Konrad Schwarz	1	1	1/1
mw	1	1	1/1
Matthew J Fletcher	1	1	1/1
Jonathan Brandmeyer	1	1	1/1
Cláudio Maia	1	1	1/1

## Version

Version	Closed	Total	Progress
5	674	674	674/674
4.5	2	2	2/2
4.11	81	81	81/81
	60	60	60/60
4.10	26	26	26/26
4.9	1	1	1/1

## RTEMS 5.1 Tickets

**1247 - RTEMS does not implement locks needed by multithreaded newlib**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/1247">https://devel.rtems.org/ticket/1247</a> ( <a href="https://devel.rtems.org/ticket/1247">https://devel.rtems.org/ticket/1247</a> )
<b>Id</b>	1247
<b>Reporter</b>	strauman
<b>Created</b>	17 June 2007 03:43:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	chrisj@...
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:**

- 
- 1 **strauman, Thu, 23 Aug 2007 23:53:38 GMT**  
**attach:** set to [PR#1247-rtems-newlibc-locking.diff](https://devel.rtems.org/ticket/1247/PR#1247-rtems-newlibc-locking.diff) (<https://devel.rtems.org/ticket/1247/PR#1247-rtems-newlibc-locking.diff>)
  - 2 **strauman, Thu, 23 Aug 2007 23:55:18 GMT**  
**attach:** set to [PR#1247-newlib-1.15.0-locking.diff](https://devel.rtems.org/ticket/1247/PR#1247-newlib-1.15.0-locking.diff) (<https://devel.rtems.org/ticket/1247/PR#1247-newlib-1.15.0-locking.diff>)
  - 3 **strauman, Thu, 06 Mar 2008 21:47:00 GMT**  
**attach:** set to [PR#1247-rtems-newlibc-locking-1.diff](https://devel.rtems.org/ticket/1247/PR#1247-rtems-newlibc-locking-1.diff) (<https://devel.rtems.org/ticket/1247/PR#1247-rtems-newlibc-locking-1.diff>)
  - 4 **strauman, Sat, 07 Mar 2009 00:18:24 GMT**  
**attach:** set to [PR#1247-newlib-1.16.0-locking-crt0add.diff](https://devel.rtems.org/ticket/1247/PR#1247-newlib-1.16.0-locking-crt0add.diff) (<https://devel.rtems.org/ticket/1247/PR#1247-newlib-1.16.0-locking-crt0add.diff>)
- 

**Comment 1**

1. **strauman, Thu, 23 Aug 2007 23:56:34 GMT**
2. **attachments.mimetype:** changed from **text/x-patch** to **text/plain**
3. **attachments.ispatch:** changed from **0** to **1**

**Comment 2**

1. **strauman, Thu, 06 Mar 2008 21:47:00 GMT**
2. **attachments.isobsolete:** changed from **0** to **1**

**Comment 3**

1. **strauman, Sat, 07 Mar 2009 00:18:24 GMT**



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.

#### Comment 4

1. **Chris Johns**, Fri, 04 Jun 2010 20:54:02 GMT
2. **owner:** changed from **Joel Sherrill** to **Chris Johns**
3. **status:** changed from **new** to **assigned**, **chrisj@rtems.org**
4. **version:** changed from **4.7** to **HEAD**
5. **component:** changed from **cpukit** to **filesystem**
6. **milestone:** changed from **4.7** to **4.11**

#### Comment 5

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version:** changed from **HEAD** to **4.11**

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

#### Comment 6

1. **Gedare Bloom**, Tue, 10 Feb 2015 15:16:33 GMT
2. **description:** modified (diff)

Sebastian/Chris: Is this still a valid problem?

#### Comment 7

1. **Gedare Bloom**, Mon, 02 Mar 2015 20:42:45 GMT
2. **milestone:** changed from **4.11** to **4.11.1**

bump milestone

#### Comment 8

1. **Sebastian Huber**, Fri, 31 Jul 2015 05:32:11 GMT
2. **status:** changed from **assigned** to **closed**
3. **version:** changed from **4.11** to **4.5**
4. **resolution:** set to **fixed**
5. **milestone:** changed from **4.11.1** to **4.12**

It is fixed with this commit in Newlib:

<https://sourceware.org/git/gitweb.cgi?p=newlib-cygwin.git;a=commit;h=ecaef05f6601f1e8acb78fb65b411a258f39988a>

It requires an RTEMS version [9e9e61d27d146e2ca83d5b0f590683a3f605c3f1/rtems] or later.

#### Comment 9

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 10

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 1394 - **scandir()** fails due to **MAXNAMELEN** is incorrect

<b>Link</b>	<a href="https://devel.rtems.org/ticket/1394">https://devel.rtems.org/ticket/1394</a> ( <a href="https://devel.rtems.org/ticket/1394">https://devel.rtems.org/ticket/1394</a> )
<b>Id</b>	1394
<b>Reporter</b>	Daniel Hellstrom
<b>Created</b>	20 March 2009 07:55:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	joel.sherrill@... sebastian.huber@...
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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
main(){

    struct dirent __namelist;
    int n; __

    n = scandir(".", &namelist, 0, NULL);
    if (n < 0)

        perror("scandir");

    else {

        while(n--){

            printf("%s\n", namelist[n]->d_name);
            free(namelist[n]);

        }
        free(namelist);

    }

}

```

### Attachments:

#### 1 Gedare Bloom, Wed, 25 Feb 2015 19:06:54 GMT

**attach:** set to 0001-rtems-make-MAXNAMELEN-match-with-NAME\_MAX.patch ([https://devel.rtems.org/ticket/1394/0001-rtems-make-MAXNAMELEN-match-with-NAME\\_MAX.patch](https://devel.rtems.org/ticket/1394/0001-rtems-make-MAXNAMELEN-match-with-NAME_MAX.patch))

#### 2 Joel Sherrill, Tue, 03 Mar 2015 21:17:09 GMT

**attach:** set to 0001-Add-simple-test-for-scandir-on-all-file-systems-test.patch (<https://devel.rtems.org/ticket/1394/0001-Add-simple-test-for-scandir-on-all-file-systems-test.patch>)

### Comment 1

1. **Sebastian Huber**, Thu, 28 Mar 2013 08:31:24 GMT
2. **cc:** **Sebastian Huber** added
3. **milestone:** 2 deleted

### Comment 2

1. **Sebastian Huber**, Thu, 28 Mar 2013 09:30:17 GMT
2. **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/symlimits.h:#define NAME_MAX 255 /* max bytes in a file name */ ./newlib/libc/sys/dirent.h: char d_name[NAME_MAX + 1];
```

```
./newlib/libc/include/dirent.h:#if !defined(MAXNAMLEN) && !defined(_POSIX_SOURCE) ./newlib/libc/include/dirent.h:#define MAXNAMLEN 1024
```

```
0x0202acd0 in scandir (dirname=, namelist=0x203feb0, select=0x200149c, 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=429496655) 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
```

### Comment 3

1. **Gedare Bloom**, Sun, 23 Nov 2014 16:06:57 GMT
2. **version:** changed from **unknown** to **4.11**
3. **description:** modified (diff)

### Comment 4

1. **Joel Sherrill**, Sun, 23 Nov 2014 16:11:19 GMT
2. **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.

### Comment 5

1. **Gedare Bloom**, Wed, 25 Feb 2015 19:07:53 GMT
2. **description:** modified (diff)

Attached patch should work but I haven't tested it yet.

### Comment 6

1. **Gedare Bloom**, Tue, 03 Mar 2015 16:35:58 GMT

I don't have a test case for this.

### Comment 7

1. **Gedare Bloom**, Tue, 03 Mar 2015 21:45:18 GMT

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.

### Comment 8

1. **Joel Sherrill**, Wed, 04 Mar 2015 20:47:47 GMT

Added new set of tests fsscandir01 in fstests for code shown in this PR.

### Comment 9

1. **Gedare Bloom**, Wed, 04 Mar 2015 21:18:58 GMT
2. **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.

### Comment 10

1. **Sebastian Huber**, Tue, 24 Jan 2017 09:08:54 GMT

In 6af2221aac489acac54c2daaf9702a926ec1e263/rtems:

```
fsscandir01: Check MAXNAMLEN and NAME_MAX
Update #1394.
```

### Comment 11

1. **Sebastian Huber**, Tue, 24 Jan 2017 09:09:31 GMT
2. **milestone:** changed from **4.10.3** to **4.12**

<https://sourceware.org/ml/newlib/2017/msg00077.html>

### Comment 12

1. **Sebastian Huber**, Wed, 25 Jan 2017 12:24:00 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fix with next Newlib snapshot.

#### Comment 13

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 14

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 1662 - termios.c: semaphore not deleted, consequently resulting in failure of rtems\_termios\_open

<b>Link</b>	<a href="https://devel.rtems.org/ticket/1662">https://devel.rtems.org/ticket/1662</a> ( <a href="https://devel.rtems.org/ticket/1662">https://devel.rtems.org/ticket/1662</a> )
<b>Id</b>	1662
<b>Reporter</b>	Bharath Suri
<b>Created</b>	9 August 2010 17:52:00
<b>Modified</b>	5 February 2018 07:53:24
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	joel.sherrill@... sebastian.huber@...
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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`.

#### Attachments:

1. **Bharath Suri, Mon, 09 Aug 2010 18:00:52 GMT**  
**attach:** set to [libcsupport-changes.diff](https://devel.rtems.org/ticket/1662/libcsupport-changes.diff) (<https://devel.rtems.org/ticket/1662/libcsupport-changes.diff>)
2. **Bharath Suri, Mon, 09 Aug 2010 18:01:32 GMT**  
**attach:** set to [cpukit-ChangeLog-changes.txt](https://devel.rtems.org/ticket/1662/cpukit-ChangeLog-changes.txt) (<https://devel.rtems.org/ticket/1662/cpukit-ChangeLog-changes.txt>)
3. **Bharath Suri, Tue, 10 Aug 2010 18:09:00 GMT**  
**attach:** set to [termios01-init-changes.diff](https://devel.rtems.org/ticket/1662/termios01-init-changes.diff) (<https://devel.rtems.org/ticket/1662/termios01-init-changes.diff>)

#### Comment 1

1. **Joel Sherrill**, Mon, 09 Aug 2010 18:19:10 GMT
2. **cc: Joel Sherrill** added

#### Comment 2

1. **Joel Sherrill**, Tue, 10 Aug 2010 16:57:32 GMT
2. **cc: Sebastian Huber** added

#### Comment 3

1. **Bharath Suri**, Tue, 10 Aug 2010 18:17:07 GMT
2. **blocked:** set to **1661**

#### Comment 4

1. **Bharath Suri**, Wed, 11 Aug 2010 01:25:13 GMT
2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

#### Comment 5

1. **Sebastian Huber**, Wed, 11 Aug 2010 14:47:07 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

#### Comment 6

1. **Sebastian Huber**, Thu, 12 Aug 2010 06:36:21 GMT

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.

#### Comment 7

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version:** changed from **HEAD** to **4.11**

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

#### Comment 8

1. **Gedare Bloom**, Fri, 19 Dec 2014 03:53:23 GMT
2. **description:** modified (diff)
3. **milestone:** changed from **4.11** to **4.11.1**

#### Comment 9

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone:** changed from **4.11.1** to **4.11.2**

#### Comment 10

1. **Chris Johns**, Thu, 23 Mar 2017 01:03:28 GMT
2. **milestone:** changed from **4.11.2** to **4.11.3**

The 4.11.2 milestone is closing.

#### Comment 11

1. **Chris Johns**, Mon, 05 Feb 2018 05:55:12 GMT

What should happen with this ticket?

#### Comment 12

1. **Sebastian Huber**, Mon, 05 Feb 2018 07:53:24 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **4.11.3** to **5.1**

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).

---

## **1747 - Heap extend allows discontinuous memory regions.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/1747">https://devel.rtems.org/ticket/1747</a> ( <a href="https://devel.rtems.org/ticket/1747">https://devel.rtems.org/ticket/1747</a> )
<b>Id</b>	1747
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 March 2011 01:16:43
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The check in (cpukit/ChangeLog) states:

```
2010-06-07 Sebastian Huber
```

- 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.

### Comment 1

1. **Sebastian Huber**, Tue, 01 Mar 2011 07:46:28 GMT

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.

### Comment 2

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version:** changed from **HEAD** to **4.11**

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

### Comment 3

1. **Sebastian Huber**, Thu, 27 Nov 2014 12:59:46 GMT
2. **description:** modified (diff)

Where in the documentation should this heap extension stuff be mentioned?

### Comment 4

1. **Sebastian Huber**, Wed, 18 Feb 2015 14:37:17 GMT
2. **status:** changed from **new** to **accepted**
3. **description:** modified (diff)

### Comment 5

1. **Gedare Bloom**, Mon, 02 Mar 2015 20:42:45 GMT
2. **milestone:** changed from **4.11** to **4.11.1**

bump milestone

### Comment 6

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:53 GMT

2. **priority:** changed from **normal** to **low**

#### Comment 7

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone:** changed from **4.11.1** to **4.11.2**

#### Comment 8

1. **Sebastian Huber**, Fri, 27 Jan 2017 07:06:50 GMT

In 4ea92d1ed11f0fc93d6b40729ebe7ec5c03d448e/rtems:

```
score: Clarify _Heap_Extend()
Update #1747.
```

#### Comment 9

1. **Sebastian Huber**, Fri, 27 Jan 2017 07:08:24 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** changed from **4.11.2** to **4.12**

[9889463c236f3445ef00a48d2e848e742860a130/rtems-docs]

#### Comment 10

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 1971 - Memory leak in tmpfile()

<b>Link</b>	<a href="https://devel.rtems.org/ticket/1971">https://devel.rtems.org/ticket/1971</a> ( <a href="https://devel.rtems.org/ticket/1971">https://devel.rtems.org/ticket/1971</a> )
<b>Id</b>	1971
<b>Reporter</b>	Andrey Mozzuhin
<b>Created</b>	24 November 2011 13:50:41
<b>Modified</b>	12 February 2018 00:07:17
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	joel.sherrill@... sebastian.huber@... gedare@...
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Attachments:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

- 
1. **Andrey Mozzuhin**, Thu, 24 Nov 2011 13:50:41 GMT  
attach: set to [init.c \(https://devel.rtems.org/ticket/1971/init.c\)](https://devel.rtems.org/ticket/1971/init.c)
- 

#### Comment 1

1. **Gedare Bloom**, Fri, 11 Apr 2014 19:33:28 GMT
2. **status**: changed from **new** to **closed**, [gedare@rtems.org](mailto:gedare@rtems.org)
3. **resolution**: set to **fixed**

#### Comment 2

1. **Sebastian Huber**, Mon, 14 Apr 2014 06:02:01 GMT
2. **status**: changed from **closed** to **reopened**, [sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)
3. **resolution**: **fixed** deleted
4. **milestone**: changed from **4.11** to **4.12**

#### Comment 3

1. **Joel Sherrill**, Mon, 14 Apr 2014 15:37:59 GMT
2. **cc**: **Joel Sherrill** added

#### Comment 4

1. **Andrey Mozzuhin**, Wed, 16 Apr 2014 05:21:26 GMT

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.

#### Comment 5

1. **Chris Johns**, Thu, 20 Nov 2014 03:27:43 GMT
2. **description**: modified (diff)
3. **milestone**: changed from **4.12** to **4.11**

#### Comment 6

1. **Gedare Bloom**, Fri, 19 Dec 2014 04:38:14 GMT
2. **milestone**: changed from **4.11** to **4.11.1**

Bump milestone to 4.11.1 in case no patch exists and PR seems delayable.

#### Comment 7

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**

#### Comment 8

1. **Chris Johns**, Thu, 23 Mar 2017 01:03:28 GMT
2. **milestone**: changed from **4.11.2** to **4.11.3**

The 4.11.2 milestone is closing.

#### Comment 9

1. **Chris Johns**, Thu, 23 Mar 2017 01:05:42 GMT
2. **version**: changed from **4.10** to **4.11**

Move to the 4.11 branch.

#### Comment 10

1. **Chris Johns**, Mon, 05 Feb 2018 05:56:05 GMT
2. **description**: modified (diff)

What should happen with this ticket?



**Comment 11**

1. **Sebastian Huber**, Mon, 05 Feb 2018 08:32:00 GMT
2. **milestone**: changed from **4.11.3** to **5.1**

**Comment 12**

1. **Sebastian Huber**, Mon, 05 Feb 2018 08:32:32 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

In 4ac5ffbb/rtems:

```
fsclose01: Add tmpfile() test case
Close #1971.
```

**Comment 13**

1. **Sebastian Huber**, Fri, 09 Feb 2018 12:15:21 GMT

In 48aa4b5d/rtems:

```
fsclose01: Use floating-point task
The tmpfile() uses sprintf().
Update #1971.
```

**Comment 14**

1. **Sebastian Huber**, Fri, 09 Feb 2018 12:18:32 GMT

In a3eec5c/rtems:

```
fsclose01: Fix task mode, use attribute
Update #1971.
```

**Comment 15**

1. **Chris Johns**, Mon, 12 Feb 2018 00:07:17 GMT

The version and milestone for this ticket do not match.

**2132 - <rtems/score/basedefs.h> superfluously includes <limits.h>**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2132">https://devel.rtems.org/ticket/2132</a> ( <a href="https://devel.rtems.org/ticket/2132">https://devel.rtems.org/ticket/2132</a> )
<b>Id</b>	2132
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	22 July 2013 14:36:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

In older RTEMS versions provided indirectly. The include of was added to not break application source files that relied on this accidentally. We may remove this include in the future.

**Comment 1**

1. **Sebastian Huber**, Mon, 22 Jul 2013 14:36:54 GMT

In older RTEMS versions provided indirectly. The include of was added to not break application source files that relied on this accidentally.

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

We may remove this include in the future.

#### Comment 2

1. **Joel Sherrill**, Sat, 22 Nov 2014 16:10:47 GMT
2. **owner**: changed from **Joel Sherrill** to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **description**: modified (diff)

Sebastian .. is this still valid? What do you want to do?

#### Comment 3

1. **Sebastian Huber**, Mon, 24 Nov 2014 07:52:18 GMT
2. **milestone**: changed from **4.11** to **5.0**

#### Comment 4

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version**: changed from **HEAD** to **4.11**

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

#### Comment 5

1. **Sebastian Huber**, Wed, 18 Feb 2015 14:39:52 GMT
2. **status**: changed from **assigned** to **accepted**
3. **description**: modified (diff)

#### Comment 6

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:53 GMT
2. **priority**: changed from **normal** to **low**

#### Comment 7

1. **Sebastian Huber**, Fri, 25 Aug 2017 10:54:09 GMT
2. **version**: **4.11** deleted
3. **milestone**: changed from **5.0** to **4.12.0**

#### Comment 8

1. **Sebastian Huber**, Fri, 25 Aug 2017 10:54:09 GMT

In 1f22b26/rtems:

```
Include missing
Update #2132.
```

#### Comment 9

1. **Sebastian Huber**, Fri, 25 Aug 2017 10:54:59 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In cfa7afd/rtems:

```
score: Remove include from basedefs.h
Close #2132.
```

#### Comment 10

1. **Sebastian Huber**, Fri, 25 Aug 2017 12:24:08 GMT

In 666a568/rtems-libbsd:

```
Include missing and
Fix warnings.
```

Update #2132. Update #2133.

#### **Comment 11**

1. **Sebastian Huber**, Fri, 25 Aug 2017 12:40:14 GMT

In 02b007e/rtems:

Include missing

Update #2132.

#### **Comment 12**

1. **Sebastian Huber**, Tue, 19 Sep 2017 08:57:49 GMT

In 9a50e32/rtems:

score: Include missing

Update #2132. Close #3140.

#### **Comment 13**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### **2133** - **<rtems/score/basedefs.h>** superfluously includes **<string.h>**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2133">https://devel.rtems.org/ticket/2133</a> ( <a href="https://devel.rtems.org/ticket/2133">https://devel.rtems.org/ticket/2133</a> )
<b>Id</b>	2133
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 July 2013 10:28:30
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

In older RTEMS versions provided indirectly. The include of was added to not break application source files that relied on this accidentally.

We may remove this include in the future.

#### **Comment 1**

1. **Sebastian Huber**, Tue, 23 Jul 2013 10:28:30 GMT

In older RTEMS versions provided indirectly. The include of was added to not break application source files that relied on this accidentally.

We may remove this include in the future.

#### **Comment 2**

1. **Joel Sherrill**, Sun, 23 Nov 2014 16:45:56 GMT
2. **description**: modified (diff)

Can this be closed? The ticket is a warning about a change to basedefs.h and the comment makes no sense.

#### **Comment 3**

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version**: changed from **HEAD** to **4.11**

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

#### Comment 4

1. **Sebastian Huber**, Thu, 27 Nov 2014 13:50:45 GMT
2. **milestone**: changed from **4.11** to **5.0**

#### Comment 5

1. **Joel Sherrill**, Thu, 27 Nov 2014 14:47:36 GMT

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.

#### Comment 6

1. **Amar Takhar**, Thu, 27 Nov 2014 14:49:14 GMT

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!

#### Comment 7

1. **Sebastian Huber**, Thu, 27 Nov 2014 15:02:35 GMT

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 . Maybe this include is a feature not a bug.

#### Comment 8

1. **Joel Sherrill**, Thu, 27 Nov 2014 15:32:18 GMT

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.

#### Comment 9

1. **Sebastian Huber**, Thu, 27 Nov 2014 15:45:08 GMT

We still have the option to set this to WONTFIX and close it forever.

#### Comment 10

1. **Chris Johns**, Sun, 13 Aug 2017 23:55:42 GMT
2. **description**: modified (diff)
3. **milestone**: changed from **5.0** to **4.11.3**

Please fix or close this ticket? Thanks.

#### Comment 11

1. **Sebastian Huber**, Thu, 24 Aug 2017 10:47:31 GMT
2. **owner**: changed from **Joel Sherrill** to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**

#### Comment 12

1. **Joel Sherrill**, Thu, 24 Aug 2017 16:15:12 GMT

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.

**Comment 13**

1. **Sebastian Huber**, Fri, 25 Aug 2017 06:32:41 GMT
2. **version:** **4.11** deleted
3. **milestone:** changed from **4.11.3** to **4.12.0**

**Comment 14**

1. **Sebastian Huber**, Fri, 25 Aug 2017 10:53:56 GMT

In b2ed712/rtems:

```
Include missing
Update #2133.
```

**Comment 15**

1. **Sebastian Huber**, Fri, 25 Aug 2017 10:54:35 GMT

In 76b9c31/rtems:

```
libpci: Use calloc()
Update #2133.
```

**Comment 16**

1. **Sebastian Huber**, Fri, 25 Aug 2017 10:55:11 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 163ff8e/rtems:

```
score: Remove include from basedefs.h
Close #2133.
```

**Comment 17**

1. **Sebastian Huber**, Fri, 25 Aug 2017 12:24:08 GMT

In 666a568/rtems-libbsd:

```
Include missing and
Fix warnings.
Update #2132. Update #2133.
```

**Comment 18**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2135 - times() and \_times() are subject to integer overflows**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2135">https://devel.rtems.org/ticket/2135</a> ( <a href="https://devel.rtems.org/ticket/2135">https://devel.rtems.org/ticket/2135</a> )
<b>Id</b>	2135
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 July 2013 07:06:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Tue, 30 Jul 2013 13:19:19 GMT

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.

**Comment 2**

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version**: changed from **HEAD** to **4.11**

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Comment 3**

1. **Sebastian Huber**, Thu, 18 Dec 2014 12:29:27 GMT
2. **priority**: changed from **normal** to **low**
3. **milestone**: changed from **4.11** to **5.0**

**Comment 4**

1. **Chris Johns**, Mon, 14 Aug 2017 00:41:59 GMT
2. **version**: changed from **4.11** to **4.12**
3. **milestone**: changed from **5.0** to **4.12.0**

Moving to 4.12.0. Please update and move if this is not valid.

**Comment 5**

1. **Sebastian Huber**, Thu, 24 Aug 2017 06:55:23 GMT

This should change to at least 64-bit just like time\_t.

**Comment 6**

1. **Sebastian Huber**, Fri, 25 Aug 2017 12:37:43 GMT

In 4f364ef/rtems-source-builder:

```
4.12: Change clock_t to 64-bit
```

```
Update #2135. Update #3111.
```

**Comment 7**

1. **Sebastian Huber**, Fri, 25 Aug 2017 13:37:31 GMT

2. **owner:** changed from **Joel Sherrill** to **Sebastian Huber**
3. **status:** changed from **new** to **accepted**

**Comment 8**

1. **Sebastian Huber**, Wed, 06 Sep 2017 05:43:52 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 731e68a3/rtems:

```
Fix integer overflow problems in times()
```

```
An integer overflow may still happen, however, only after 68 years of system uptime.
```

```
Close #2135.
```

**Comment 9**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component:** changed from **score** to **posix**

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2173 - Potential integer overflow problem in EDF scheduler**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2173">https://devel.rtems.org/ticket/2173</a> ( <a href="https://devel.rtems.org/ticket/2173">https://devel.rtems.org/ticket/2173</a> )
<b>Id</b>	2173
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 March 2014 06:06:34
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43 AM, Sebastian Huber

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.

#### **Comment 1**

1. **Sebastian Huber**, Mon, 24 Mar 2014 06:06:34 GMT

On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43 AM, Sebastian Huber

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.

#### Comment 2

1. **Joel Sherrill**, Sun, 23 Nov 2014 16:26:56 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**
4. **description:** modified (diff)

Sebastian noted this was a hardware problem. Seems to indicate problem is NA now.

#### Comment 3

1. **Sebastian Huber**, Mon, 24 Nov 2014 07:28:07 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **wontfix** deleted

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:

Make the tick since boot `uint64_t`. Make the `Thread_Control::current_priority` and `Thread_Control::real_priority` `int64_t` (to support easy comparison operations for RB tree insert and search). Remove the `Scheduler_Operations::priority_compare` operation.

With a system tick of 1ns the system can run 146years before something overflows.

#### Comment 4

1. **Gedare Bloom**, Mon, 24 Nov 2014 18:58:28 GMT
2. **version:** changed from **HEAD** to **4.11**

Replace `Version=HEAD` with `Version=4.11` for the tickets with Milestone `>= 4.11`

#### Comment 5

1. **Joel Sherrill**, Mon, 24 Nov 2014 19:35:19 GMT

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.

#### Comment 6

1. **Gedare Bloom**, Mon, 24 Nov 2014 19:44:23 GMT

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.

#### Comment 7

1. **Gedare Bloom**, Mon, 02 Mar 2015 20:42:45 GMT
2. **milestone**: changed from **4.11** to **4.11.1**

bump milestone

#### Comment 8

1. **Sebastian Huber**, Wed, 22 Jun 2016 12:47:47 GMT

In 77ff5599e0d8e6d91190a379be21a332f83252b0/rtems:

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.

#### Comment 9

1. **Sebastian Huber**, Wed, 22 Jun 2016 12:47:57 GMT

In 7ec66e0890c65f3dfed9db91a4ae59de6a8ff18/rtems:

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.

#### Comment 10

1. **Sebastian Huber**, Wed, 22 Jun 2016 12:48:06 GMT

In 9a78f8a5076687a8744991998ee6119f87db12a8/rtems:

score: Modify release job scheduler operation

Pass the deadline in watchdog ticks to the scheduler.

Update #2173.

#### Comment 11

1. **Sebastian Huber**, Wed, 22 Jun 2016 12:48:16 GMT

In 99fc1d1d1b44e70a0bed4c94a514bd3f3b5df64f/rtems:

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 lms clock tick.

Update #2173.

#### Comment 12

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**

#### Comment 13

1. **Sebastian Huber**, Tue, 31 Jan 2017 09:18:55 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**
4. **description**: modified (diff)

5. **milestone:** changed from 4.11.2 to 4.12

#### Comment 14

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from 4.12 to 4.12.0

#### Comment 15

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from 4.12.0 to 5.1

Milestone renamed

## 2176 - fishy behavior in termios tx task mode

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2176">https://devel.rtems.org/ticket/2176</a> ( <a href="https://devel.rtems.org/ticket/2176">https://devel.rtems.org/ticket/2176</a> )
<b>Id</b>	2176
<b>Reporter</b>	Jeffrey Hill
<b>Created</b>	15 April 2014 16:38:51
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	sebastian.huber@...
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 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.

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
[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
[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/./../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
[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
[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 sprintf_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=, 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
[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/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 ../../../../../../altera-sys-config/lib/include/rtems/score/thread.intl:82
[debug]Backtrace stopped: Frame did not save the PC
```

#### Comment 1

1. **Sebastian Huber**, Thu, 17 Apr 2014 05:22:35 GMT
2. **cc:** **Sebastian Huber** added

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.

#### Comment 2

1. **Sebastian Huber**, Thu, 18 Dec 2014 12:35:42 GMT
2. **priority:** changed from **normal** to **low**
3. **description:** modified (diff)
4. **milestone:** changed from **4.11** to **5.0**

#### Comment 3

1. **Sebastian Huber**, Wed, 01 Feb 2017 06:16:37 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

Termios supports now a TERMIOS\_IRQ\_SERVER\_DRIVEN mode, see #2839.

#### Comment 4

1. **Sebastian Huber**, Wed, 01 Feb 2017 06:16:50 GMT
2. **version:** **4.10** deleted
3. **milestone:** changed from **5.0** to **4.12**

#### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2198 - Automate doxygen build

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/2198">https://devel.rtems.org/ticket/2198</a> ( <a href="https://devel.rtems.org/ticket/2198">https://devel.rtems.org/ticket/2198</a> )
<b>Id</b>	2198
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	21 November 2014 19:20:28
<b>Modified</b>	15 June 2018 00:22:17
<b>Owner</b>	Chris Johns
<b>Type</b>	infra
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	migration
<b>Cc</b>	Sebastian Huber
<b>Blocking</b>	
<b>Blocked by</b>	

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#### Description

The doxygen builds are no longer being generated nightly.

#### Comment 1

1. **Amar Takhar**, Sun, 07 Dec 2014 22:31:33 GMT
2. **keywords: migration** added

#### Comment 2

1. **Amar Takhar**, Fri, 06 Mar 2015 16:15:58 GMT
2. **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.

#### Comment 3

1. **Joel Sherrill**, Tue, 09 Jun 2015 19:05:03 GMT
2. **cc: Sebastian Huber** added

Ping

#### Comment 4

1. **Amar Takhar**, Tue, 09 Jun 2015 19:46:10 GMT

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.

#### Comment 5

1. **Joel Sherrill**, Fri, 13 Jan 2017 22:30:44 GMT
2. **owner: changed from Amar Takhar to Chris Johns**
3. **status: changed from new to assigned**

#### Comment 6

1. **Joel Sherrill**, Fri, 13 Jan 2017 22:34:55 GMT
2. **component: changed from admin to Documentation**

#### Comment 7

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone: changed from 4.11.1 to 4.11.2**

#### Comment 8

1. **Chris Johns**, Thu, 23 Mar 2017 01:01:56 GMT
2. **version: changed from 4.11 to 4.12**
3. **milestone: changed from 4.11.2 to 4.12**

This ticket should be on master.

#### Comment 9

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 10**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 11**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 12**

1. **Chris Johns**, Fri, 15 Jun 2018 00:22:17 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Online here <https://docs.rtems.org/doxygen/branches/master/>

**2207 - RTEMS tar does not overwrite.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2207">https://devel.rtems.org/ticket/2207</a> ( <a href="https://devel.rtems.org/ticket/2207">https://devel.rtems.org/ticket/2207</a> )
<b>Id</b>	2207
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 December 2014 00:31:37
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	tar
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Wed, 03 Dec 2014 10:15:43 GMT

Running some tests wth 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.

**Comment 2**

1. **Sebastian Huber**, Thu, 18 Dec 2014 09:12:11 GMT
2. **priority**: changed from **highest** to **low**
3. **milestone**: changed from **4.11** to **5.0**

**Comment 3**

1. **Chris Johns**, Sat, 04 Jun 2016 00:11:31 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In d84e346b26017f021c1a7d5c8ad078c7264240ab/rtems:

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.

#### **Comment 4**

1. **Sebastian Huber**, Thu, 05 Oct 2017 08:33:00 GMT
2. **milestone**: changed from **5.0** to **4.12.0**

#### **Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:35:44 GMT
2. **component**: changed from **misc** to **unspecified**

#### **Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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## **2213 - Decreased performance for whetstone benchmark using GCC >=4.5**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2213">https://devel.rtems.org/ticket/2213</a> ( <a href="https://devel.rtems.org/ticket/2213">https://devel.rtems.org/ticket/2213</a> )
<b>Id</b>	2213
<b>Reporter</b>	daniel.cederman
<b>Created</b>	9 December 2014 10:07:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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#### **Description**

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)

#### **Comment 1**

1. **Joel Sherrill**, Thu, 22 Jan 2015 15:15:04 GMT

Daniel.. did this get resolved? I recall discussions.

#### **Comment 2**

1. **daniel.cederman**, Fri, 23 Jan 2015 09:43:41 GMT

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.

#### **Comment 3**

1. **Gedare Bloom**, Mon, 02 Mar 2015 20:48:06 GMT
2. **milestone**: changed from **4.11** to **4.11.1**

**Comment 4**

1. **Sebastian Huber**, Mon, 23 Jan 2017 13:47:53 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**

How is the performance on GCC 6 or 7?

**Comment 5**

1. **Sebastian Huber**, Mon, 23 Jan 2017 13:48:08 GMT
2. **owner**: changed from **Needs Funding** to **Daniel Hellstrom**

**Comment 6**

1. **daniel.cederman**, Mon, 23 Jan 2017 14:53:23 GMT

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.

**Comment 7**

1. **Sebastian Huber**, Mon, 23 Jan 2017 14:55:31 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **4.11.1** to **4.12**

Fixed in RTEMS 4.12, no plans to fix this in RTEMS 4.11.

**Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 9**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT
2. **component**: changed from **GCC** to **tool/gcc**

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2261 - Add coverage report generation support to rtems-tools**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/2261">https://devel.rtems.org/ticket/2261</a> ( <a href="https://devel.rtems.org/ticket/2261">https://devel.rtems.org/ticket/2261</a> )
<b>Id</b>	2261
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	11 February 2015 15:42:52
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

This ticket is to capture the current state of the project started by Krzysztof Mięśowicz . 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.

#### Attachments:

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**1 Joel Sherrill, Wed, 11 Feb 2015 15:43:33 GMT**

**attach:** set to [krzy-patches.tar.bz2 \(https://devel.rtems.org/ticket/2261/krzy-patches.tar.bz2\)](https://devel.rtems.org/ticket/2261/krzy-patches.tar.bz2)

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#### Comment 1

1. **Joel Sherrill**, Wed, 11 Feb 2015 15:46:37 GMT
2. **description:** modified (diff)

#### Comment 2

1. **Joel Sherrill**, Wed, 11 Feb 2015 17:55:01 GMT
2. **milestone:** set to **5.0**

#### Comment 3

1. **Amar Takhar**, Wed, 11 Feb 2015 18:06:46 GMT

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.

#### Comment 4

1. **Chris Johns**, Sun, 13 Aug 2017 23:52:30 GMT
2. **version:** changed from **4.11** to **4.12**
3. **milestone:** changed from **5.0** to **4.12.0**

Moving to 4.12.0 as a milestone. The ticket can be updated once this years GSoC project wraps up.

#### Comment 5

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:51:36 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

All code is now merged after GSoC.

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

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## **2266 - Move bsp\_pretasking\_hook() into files named bsppretaskinghook.c**

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/2266">https://devel.rtems.org/ticket/2266</a> ( <a href="https://devel.rtems.org/ticket/2266">https://devel.rtems.org/ticket/2266</a> )
<b>Id</b>	2266
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 February 2015 20:27:26
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

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/shared/startup/pretaskinghook.c
./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/TL6527M/startup/bspstart.c
./bfin/eZKit533/startup/bspstart.c
./shared/include/bootcard.h
./shared/bsppretaskinghook.c
./shared/bootcard.c
```

**Comment 1**

1. **Amar Takhar**, Fri, 13 Feb 2015 20:29:36 GMT

You really want to do this in milestone:4.11 and not milestone:5.0?

**Comment 2**

1. **Joel Sherrill**, Fri, 13 Feb 2015 20:31:02 GMT

2. **milestone**: changed from **4.11** to **5.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 24 Jan 2017 07:37:25 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **invalid**

The `bsp_pretasking_hook()` exists no longer, see #2408.

**Comment 4**

1. **Sebastian Huber**, Tue, 24 Jan 2017 07:37:43 GMT

2. **milestone**: changed from **5.0** to **4.12**

**Comment 5**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2284 - h8300 gets error linking dl0&#42 tests**

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/2284">https://devel.rtems.org/ticket/2284</a> ( <a href="https://devel.rtems.org/ticket/2284">https://devel.rtems.org/ticket/2284</a> )
<b>Id</b>	2284
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	6 March 2015 14:30:50
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

```
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 function `rtems_rtl_base_global_syms_init':
rd--gTgaaa.c:(.text+0xa): undefined reference to `rtemsrtl_base_globals_size'
rd--gTgaaa.c:(.text+0x10): undefined reference to `rtemsrtl_base_globals'
collect2: error: ld returned 1 exit status
```

**Comment 1**

1. **Sebastian Huber**, Tue, 05 Jan 2016 10:43:31 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**
4. **milestone:** changed from **4.11.1** to **4.12**

h8300 support was removed in 4.12.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

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**2289 - rtems\_ada\_self is broken on SMP**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2289">https://devel.rtems.org/ticket/2289</a> ( <a href="https://devel.rtems.org/ticket/2289">https://devel.rtems.org/ticket/2289</a> )
<b>Id</b>	2289
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 March 2015 09:47:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Needs Funding
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**

**Comment 2**

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:37:51 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **4.11.2** to **Indefinite**

**Comment 3**

1. **Sebastian Huber**, Tue, 07 Mar 2017 10:07:12 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **duplicate**

Duplicate of #2835.

**Comment 4**

1. **Sebastian Huber**, Tue, 23 May 2017 08:01:52 GMT
2. **status**: changed from **closed** to **reopened**
3. **version**: **4.11** deleted
4. **resolution**: **duplicate** deleted

One option is to use TLS, e.g.

```
diff --git a/gcc/ada/gcc-interface/Makefile.in b/gcc/ada/gcc-interface/Makefile.in
index 598b262d914..5e1c5286d63 100644
--- a/gcc/ada/gcc-interface/Makefile.in
+++ b/gcc/ada/gcc-interface/Makefile.in
@@ -1743,7 +1743,7 @@ ifeq ($(strip $(filter-out rtems%, $(target_os))),)
  s-parame.adb
```

Another option is to use POSIX keys:

```
diff --git a/gcc/ada/gcc-interface/Makefile.in b/gcc/ada/gcc-interface/Makefile.in
index 598b262d914..5e1c5286d63 100644
--- a/gcc/ada/gcc-interface/Makefile.in
+++ b/gcc/ada/gcc-interface/Makefile.in
@@ -1743,7 +1743,7 @@ ifeq ($(strip $(filter-out rtems%, $(target_os))),)
  s-parame.adb
```

I tend to use TLS since it has less overhead.

**Comment 5**

1. **Sebastian Huber**, Fri, 02 Jun 2017 08:32:56 GMT

In 3623c40/rtems:

```
ada-tests/spatchb01: New test
```

```
Update #2289.
```

**Comment 6**

1. **Sebastian Huber**, Wed, 07 Jun 2017 09:50:37 GMT

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=248952>

**Comment 7**

1. **Joel Sherrill**, Wed, 07 Jun 2017 13:12:16 GMT

Just to be clear. We are using keys now for Ada. Does confdefs.h reflect this?

**Comment 8**

1. **Sebastian Huber**, Wed, 07 Jun 2017 13:19:36 GMT

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.

**Comment 9**

1. **Sebastian Huber**, Wed, 07 Jun 2017 13:52:17 GMT

This change breaks the x86 Ada support as long as x86 has no TLS support.

#### Comment 10

1. **Joel Sherrill**, Wed, 07 Jun 2017 17:49:23 GMT

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?

#### Comment 11

1. **Sebastian Huber**, Thu, 08 Jun 2017 05:29:44 GMT

On Linux and vxWorks TLS is used.

#### Comment 12

1. **Sebastian Huber**, Mon, 12 Jun 2017 11:53:01 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

In c336dc9/rtems-source-builder:

```
4.12: Add SMP support for Ada of GCC 7.1
Close #2289.
```

#### Comment 13

1. **Sebastian Huber**, Mon, 12 Jun 2017 11:54:23 GMT
2. **milestone**: changed from **Indefinite** to **4.12.0**

#### Comment 14

1. **Sebastian Huber**, Wed, 14 Jun 2017 05:31:18 GMT

In 3dd67dd1/rtems:

```
score: Remove rtems_ada_self
This task variable is superfluous since we use thread-local storage now.
Update #2289.
```

#### Comment 15

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## **2305 - sp07 needs to be split into a user extensions and a notepad test**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2305">https://devel.rtems.org/ticket/2305</a> ( <a href="https://devel.rtems.org/ticket/2305">https://devel.rtems.org/ticket/2305</a> )
<b>Id</b>	2305
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2015 15:25:12
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 25 Jan 2017 12:22:55 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**
4. **milestone**: changed from **4.11.1** to **4.12**

Notepads no longer exist in RTEMS 4.12.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2306 - powerpc/mvme5500/vectors/exceptionhandler.c uses task variables

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2306">https://devel.rtems.org/ticket/2306</a> ( <a href="https://devel.rtems.org/ticket/2306">https://devel.rtems.org/ticket/2306</a> )
<b>Id</b>	2306
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2015 02:14:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Tue, 15 Dec 2015 10:51:25 GMT

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.

#### Comment 2

1. **Joel Sherrill**, Tue, 29 Dec 2015 17:30:08 GMT

This code is disabled. It can't use notepads because they are obsoleted in 4.11 and removed after.

#### Comment 3

1. **Sebastian Huber**, Wed, 04 May 2016 05:27:15 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **4.11.1** to **4.12**

[159b63701539f3e584668a4ace13c6109d3b364b/rtems]

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:25:10 GMT
2. **component**: changed from **unspecified** to **arch/powerpc**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2308 - Change uniprocessor INIT task mode to preempt.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2308">https://devel.rtems.org/ticket/2308</a> ( <a href="https://devel.rtems.org/ticket/2308">https://devel.rtems.org/ticket/2308</a> )
<b>Id</b>	2308
<b>Reporter</b>	Chris Johns
<b>Created</b>	17 March 2015 03:00:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Mon, 14 Aug 2017 00:01:57 GMT
2. **status**: changed from **new** to **closed**
3. **version**: changed from **4.11** to **4.12**
4. **resolution**: set to **fixed**
5. **milestone**: changed from **5.0** to **4.12.0**

This is fixed on the master branch (4.12). The mode is NO\_PREEMPT for non-SMP builds only.

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2325 - Broken console driver infrastructure for SPARC**

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/2325">https://devel.rtems.org/ticket/2325</a> ( <a href="https://devel.rtems.org/ticket/2325">https://devel.rtems.org/ticket/2325</a> )
<b>Id</b>	2325
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 April 2015 06:59:46
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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()`).

#### Comment 1

1. **Sebastian Huber**, Thu, 28 May 2015 08:02:11 GMT
2. **severity**: changed from **normal** to **blocker**
3. **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.

#### Comment 2

1. **Ralph Holmes**, Wed, 30 Dec 2015 18:46:26 GMT

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.

#### Comment 3

1. **Joel Sherrill**, Wed, 30 Dec 2015 19:12:51 GMT

I don't think the files are referenced either.

#### Comment 4

1. **Sebastian Huber**, Mon, 04 Jan 2016 09:06:51 GMT

The file `cons.c` defines `console_initialize()` etc., so it is referenced in case you add a console driver to your application configuration.

#### Comment 5

1. **Sebastian Huber**, Wed, 25 Jan 2017 13:42:57 GMT
2. **milestone**: changed from **4.11** to **4.12**

#### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 7

1. **Chris Johns**, Mon, 14 Aug 2017 00:03:18 GMT
2. **version**: changed from **4.11** to **4.12**

Any updates for this ticket? The severity is blocker

#### Comment 8

1. **Daniel Hellstrom**, Tue, 22 Aug 2017 08:24:51 GMT

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@..."`). Therefore I think we can close this ticket now.

#### Comment 9



1. **Daniel Hellstrom**, Tue, 22 Aug 2017 08:25:20 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 10**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:46 GMT
2. **component**: changed from **unspecified** to **arch/sparc**

**Comment 11**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2344 - Second argument of ualarm() is ignored**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2344">https://devel.rtems.org/ticket/2344</a> ( <a href="https://devel.rtems.org/ticket/2344">https://devel.rtems.org/ticket/2344</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 May 2015 12:47:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

I don't think this is in line with POSIX.

**Comment 1**

1. **Joel Sherrill**, Tue, 12 May 2015 22:32:45 GMT

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.

**Comment 2**

1. **Sebastian Huber**, Wed, 13 May 2015 06:36:28 GMT

Something like this should do it. I added this report as a note since I don't have time for this currently.

**Comment 3**

1. **Sebastian Huber**, Mon, 22 Feb 2016 13:08:29 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**
4. **milestone**: changed from **4.11.1** to **4.12**

**Comment 4**

1. **Sebastian Huber**, Mon, 22 Feb 2016 14:33:39 GMT

In 5d478af46b2bd928f32cb8977164fe03d161c77f/rtems:

```
psxtests/psxualarm: Add test cases
```

```
Update #2344.
```

**Comment 5**

1. **Sebastian Huber**, Fri, 04 Mar 2016 14:00:20 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

#### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2350 - One watchdog ticks header per scheduler instance

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2350">https://devel.rtems.org/ticket/2350</a> ( <a href="https://devel.rtems.org/ticket/2350">https://devel.rtems.org/ticket/2350</a> )
<b>Id</b>	2350
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 May 2015 07:25:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

```

3807457
124091
17068880473
13755
0
24661
10148
127682501
12582

1715826
102805
1884937615
18335
0
47
12
8299
664

47020
2709
31
52
990203330
1674926849
31604848
10574
8168
8578
31577528

```

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.

#### Comment 1

1. **Chris Johns**, Mon, 14 Aug 2017 00:08:57 GMT
2. **version**: **4.11** deleted
3. **milestone**: changed from **5.0** to **Indefinite**

**Comment 2**

1. **Sebastian Huber**, Mon, 21 Aug 2017 05:26:59 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **Indefinite** to **4.12.0**

There is now one watchdog header per processor.

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT
2. **component**: changed from **SMP** to **score**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT
2. **component**: changed from **score** to **cpukit**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2354 - Replace red-black tree implementation, change API**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2354">https://devel.rtems.org/ticket/2354</a> ( <a href="https://devel.rtems.org/ticket/2354">https://devel.rtems.org/ticket/2354</a> )
<b>Id</b>	2354
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 May 2015 09:39:15
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Mon, 14 Aug 2017 00:05:18 GMT
2. **version**: **4.11** deleted
3. **milestone**: changed from **5.0** to **Indefinite**

**Comment 2**

1. **Sebastian Huber**, Mon, 21 Aug 2017 05:21:29 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **Indefinite** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2355 - SPARC: Several shared drivers are not SMP ready**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2355">https://devel.rtems.org/ticket/2355</a> ( <a href="https://devel.rtems.org/ticket/2355">https://devel.rtems.org/ticket/2355</a> )
<b>Id</b>	2355
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 May 2015 12:18:40
<b>Modified</b>	21 November 2017 09:29:21
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 25 Jan 2017 13:42:57 GMT
2. **milestone**: changed from **4.11** to **4.12**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Daniel Hellstrom**, Fri, 12 May 2017 09:57:36 GMT

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?

**Comment 4**

1. **Sebastian Huber**, Fri, 12 May 2017 10:11:02 GMT

Do you want to release RTEMS 4.12 with the message that most drivers work on your SMP chips or all?

**Comment 5**

1. **Daniel Hellstrom**, Fri, 12 May 2017 10:22:16 GMT

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.

**Comment 6**

1. **Chris Johns**, Mon, 15 May 2017 22:35:19 GMT

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.

#### Comment 7

1. **Chris Johns**, Mon, 14 Aug 2017 00:07:22 GMT
2. **priority**: changed from **normal** to **highest**
3. **version**: changed from **4.11** to **4.12**
4. **severity**: changed from **normal** to **blocker**

What is the status of these drivers?

#### Comment 8

1. **Chris Johns**, Wed, 11 Oct 2017 22:41:03 GMT

This ticket is mark as a blocker. Please update with an estimate of when this will be completed.

#### Comment 9

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:46 GMT
2. **component**: changed from **unspecified** to **arch/sparc**

#### Comment 10

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 11

1. **Daniel Hellstrom**, Tue, 14 Nov 2017 09:58:39 GMT

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?

#### Comment 12

1. **Sebastian Huber**, Tue, 14 Nov 2017 10:08:52 GMT

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?

#### Comment 13

1. **Daniel Hellstrom**, Mon, 20 Nov 2017 14:18:52 GMT

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>

#### Comment 14

1. **Daniel Hellstrom**, Tue, 21 Nov 2017 09:29:21 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 4d7e4bb/rtems:

leon, gr1553rt: adding SMP protection

Add device spin-lock around internal data structures. Since the driver provides a low-level C API accessing the descriptors the application still needs to implement part of the SMP synchronization needed between Interrupt handler and tasks.

Close #2355.

---

## 2363 - SPARC: Silent FP context corruption possible

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2363">https://devel.rtems.org/ticket/2363</a> ( <a href="https://devel.rtems.org/ticket/2363">https://devel.rtems.org/ticket/2363</a> )
<b>Id</b>	2363
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 June 2015 07:40:10
<b>Modified</b>	5 February 2018 07:49:50
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	lowest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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 sptest/scontext01.

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.

### Comment 1

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**

### Comment 2

1. **Chris Johns**, Thu, 23 Mar 2017 01:04:45 GMT
2. **milestone**: changed from **4.11.2** to **4.11.3**

The 4.11.2 milestone is closing.

### Comment 3

1. **Chris Johns**, Mon, 05 Feb 2018 04:39:20 GMT
2. **milestone**: changed from **4.11.3** to **Indefinite**

Requires funding.

### Comment 4

1. **Sebastian Huber**, Mon, 05 Feb 2018 07:49:50 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **duplicate**
4. **component**: changed from **score** to **arch/sparc**
5. **milestone**: changed from **Indefinite** to **5.1**

Fixed by #3077.

---

## 2366 - Create a Public API for the Atomic Operations

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2366">https://devel.rtems.org/ticket/2366</a> ( <a href="https://devel.rtems.org/ticket/2366">https://devel.rtems.org/ticket/2366</a> )
<b>Id</b>	2366
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	11 June 2015 15:16:31
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 23 Jan 2017 06:46:39 GMT

Why not simply use C11/C++11 atomic operations?

**Comment 2**

1. **Chris Johns**, Mon, 14 Aug 2017 00:06:50 GMT
2. **version**: changed from **4.11** to **4.12**
3. **milestone**: changed from **5.0** to **4.12.0**

Should the API in 'sys/locks.h' be used?

**Comment 3**

1. **Sebastian Huber**, Thu, 24 Aug 2017 07:23:30 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

Since C11 or C++11 is now the default in GCC users can simply use the standard atomic operations.

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2367 - Documentation of User Extensions needs more information**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2367">https://devel.rtems.org/ticket/2367</a> ( <a href="https://devel.rtems.org/ticket/2367">https://devel.rtems.org/ticket/2367</a> )
<b>Id</b>	2367
<b>Reporter</b>	mw
<b>Created</b>	15 June 2015 17:30:11
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

#### Comment 1

1. **Joel Sherrill**, Tue, 16 Jun 2015 00:00:18 GMT

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.

#### Comment 2

1. **mw**, Wed, 17 Jun 2015 16:53:23 GMT

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.

#### Comment 3

1. **Chris Johns**, Mon, 14 Aug 2017 00:43:58 GMT
2. **version**: changed from **4.11** to **4.12**
3. **milestone**: set to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Thu, 24 Aug 2017 07:57:40 GMT
2. **owner**: set to **Sebastian Huber** <[sebastian.huber@...](mailto:sebastian.huber@...)>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 6eef7a4/rtems-docs:

```
c-user: Clarify user extensions
Close #2367.
```

#### Comment 5

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## **2377 - rtems\_waf: Tools without a version are not supported**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2377">https://devel.rtems.org/ticket/2377</a> ( <a href="https://devel.rtems.org/ticket/2377">https://devel.rtems.org/ticket/2377</a> )
<b>Id</b>	2377
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 July 2015 08:30:35
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Daniel Hellstrom
<b>Blocking</b>	
<b>Blocked by</b>	



**Description**

```
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)
```

**Comment 1**

1. **Chris Johns**, Fri, 31 Jul 2015 22:17:34 GMT

I do not understand the issue. What does tools without a version mean ?

**Comment 2**

1. **Sebastian Huber**, Fri, 11 Sep 2015 09:03:45 GMT

For example sparc-rtems-gcc, etc.

This is used by some third-party tools, like the Gaisler RCC.

**Comment 3**

1. **Chris Johns**, Sun, 13 Sep 2015 22:49:42 GMT

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 ?

**Comment 4**

1. **Sebastian Huber**, Mon, 14 Sep 2015 06:18:41 GMT

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.

**Comment 5**

1. **Chris Johns**, Mon, 14 Sep 2015 06:35:54 GMT

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.

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.

**Comment 6**

1. **Sebastian Huber**, Mon, 14 Sep 2015 06:49:48 GMT

2. **cc: Daniel Hellstrom** added

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>

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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-rtemsfoobarbug99.abc is also allowed.

Did you try the --rtems-version option, ie --rtems-version=foobarbug99.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.

#### **Comment 7**

1. **Chris Johns**, Mon, 14 Sep 2015 07:30:46 GMT

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.

#### **Comment 8**

1. **Daniel Hellstrom**, Thu, 17 Sep 2015 14:27:56 GMT

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 homepage 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

#### **Comment 9**

1. **Joel Sherrill**, Fri, 18 Sep 2015 21:07:42 GMT

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.

#### **Comment 10**

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:05:37 GMT

2. **milestone**: changed from **4.11** to **4.11.2**

#### **Comment 11**

1. **Chris Johns**, Tue, 21 Mar 2017 03:40:59 GMT

2. **version**: changed from **4.11** to **4.12**

3. **milestone:** changed from **4.11.2** to **4.12**

Moved to master.

#### Comment 12

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 13

1. **Sebastian Huber**, Thu, 08 Jun 2017 08:35:44 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

#### Comment 14

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### 2385 - Warning from commit "bsps/arm: Do not use `__ARM_ARCH_7A__`"

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2385">https://devel.rtems.org/ticket/2385</a> ( <a href="https://devel.rtems.org/ticket/2385">https://devel.rtems.org/ticket/2385</a> )
<b>Id</b>	2385
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 August 2015 02:15:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

This change <https://git.rtems.org/rtems/commit/?h=4.11&id=d0733bb8> generate a warning in user code. The warning is:

```
.../arm-errata.h:45:1: warning: 'in line' is not at beginning of declaration [-Wold-style-declaration]
static bool inline arm_errata_is_applicable_processor_errata_764369(void)
^
```

#### Comment 1

1. **Sebastian Huber**, Fri, 04 Sep 2015 11:51:14 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In fc5e52b93837da575a73d5f1d783732587f8ec4e/rtems:

```
bsps/arm: Fix function definition
Close #2385.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 04 Sep 2015 11:52:58 GMT
2. **version:** changed from **4.11** to **4.12**
3. **milestone:** changed from **4.11.1** to **4.12**

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT
2. **component**: changed from **bsps** to **arch/arm**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2407 - Enable function and data sections**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2407">https://devel.rtems.org/ticket/2407</a> ( <a href="https://devel.rtems.org/ticket/2407">https://devel.rtems.org/ticket/2407</a> )
<b>Id</b>	2407
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 September 2015 12:29:49
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

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:

- Modify the build system to use the following compiler and linker flags:

```
CFLAGS += -ffunction-sections -fdata-sections
LDFLAGS += -Wl,--gc-sections
```

- 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).

**Comment 1**

1. **Joel Sherrill**, Fri, 11 Mar 2016 00:12:28 GMT

Closing. This has been done and distributed to other tickets when specific issues were encountered.

**Comment 2**

1. **Joel Sherrill**, Fri, 11 Mar 2016 00:12:40 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 3**

1. **Joel Sherrill**, Fri, 11 Mar 2016 00:12:47 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2408 - Linker set based initialization**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2408">https://devel.rtems.org/ticket/2408</a> ( <a href="https://devel.rtems.org/ticket/2408">https://devel.rtems.org/ticket/2408</a> )
<b>Id</b>	2408
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 September 2015 12:52:05
<b>Modified</b>	6 February 2020 14:24:21
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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`,

```
#ifndef MYSET_H
#define MYSET_H
/* The linker_set items */
typedef struct {
    void (*func)(void);
} item;
/*
 * Macro to create a linker set item. The first parameter is
 * the designator of the item. It must be unique within the
 * module scope. The second parameter is the desired function.
 */
#define MYSET_ITEM(i, f) \
    __attribute__((used)) \
    __attribute__((section(".rtemsroset.myset.content"))) \
    static item i = { f }
#endif /* MYSET_H */
```

**module.c**

```
#include "myset.h"
#include
/*
 * Some global function that needs a module specific
 * initialization done by f().
 */
void
g(void)
{
    printf("g()\n");
}
/* The module constructor */
static void
f(void)
{
    printf("f()\n");
}
/*
 * This registers the module constructor f()
 * in the linker set "myset".
 */
MYSET_ITEM(i, &f);
```

**and init.c.**

```
#include "myset.h"
#include
/* Should be in a proper header file */
void g(void);
/* Define the start marker */
__attribute__((used))
__attribute__((section(".rtemsroset.myset.begin")))
static volatile const item begin[0];
/* Define the end marker */
__attribute__((used))
__attribute__((section(".rtemsroset.myset.end")))
static volatile const item end[0];
int main(void)
{
    size_t n = &end[0] - &begin[0];
    size_t i;
    /* Call all functions of the linker set */
    for (i = 0; i < n; ++i) {
        (*begin[i].func)();
    }
    /*
     * This will pull in the module.c and register its item in the
     * linker set "myset". So g() can rely on f() being called first.
     */
    g();
    return (0);
}
```

In the linker command file of the GNU linker we need the following statement.

```
.rtmsroset : {
  KEEP (*(SORT(.rtmsroset.*)))
}
```

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.

```
.rtmsroset 0x000000001001990 0x4 load address 0x00000000002268c
*(SORT(.rtmsroset.*))
.rtmsroset.myset.begin 0x000000001001990 0x0 init.o
.rtmsroset.myset.content 0x000000001001990 0x4 module.o
.rtmsroset.myset.end 0x000000001001994 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.

#### Comment 1

1. **Sebastian Huber**, Thu, 03 Sep 2015 13:39:08 GMT

See also [Developer/Projects/Open/SequencedInitialization].

#### Comment 2

1. **Sebastian Huber**, Wed, 28 Oct 2015 13:08:32 GMT

See also <https://lists.rtems.org/pipermail/devel/2015-October/012701.html>.

#### Comment 3

1. **Sebastian Huber**, Tue, 08 Dec 2015 12:53:24 GMT

In [b618d8cfc54f84d4ed03dc7b7fa510c872e6128a@rtems](mailto:b618d8cfc54f84d4ed03dc7b7fa510c872e6128a@rtems):

```
Add RTEMS linker sets
Update #2408.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 09 Dec 2015 07:00:51 GMT

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. The PNOLS version is with POSIX enabled and the old initialization infrastructure.

Executable sizes for the SPARC/SIS ticker.exe.

```
Text Data BSS Workspace Non-Text 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.

```
Text Data BSS Workspace Non-Text 4.9 45808 2324 2708 3288 8320 4.10 30032 1300 1296 3240 5836 4.11 34032 320 2976 2000 5296 4.11/POSIX 41664 1168
4480 2216 7864 4.12/PNOLS 39904 1232 4480 2136 7848 4.12/POSIX 29104 272 2304 2128 4704 4.12 28976 272 2240 1928 4440
```

#### Comment 5

1. **Sebastian Huber**, Thu, 10 Dec 2015 07:33:58 GMT

In [2858939a2ccb3cf1918dadd9cda1fd1d8ab5a9ef@rtems](mailto:2858939a2ccb3cf1918dadd9cda1fd1d8ab5a9ef@rtems):

```
bsps: Delete superfluous bsp_pretasking_hook()
Use the bsp_predriver_hook() instead.
Update #2408.
```

#### Comment 6

1. **Sebastian Huber**, Fri, 11 Dec 2015 07:57:40 GMT

[[d0c39838146c6a186dda3d95dac71c3fa90f11e@rtems](mailto:d0c39838146c6a186dda3d95dac71c3fa90f11e@rtems)]

#### Comment 7

1. **Sebastian Huber**, Tue, 26 Jan 2016 17:04:55 GMT

2. **owner**: set to **Sebastian Huber**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

3. **status:** changed from **new** to **assigned**

#### Comment 8

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:29:51 GMT

In 36b86d7eb5e51a62c0cee1906210b389c2ab96eb/rtems:

```
score: Create idle threads via linker set
This allows a more fine grained rtems_initialize_data_structures().
Update #2408.
```

#### Comment 9

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:30:01 GMT

In a853c8518d7b8ccf54491018857ed86548f3ea24/rtems:

```
Optional Initial Extensions initialization
Update #2408.
```

#### Comment 10

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:30:14 GMT

In 92bb345374ea3982b40b10e7d50ecfc1cb4d2ed3/rtems:

```
Optional Extensions initialization
Update #2408.
```

#### Comment 11

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:30:24 GMT

In 565672a257156f78295608afb05157d1c7da7000/rtems:

```
Optional Classic Tasks initialization
Update #2408.
```

#### Comment 12

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:30:35 GMT

In 26335844f484c8cd061444cebbba9480b62d165cb/rtems:

```
Optional Classic Timer initialization
Update #2408.
```

#### Comment 13

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:30:46 GMT

In a7f36829c08d86f6a53b5aad83a21e38aa1454b5/rtems:

```
Optional Classic Signal initialization
Update #2408.
```

#### Comment 14

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:30:57 GMT

In ae85b0663eb19db435476d268a10187633f2ba56/rtems:

```
Optional Classic Event initialization
Update #2408.
```

**Comment 15**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:31:07 GMT

In ed8b00e667fe179730beb8947b5afb6bcc234d7a/rtems:

Optional Classic Message Queue initialization  
Update #2408.

**Comment 16**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:31:18 GMT

In cbaac1f7f4b3d78673abfde9bd6ed7e43dddf12c/rtems:

Optional Classic Semaphore initialization  
Update #2408.

**Comment 17**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:31:28 GMT

In fd3cc36f61e5b92b2234ff5eff5250f0ce6447bb/rtems:

Optional Classic Partition initialization  
Update #2408.

**Comment 18**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:31:39 GMT

In 365456cce3f3cf6da8a1bab9199e4bbd5f240dde/rtems:

Optional Classic Region initialization  
Update #2408.

**Comment 19**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:31:50 GMT

In af12278f9b33d7d8dca96d3873472ef2382f3c8e/rtems:

Optional Classic Dual-Ported Memory initialization  
Update #2408.

**Comment 20**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:32:00 GMT

In b377e3f6b70b5a5a09ac1dd77a450e4e5812cc42/rtems:

Optional Classic Rate Monotonic initialization  
Update #2408.

**Comment 21**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:32:11 GMT

In 97d94ff3e96c86d2a23b26efe48a9386c16a915a/rtems:

Optional Classic Barrier initialization  
Update #2408.

**Comment 22**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:32:32 GMT



In 04436ae7d83825300df85cab3953f9c0314fe72/rtems:

Optional POSIX Signals initialization  
Update #2408.

#### **Comment 23**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:32:42 GMT

In ef1a985fc7591988ef956dd7b35f9533bace68a6/rtems:

Optional POSIX Threads initialization  
Update #2408.

#### **Comment 24**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:32:53 GMT

In cef56750eb5ce8a2aa31ff4e3bc038bc656a0d96/rtems:

Optional POSIX Cleanup initialization  
Update #2408.

#### **Comment 25**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:33:04 GMT

In f4fee4778e9ab8a61c00fdb34a6d2e49f2e0b2ce/rtems:

Optional POSIX Condition Variable initialization  
Update #2408.

#### **Comment 26**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:33:14 GMT

In 9871f5dc60c622b58710f624f2ddb9328de16eb8/rtems:

Optional POSIX Mutex initialization  
Update #2408.

#### **Comment 27**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:33:25 GMT

In 3015ed641a41059dec9abad1eb3872a006ee6324/rtems:

Optional POSIX Message Queue initialization  
Update #2408.

#### **Comment 28**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:33:36 GMT

In 2189b3e963f7e43e9fc577ab4f24c952cef5b08e/rtems:

Optional POSIX Semaphore initialization  
Update #2408.

#### **Comment 29**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:33:46 GMT

In 6c678557906cbb73af1691e90e52911b2d00223/rtems:

Optional POSIX Timer initialization

Update #2408.

**Comment 30**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:33:57 GMT

In e4e7f149c0f4d167a40862fee90707d38ee1aaf6/rtems:

Optional POSIX Barrier initialization

Update #2408.

**Comment 31**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:34:07 GMT

In 76a8328945bdefafc255d9589d4dcc371e1a73ef/rtems:

Optional POSIX RWLock initialization

Update #2408.

**Comment 32**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:34:18 GMT

In 4eee8781458f271be78e6f92cf344f9dbd2b4c8e/rtems:

Optional POSIX Spinlock initialization

Update #2408.

**Comment 33**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:34:29 GMT

In 190169fee2f267f5e32813eb6fd3e9b51430effc/rtems:

Optional CPU Set Handler initialization

Update #2408.

**Comment 34**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:34:39 GMT

In 2605a48938b9b3466add326d8e94b9622ffad7ba/rtems:

Optional POSIX Keys initialization

Update #2408.

**Comment 35**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:35:01 GMT

In 3d36164fe5a366cf206ed3d2e8dc5b4d9e366c14/rtems:

Use linker set for root file system initialization

Update #2408.

**Comment 36**1. **Sebastian Huber**, Wed, 03 Feb 2016 09:35:22 GMT

In ca4602e914d4ec00bf5db51e0830d702d5bc3f4e/rtems:

Use linker set for libio initialization

Update #2408.

**Comment 37**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:35:33 GMT

In 6bf44a581b35aba967034bc3e0348a4d1f36a048/rtems:

```
Use linker set for driver manager initialization
Update #2408.
```

#### **Comment 38**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:35:44 GMT

In 8ca372e9b47319a034a32250e037247e5b3c4c9e/rtems:

```
Use linker set for MPCI initialization
Update #2408.
```

#### **Comment 39**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:35:55 GMT

In 1ff8eca17a9f09bad3ab50c640547916808bf085/rtems:

```
Use linker set for Classic User Tasks init
Update #2408.
```

#### **Comment 40**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:36:06 GMT

In 4210114032d8d079bddaa2333875c38e30c93490/rtems:

```
Use linker set for POSIX User Threads init
Update #2408.
```

#### **Comment 41**

1. **Sebastian Huber**, Wed, 03 Feb 2016 09:38:47 GMT

Implementation is complete. Documentation is missing.

#### **Comment 42**

1. **Sebastian Huber**, Thu, 04 Feb 2016 11:59:09 GMT
2. **status**: changed from **assigned** to **accepted**

#### **Comment 43**

1. **Sebastian Huber**, Tue, 01 Mar 2016 14:01:44 GMT

In 1db95677debc5497006d04b70634464a332a95b/rtems:

```
sptestests/spsysinit01: Fix for RTEMS_DEBUG
Update #2408.
```

#### **Comment 44**

1. **Joel Sherrill**, Fri, 11 Mar 2016 00:13:28 GMT

Just checking. Is this ready to close or do you have additional plans?

#### **Comment 45**

1. **Sebastian Huber**, Mon, 14 Mar 2016 07:16:20 GMT

Documentation is incomplete.

#### **Comment 46**

1. **Sebastian Huber**, Wed, 12 Oct 2016 09:13:53 GMT

In be573185e6d6ddaadd3612c7c2db04aa0f65a330/rtems:

score: More robust linker sets

Update #2408. Update #2790.

#### **Comment 47**

1. **Joel Sherrill**, Mon, 14 Nov 2016 16:38:08 GMT

Should this ticket be closed now?

#### **Comment 48**

1. **Sebastian Huber**, Tue, 15 Nov 2016 06:05:10 GMT

No, documentation is still incomplete. I am not satisfied with the GCC 7 support.

#### **Comment 49**

1. **Sebastian Huber**, Tue, 06 Dec 2016 11:03:23 GMT

In 4b579c5f5170e1fb6a0573729444c289643b7d84/rtems:

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.

#### **Comment 50**

1. **Chris Johns**, Wed, 07 Dec 2016 04:10:42 GMT

Jeff has reported to me libbsd is broken.

#### **Comment 51**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:09:08 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

Documentation complete.

#### **Comment 52**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 53**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 54**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:25:21 GMT

In 6d21a3f2/rtems:

drvMgr: Remove bsp\_driver\_level\_hook()

Use RTEMS\_SYSINIT\_ITEM() instead.

Update #2408.

#### **Comment 55**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:25:54 GMT

In c4ccf26c/rtems:

```
bsps: Convert all bsp_predriver_hook()
Use RTEMS_SYSINIT_ITEM() instead.
Update #2408.
```

### **Comment 56**

1. **Sebastian Huber**, Thu, 02 Jan 2020 08:49:16 GMT

In 453bb4b/rtems:

```
rtems: Fix MPCIE initialization
Update #2408.
```

### **Comment 57**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:22:23 GMT

In 813ada5/rtems-docs:

```
c-user: Update system initialization chapter
Update #2408. Update #3838.
```

### **Comment 58**

1. **Sebastian Huber**, Thu, 06 Feb 2020 14:24:21 GMT

In a4b23d9/rtems-docs:

```
c-user: Document new linker set macros
Adjust copyright. Linker sets were introduced in 2015.
Update #2408. Close #3865.
```

---

## **2412 - Improved priority inheritance implementation**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2412">https://devel.rtems.org/ticket/2412</a> ( <a href="https://devel.rtems.org/ticket/2412">https://devel.rtems.org/ticket/2412</a> )
<b>Id</b>	2412
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 September 2015 13:36:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

#### **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.

```
typedef struct Thread_Priority_node {
    Priority_Control current_priority;
    Priority_Control real_priority;
    struct Thread_Priority_node *owner;
    RBTREE_Node Node;
    RBTREE_Control Inherited_priorities;
} Thread_Priority_node;
typedef struct {
    ...
    Thread_Priority_node *priority_nodes; /* One per scheduler instances */
    ...
} 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.

#### Comment 1

1. **Sebastian Huber**, Mon, 07 Sep 2015 06:01:03 GMT
2. **description:** modified (diff)

#### Comment 2

1. **Sebastian Huber**, Tue, 05 Jul 2016 07:53:12 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

#### Comment 3

1. **Sebastian Huber**, Tue, 05 Jul 2016 07:53:28 GMT
2. **component:** changed from **General** to **cpukit**

#### Comment 4

1. **Sebastian Huber**, Tue, 05 Jul 2016 07:53:37 GMT
2. **type:** changed from **defect** to **enhancement**

#### Comment 5

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:15 GMT

In f4d1f307926b6319e5d3b325dbe424901285dec1/rtems:

```
score: Split _Thread_Change_priority()
Update #2412. Update #2556. Update #2765.
```

**Comment 6**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:26 GMT

In ac8402ddd6e4a8eb6defb98220d39d4c20a6f025/rtems:

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.

**Comment 7**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:36 GMT

In 3a58dc863157bb21054a144c1a21b690544c0d23/rtems:

score: Priority inherit thread queue operations

Move the priority change due to priority inheritance to the thread queue enqueue operation to simplify the locking on SMP configurations.

Update #2412. Update #2556. Update #2765.

**Comment 8**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:46 GMT

In 1fcac5adc5ed38fb88ce4c6d24b2ca2e27e3cd10/rtems:

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.

**Comment 9**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:57 GMT

In d79df38c2bea50112214ade95776cb90d693e390/rtems:

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.

**Comment 10**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:05:43 GMT

In 300f6a481aaf9e6d29811faca71bf7104a01492c/rtems:

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.

**Comment 11**

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:11:26 GMT

2. **priority**: changed from **normal** to **high**

**Comment 12**

1. **Sebastian Huber**, Wed, 01 Feb 2017 06:59:27 GMT

2. **status**: changed from **assigned** to **closed**

3. **version**: **4.5** deleted

4. **resolution:** set to **fixed**

[8add1793d25b2f76d564028f991cac31e0f871b4/rtems-docs]

#### **Comment 13**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### **Comment 14**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## **2420 - RSB %source file fails**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2420">https://devel.rtems.org/ticket/2420</a> ( <a href="https://devel.rtems.org/ticket/2420">https://devel.rtems.org/ticket/2420</a> )
<b>Id</b>	2420
<b>Reporter</b>	Jakob Vikeftoft
<b>Created</b>	14 September 2015 12:45:40
<b>Modified</b>	13 December 2019 15:24:21
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### **Comment 1**

1. **Gedare Bloom**, Mon, 14 Sep 2015 14:03:57 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**
4. **version:** changed from **4.10** to **4.11**

#### **Comment 2**

1. **Gedare Bloom**, Mon, 14 Sep 2015 14:05:11 GMT

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

#### **Comment 3**

1. **Jakob Vikeftoft**, Tue, 15 Sep 2015 08:45:29 GMT

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?

#### **Comment 4**

1. **Chris Johns**, Tue, 15 Sep 2015 23:54:47 GMT

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.



**Comment 5**

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**

**Comment 6**

1. **Chris Johns**, Wed, 22 Mar 2017 23:58:33 GMT
2. **version**: changed from **4.11** to **4.12**
3. **milestone**: changed from **4.11.2** to **4.12**

This is a new feature and not suitable on a release branch.

**Comment 7**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 9**

1. **Chris Johns**, Fri, 13 Dec 2019 15:24:21 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

I have no time to work on this.

**2423 - rtems\_iterate\_over\_all\_threads lacks user callback private pointer pass through**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2423">https://devel.rtems.org/ticket/2423</a> ( <a href="https://devel.rtems.org/ticket/2423">https://devel.rtems.org/ticket/2423</a> )
<b>Id</b>	2423
<b>Reporter</b>	Jeffrey Hill
<b>Created</b>	22 September 2015 00:12:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	rtems_iterate_over_all_threads callback private
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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

**Comment 1**

1. **Jeffrey Hill**, Tue, 22 Sep 2015 15:35:30 GMT

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.

**Comment 2**

1. **Jeffrey Hill**, Tue, 22 Sep 2015 20:02:27 GMT

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 specified 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 )
```

```
            continue;
```

```
        for ( i=1 ; i <= information->maximum ; i++ ) {
```

```
            the_thread = (Thread_Control *)information->local_table[ i];
```

```
            if ( !the_thread )
```

```
                continue;
```

```
            (*pFunction)(the_thread,pUserPrivate);
```

```
        }
```

```
    }
```

```
}
```

**Comment 3**

1. **Jeffrey Hill**, Tue, 22 Sep 2015 20:07:16 GMT

Ok, yes, the names I choose are pretty lame.

**Comment 4**

1. **Sebastian Huber**, Mon, 31 Oct 2016 12:38:33 GMT
2. **milestone**: changed from **4.11.1** to **4.12**

**Comment 5**

1. **Sebastian Huber**, Wed, 02 Nov 2016 08:13:53 GMT
- In d271c3bb78f86dd9417a964b019b8e38911064fa/rtems:

```
rtems: Add rtems_task_iterate()
Update #2423.
```

**Comment 6**

1. **Sebastian Huber**, Wed, 02 Nov 2016 08:14:03 GMT
- In 4cf58905b825ea8d2b9d677dc32d529390052d3a/rtems:

```
cpuuse: Use rtems_task_iterate()
Update #2423.
```

**Comment 7**

1. **Sebastian Huber**, Wed, 14 Dec 2016 14:25:44 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Documentation update done.

**Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2428 - Add 4.12 Tool Target Configurations to RSB**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2428">https://devel.rtems.org/ticket/2428</a> ( <a href="https://devel.rtems.org/ticket/2428">https://devel.rtems.org/ticket/2428</a> )
<b>Id</b>	2428
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 October 2015 19:26:40
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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
- + ...

**Comment 1**

1. **Joel Sherrill**, Wed, 20 Jan 2016 01:32:54 GMT
2. **version**: changed from **4.10** to **4.12**
3. **description**: modified (diff)

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Chris Johns**, Wed, 11 Oct 2017 23:14:27 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

This was done a long time ago.

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2441 - lpc1768 variants fail to build with error in gpio.c**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2441">https://devel.rtems.org/ticket/2441</a> ( <a href="https://devel.rtems.org/ticket/2441">https://devel.rtems.org/ticket/2441</a> )
<b>Id</b>	2441
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 November 2015 17:12:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```
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
```

#### Comment 1

1. **Sebastian Huber**, Wed, 04 Nov 2015 06:44:51 GMT

This BSP is not maintained by us.

#### Comment 2

1. **Martin Galvan**, Thu, 05 Nov 2015 14:28:51 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 1d55e157ca9f4a9ff806f8fa5fcc79b03a7b8178/rtems:

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.

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2442 - Remove avrtest BSP

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2442">https://devel.rtems.org/ticket/2442</a> ( <a href="https://devel.rtems.org/ticket/2442">https://devel.rtems.org/ticket/2442</a> )
<b>Id</b>	2442
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 November 2015 18:00:20
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Remove the avr/avrtest BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](https://devel.rtems.org/wiki/Developer/Removing_a_BSP)

#### Attachments:

1. **Ralph Holmes**, Sat, 19 Dec 2015 16:12:20 GMT  
**attach**: set to [0001-avr-avrtest-Remove-obsolete\\_patch](https://devel.rtems.org/ticket/2442/0001-avr-avrtest-Remove-obsolete_patch) ([https://devel.rtems.org/ticket/2442/0001-avr-avrtest-Remove-obsolete\\_patch](https://devel.rtems.org/ticket/2442/0001-avr-avrtest-Remove-obsolete_patch))
2. **Ralph Holmes**, Sat, 19 Dec 2015 16:12:44 GMT  
**attach**: set to [0001-avr-avrtest-Remove-avrtest-references\\_patch](https://devel.rtems.org/ticket/2442/0001-avr-avrtest-Remove-avrtest-references_patch) ([https://devel.rtems.org/ticket/2442/0001-avr-avrtest-Remove-avrtest-references\\_patch](https://devel.rtems.org/ticket/2442/0001-avr-avrtest-Remove-avrtest-references_patch))

#### Comment 1

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:27:04 GMT
2. **keywords**: **obsolete BSP** added
3. **owner**: set to **joel.sherrill@...**

4. **component:** changed from **General** to **bsps**

#### Comment 2

1. **Ralph Holmes**, Sat, 19 Dec 2015 19:58:56 GMT

In 34a2ec924d4300ff22504d1740d2bcd3c7acdb18/rtems:

```
avr/avrtest: Remove (obsolete).
Updates #2442.
```

#### Comment 3

1. **Ralph Holmes**, Sat, 19 Dec 2015 19:59:18 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In a452c5727244c608379b08b1f6d720858cb41a78/rtems-testing:

```
avr/avrtest: Remove avrtest references.
Closes #2442.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2443 - Remove AVR Architectural Port

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2443">https://devel.rtems.org/ticket/2443</a> ( <a href="https://devel.rtems.org/ticket/2443">https://devel.rtems.org/ticket/2443</a> )
<b>Id</b>	2443
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 November 2015 18:04:16
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, target
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Joel Sherrill**, Tue, 03 Nov 2015 14:38:42 GMT
2. **description:** modified (diff)

#### Comment 2

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:27:20 GMT
2. **keywords:** **obsolete target** added

**Comment 3**

1. **Joel Sherrill**, Wed, 20 Jan 2016 01:40:58 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 15068f4c9afd2d5ca6a77d510059d6306c9a3be6/rtems:

Remove AVR port.  
closes #2443.

**Comment 4**

1. **Sebastian Huber**, Wed, 20 Jan 2016 07:31:40 GMT

In 1d308a13210edd54133235e0bc015080f9191bd5/rtems:

bsps: Resurrect ARM port  
Remove AVR port instead. Bug introduced by 15068f4c9afd2d5ca6a77d510059d6306c9a3be6.  
Update #2443.

**Comment 5**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2444 - Remove m68k/mvme136 BSP**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2444">https://devel.rtems.org/ticket/2444</a> ( <a href="https://devel.rtems.org/ticket/2444">https://devel.rtems.org/ticket/2444</a> )
<b>Id</b>	2444
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 00:25:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/m68k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the m68k/mvme136 BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

**Attachments:**

1. **Aun-Ali Zaidi, Tue, 08 Dec 2015 02:49:23 GMT**  
**attach:** set to [0001-m68k-mvme136-Remove.patch](https://devel.rtems.org/ticket/2444/0001-m68k-mvme136-Remove.patch) (<https://devel.rtems.org/ticket/2444/0001-m68k-mvme136-Remove.patch>)
  2. **Aun-Ali Zaidi, Tue, 08 Dec 2015 02:49:41 GMT**  
**attach:** set to [0002-m68k-acinclude.m4-Regenerate-to-remove-mvme136.patch](https://devel.rtems.org/ticket/2444/0002-m68k-acinclude.m4-Regenerate-to-remove-mvme136.patch) (<https://devel.rtems.org/ticket/2444/0002-m68k-acinclude.m4-Regenerate-to-remove-mvme136.patch>)
  3. **Aun-Ali Zaidi, Tue, 08 Dec 2015 02:56:11 GMT**  
**attach:** set to [0001-rtems-bit\\_rtems-Remove-mvme136-reference.patch](https://devel.rtems.org/ticket/2444/0001-rtems-bit_rtems-Remove-mvme136-reference.patch) ([https://devel.rtems.org/ticket/2444/0001-rtems-bit\\_rtems-Remove-mvme136-reference.patch](https://devel.rtems.org/ticket/2444/0001-rtems-bit_rtems-Remove-mvme136-reference.patch))
  4. **Aun-Ali Zaidi, Tue, 08 Dec 2015 02:56:23 GMT**  
**attach:** set to [0002-rtems-bit\\_all\\_bsp-Remove-mvme136-reference.patch](https://devel.rtems.org/ticket/2444/0002-rtems-bit_all_bsp-Remove-mvme136-reference.patch) ([https://devel.rtems.org/ticket/2444/0002-rtems-bit\\_all\\_bsp-Remove-mvme136-reference.patch](https://devel.rtems.org/ticket/2444/0002-rtems-bit_all_bsp-Remove-mvme136-reference.patch))
  5. **Aun-Ali Zaidi, Tue, 08 Dec 2015 20:00:23 GMT**  
**attach:** set to [0001-m68k-mvme136-Remove.2.patch](https://devel.rtems.org/ticket/2444/0001-m68k-mvme136-Remove.2.patch) (<https://devel.rtems.org/ticket/2444/0001-m68k-mvme136-Remove.2.patch>)
- 

#### Comment 1

1. **Joel Sherrill, Tue, 03 Nov 2015 00:25:50 GMT**
2. **type:** changed from **defect** to **enhancement**

#### Comment 2

1. **Joel Sherrill, Tue, 03 Nov 2015 15:47:14 GMT**
2. **description:** modified (diff)

#### Comment 3

1. **Joel Sherrill, Tue, 03 Nov 2015 19:26:52 GMT**
2. **keywords:** **obsolete BSP** added

#### Comment 4

1. **Joel Sherrill, Tue, 08 Dec 2015 17:07:22 GMT**
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

#### Comment 5

1. **Aun-Ali Zaidi, Tue, 08 Dec 2015 20:03:33 GMT**
2. **owner:** set to **Aun-Ali Zaidi <admin@...>**

In 9ae2d98866cace349fc40feac8cf0e8895d9c699/rtems:

```
m68k/mvme136: Remove
closes #2444.
```

#### Comment 6

1. **Aun-Ali Zaidi, Tue, 08 Dec 2015 20:11:50 GMT**
- In 37efe15157d2479d600647080583cf37b23db4ff/rtems-testing:

```
rtems/bit_rtems and bit_all_bsp: Remove mvme136 reference
updates #2444.
```

#### Comment 7

1. **Sebastian Huber, Thu, 11 May 2017 07:31:02 GMT**
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 8

1. **Sebastian Huber, Tue, 10 Oct 2017 06:54:47 GMT**
2. **component:** changed from **bsp** to **arch/m68k**

#### Comment 9

1. **Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT**
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed



## 2445 - Remove m68k/sim68000 BSP

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2445">https://devel.rtems.org/ticket/2445</a> ( <a href="https://devel.rtems.org/ticket/2445">https://devel.rtems.org/ticket/2445</a> )
<b>Id</b>	2445
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 00:25:43
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/m68k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Remove the m68k/sim68000 BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

### Attachments:

- 
- Aun-Ali Zaidi, Tue, 08 Dec 2015 01:46:55 GMT**  
attach: set to [0001-m68k-sim68000-Remove.patch](https://devel.rtems.org/ticket/2445/0001-m68k-sim68000-Remove.patch) (<https://devel.rtems.org/ticket/2445/0001-m68k-sim68000-Remove.patch>)
  - Aun-Ali Zaidi, Tue, 08 Dec 2015 01:47:11 GMT**  
attach: set to [0001-m68k-acinclude.m4-Regenerate-to-remove-sim68000.patch](https://devel.rtems.org/ticket/2445/0001-m68k-acinclude.m4-Regenerate-to-remove-sim68000.patch) (<https://devel.rtems.org/ticket/2445/0001-m68k-acinclude.m4-Regenerate-to-remove-sim68000.patch>)
  - Aun-Ali Zaidi, Tue, 08 Dec 2015 01:58:35 GMT**  
attach: set to [0001-rtems-bit\\_all\\_bsps-Remove-sim68000-reference.patch](https://devel.rtems.org/ticket/2445/0001-rtems-bit_all_bsps-Remove-sim68000-reference.patch) ([https://devel.rtems.org/ticket/2445/0001-rtems-bit\\_all\\_bsps-Remove-sim68000-reference.patch](https://devel.rtems.org/ticket/2445/0001-rtems-bit_all_bsps-Remove-sim68000-reference.patch))
- 

### Comment 1

- Joel Sherrill, Tue, 03 Nov 2015 15:48:41 GMT
- description:** modified (diff)

### Comment 2

- Joel Sherrill, Tue, 03 Nov 2015 19:26:59 GMT
- keywords:** obsolete BSP added

### Comment 3

- Aun-Ali Zaidi, Tue, 08 Dec 2015 02:16:14 GMT
- status:** changed from new to closed
- resolution:** set to fixed

### Comment 4

- Aun-Ali Zaidi, Tue, 08 Dec 2015 06:32:35 GMT
- owner:** set to Aun-Ali Zaidi <admin@...>

In a4e172aca7e0dd43a4c9822fe7c6afde2f22f49b/rtems:

```
m68k/sim68000: Remove
closes #2445.
```

### Comment 5

- Aun-Ali Zaidi, Tue, 08 Dec 2015 06:33:17 GMT

In 008f779de1c423c3094b76b40d46ee29f784b619/rtems-testing:

```
rtems/bit_all_bsps; Remove sim68000 reference
closes #2445.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 7**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:47 GMT
2. **component**: changed from **bsps** to **arch/m68k**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2446 - Remove M32R Architectural Port**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2446">https://devel.rtems.org/ticket/2446</a> ( <a href="https://devel.rtems.org/ticket/2446">https://devel.rtems.org/ticket/2446</a> )
<b>Id</b>	2446
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 14:41:42
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, target
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Tue, 03 Nov 2015 14:42:47 GMT
2. **description**: modified (diff)

**Comment 2**

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:27:49 GMT
2. **keywords**: **obsolete target** added

**Comment 3**

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:50:44 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:26:03 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Port has been removed by [f5201df0dc70e4510c7a6862a96d66175fbbf514/rtems].

#### **Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2447 - Remove m32r/m32rsim**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2447">https://devel.rtems.org/ticket/2447</a> ( <a href="https://devel.rtems.org/ticket/2447">https://devel.rtems.org/ticket/2447</a> )
<b>Id</b>	2447
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 14:42:31
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

Remove the m32r/m32rsim BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](https://devel.rtems.org/wiki/Developer/Removing_a_BSP)

#### **Attachments:**

- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:31:18 GMT**  
**attach:** set to [0001-dejagnum-boards-rtems-m32r-m32rsim.exp-Remove.patch](https://devel.rtems.org/ticket/2447/0001-dejagnum-boards-rtems-m32r-m32rsim.exp-Remove.patch) (https://devel.rtems.org/ticket/2447/0001-dejagnum-boards-rtems-m32r-m32rsim.exp-Remove.patch)
- 2 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:31:33 GMT**  
**attach:** set to [0001-m32r-m32rsim-Remove.patch](https://devel.rtems.org/ticket/2447/0001-m32r-m32rsim-Remove.patch) (https://devel.rtems.org/ticket/2447/0001-m32r-m32rsim-Remove.patch)
- 3 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:31:42 GMT**  
**attach:** set to [0002-sim-scripts-Makefile-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0002-sim-scripts-Makefile-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0002-sim-scripts-Makefile-Remove-m32r-reference.patch)
- 4 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:31:51 GMT**  
**attach:** set to [0003-sim-scripts-gitignore-Remove-m32r-references.patch](https://devel.rtems.org/ticket/2447/0003-sim-scripts-gitignore-Remove-m32r-references.patch) (https://devel.rtems.org/ticket/2447/0003-sim-scripts-gitignore-Remove-m32r-references.patch)
- 5 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:32:01 GMT**  
**attach:** set to [0004-sim-scripts-m32rsim.in-Remove.patch](https://devel.rtems.org/ticket/2447/0004-sim-scripts-m32rsim.in-Remove.patch) (https://devel.rtems.org/ticket/2447/0004-sim-scripts-m32rsim.in-Remove.patch)
- 6 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:32:12 GMT**  
**attach:** set to [0005-gcc-rundeja-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0005-gcc-rundeja-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0005-gcc-rundeja-Remove-m32r-reference.patch)
- 7 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:32:34 GMT**  
**attach:** set to [0006-gcc-test\\_driver-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0006-gcc-test_driver-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0006-gcc-test\_driver-Remove-m32r-reference.patch)
- 8 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:32:43 GMT**  
**attach:** set to [0007-gcc-RTEMS\\_GCC\\_Testing.txt-Remove-m32r-references.patch](https://devel.rtems.org/ticket/2447/0007-gcc-RTEMS_GCC_Testing.txt-Remove-m32r-references.patch) (https://devel.rtems.org/ticket/2447/0007-gcc-RTEMS\_GCC\_Testing.txt-Remove-m32r-references.patch)
- 9 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:32:52 GMT**  
**attach:** set to [0008-gcc-do\\_one-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0008-gcc-do_one-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0008-gcc-do\_one-Remove-m32r-reference.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:01 GMT**  
**attach:** set to [0009-gcc-parallelize\\_build-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0009-gcc-parallelize_build-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0009-gcc-parallelize\_build-Remove-m32r-reference.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:10 GMT**  
**attach:** set to [0010-gcc-testsuite-ada-acats-Makefile.rtems-Remove-m32r-r.patch](https://devel.rtems.org/ticket/2447/0010-gcc-testsuite-ada-acats-Makefile.rtems-Remove-m32r-r.patch) (https://devel.rtems.org/ticket/2447/0010-gcc-testsuite-ada-acats-Makefile.rtems-Remove-m32r-r.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:20 GMT**  
**attach:** set to [0011-simple-build-script-build\\_tools-Remove-m32r-referenc.patch](https://devel.rtems.org/ticket/2447/0011-simple-build-script-build_tools-Remove-m32r-referenc.patch) (https://devel.rtems.org/ticket/2447/0011-simple-build-script-build\_tools-Remove-m32r-referenc.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:29 GMT**  
**attach:** set to [0012-rtems-bit\\_rtems-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0012-rtems-bit_rtems-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0012-rtems-bit\_rtems-Remove-m32r-reference.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:38 GMT**  
**attach:** set to [0013-rtems-bit\\_all\\_bsps-Remove-m32r-references.patch](https://devel.rtems.org/ticket/2447/0013-rtems-bit_all_bsps-Remove-m32r-references.patch) (https://devel.rtems.org/ticket/2447/0013-rtems-bit\_all\_bsps-Remove-m32r-references.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:47 GMT**  
**attach:** set to [0014-rtems-bit\\_all\\_multilib-Remove-m32r-reference.patch](https://devel.rtems.org/ticket/2447/0014-rtems-bit_all_multilib-Remove-m32r-reference.patch) (https://devel.rtems.org/ticket/2447/0014-rtems-bit\_all\_multilib-Remove-m32r-reference.patch)
- 1 **Aun-Ali Zaidi, Wed, 09 Dec 2015 19:33:56 GMT**  
**attach:** set to [0015-rtems-common.sh-Remove-m32r-references.patch](https://devel.rtems.org/ticket/2447/0015-rtems-common.sh-Remove-m32r-references.patch) (https://devel.rtems.org/ticket/2447/0015-rtems-common.sh-Remove-m32r-references.patch)

**Comment 1**

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:27:56 GMT
2. **keywords:** **obsolete BSP** added

**Comment 2**

1. **Joel Sherrill**, Wed, 09 Dec 2015 23:11:30 GMT

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 # things may break or conflict, fix them. make a new patch

Please also delete all obsolete patches on this PR.

**Comment 3**

1. **Joel Sherrill**, Wed, 09 Dec 2015 23:13:47 GMT

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

**Comment 4**

1. **Aun-Ali Zaidi**, Thu, 10 Dec 2015 00:19:50 GMT

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 # things may break or conflict, fix them. make a new patch

Please also delete all obsolete patches on this PR.

#### Comment 5

1. **Aun-Ali Zaidi**, Thu, 10 Dec 2015 00:21:30 GMT

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.

#### Comment 6

1. **Joel Sherrill**, Thu, 10 Dec 2015 01:00:32 GMT

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.

#### Comment 7

1. **Aun-Ali Zaidi**, Thu, 10 Dec 2015 08:29:28 GMT

In f7c47a6880aea022b12f7f553df070d6f7ec0702/rtems:

```
m32r/m32rsim: Remove
updates #2447.
```

#### Comment 8

1. **Joel Sherrill**, Thu, 10 Dec 2015 13:57:44 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

#### Comment 9

1. **Aun-Ali Zaidi**, Mon, 14 Dec 2015 03:10:36 GMT
2. **owner**: set to **Aun-Ali Zaidi <admin@...>**

In 2df531a2b7cdae890618c515c41a664b82ac2e9d/rtems-tools:

```
bsps/m32rsim*: Remove
closes #2447.
```

#### Comment 10

1. **Gedare Bloom**, Mon, 14 Dec 2015 03:13:42 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

Still hasn't been removed from rtems-testing.git.

#### Comment 11

1. **Joel Sherrill**, Sun, 03 Jan 2016 21:06:57 GMT

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.

#### Comment 12

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 13

1. **Sebastian Huber**, Thu, 24 Aug 2017 06:19:41 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

In 9da6e08/rtems-testing:

```
sim-scripts: Remove obsolete ignores
Close #2447.
```

#### Comment 14

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2448 - Remove mips/mongoose BSP

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2448">https://devel.rtems.org/ticket/2448</a> ( <a href="https://devel.rtems.org/ticket/2448">https://devel.rtems.org/ticket/2448</a> )
<b>Id</b>	2448
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 14:54:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	arch/mips
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Remove the m32r/m32rsim BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

#### Comment 1

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:28:02 GMT
2. **keywords**: **obsolete BSP** added

#### Comment 2

1. **Aun-Ali Zaidi**, Mon, 14 Dec 2015 16:31:23 GMT

In f39e173c47200d5638b7fd38b1548e30282d1484/rtems:

```
mips/genmongoosev: Remove
updates #2448.
```

#### Comment 3

1. **Aun-Ali Zaidi**, Fri, 26 Feb 2016 15:43:03 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Closing...

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:57:52 GMT
2. **component**: changed from **bsps** to **arch/mips**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2449 - Remove arm/gba BSP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2449">https://devel.rtems.org/ticket/2449</a> ( <a href="https://devel.rtems.org/ticket/2449">https://devel.rtems.org/ticket/2449</a> )
<b>Id</b>	2449
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:21:15
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the arm/gba BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

**Comment 1**

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:28:09 GMT
2. **keywords**: **obsolete BSP** added

**Comment 2**

1. **Aun-Ali Zaidi**, Sun, 13 Dec 2015 01:20:56 GMT
2. **owner**: set to **Aun-Ali Zaidi <admin@...>**
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 0b52107768d392f65e41c075e16c563c6f87ebb6/rtems-testing:

```
rtems/bit_all_bsp: Remove gba reference
closes #2449.
```

**Comment 3**

1. **Aun-Ali Zaidi**, Sun, 13 Dec 2015 01:21:54 GMT

In c8a8a6013fc3c02ae58eb343afec00a5954952e5/rtems:

```
arm/gba: Remove
updates #2449.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:55:49 GMT
2. **component**: changed from **bsps** to **arch/arm**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2450 - Remove arm/nds**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2450">https://devel.rtems.org/ticket/2450</a> ( <a href="https://devel.rtems.org/ticket/2450">https://devel.rtems.org/ticket/2450</a> )
<b>Id</b>	2450
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:22:02
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the arm/nds BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

**Comment 1**

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:28:15 GMT
2. **keywords**: **obsolete BSP** added

**Comment 2**

1. **Aun-Ali Zaidi**, Fri, 11 Dec 2015 14:20:52 GMT

In 32c2cd2be1067ebe32cdabccbc8aa16126ae3a32/rtems:

```
arm/nds: Remove
updates #2450.
```

**Comment 3**

1. **Aun-Ali Zaidi**, Fri, 11 Dec 2015 14:21:55 GMT
2. **owner**: set to **Aun-Ali Zaidi <admin@...>**
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 7cbd67b90b5aa4e4967b1a59f3ecd9f6e13e657f/rtems-testing:

```
rtems/bit_all_bsps: Remove nds reference
closes #2450.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**



1. **Sebastian Huber**, Tue, 10 Oct 2017 06:55:49 GMT
2. **component**: changed from **bsps** to **arch/arm**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2451 - Remove arm/gp32 BSP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2451">https://devel.rtems.org/ticket/2451</a> ( <a href="https://devel.rtems.org/ticket/2451">https://devel.rtems.org/ticket/2451</a> )
<b>Id</b>	2451
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:25:42
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the arm/gp32 BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

**Comment 1**

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:28:21 GMT
2. **keywords**: **obsolete BSP** added

**Comment 2**

1. **Aun-Ali Zaidi**, Sun, 13 Dec 2015 13:39:53 GMT
2. **owner**: set to **Aun-Ali Zaidi <admin@...>**
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 22e1982b7fbe57fdbc0c3b1a3cbf13d5f8d2d8e5/rtems-testing:

```
rtems/bit_all_bsps: Remove gp32 reference
closes #2451.
```

**Comment 3**

1. **Aun-Ali Zaidi**, Sun, 13 Dec 2015 13:40:07 GMT

In f2a228b2cb5ce376c56ae8d767084b92f2822af0/rtems:

```
arm/gp32: Remove
updates #2451.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:55:49 GMT
2. **component**: changed from **bsps** to **arch/arm**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2452 - Remove H8300 Architectual Port**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2452">https://devel.rtems.org/ticket/2452</a> ( <a href="https://devel.rtems.org/ticket/2452">https://devel.rtems.org/ticket/2452</a> )
<b>Id</b>	2452
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:30:21
<b>Modified</b>	8 October 2021 15:42:04
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, target
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the H8300 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:

#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.

**Comment 1**

1. **Joel Sherrill**, Tue, 03 Nov 2015 15:31:19 GMT
2. **description**: modified (diff)

**Comment 2**

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:27:31 GMT
2. **keywords**: **obsolete target** added

**Comment 3**

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:50:44 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:24:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Port has been removed by [f6a8663ec590a07d0a65c7305bacec0f9534775e/rtems].

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from 4.12.0 to 5.1

Milestone renamed

#### Comment 7

1. **Sebastian Huber**, Thu, 08 Nov 2018 15:48:38 GMT

In 947b679/rtems:

```
h8300: Remove left over files
Update #2452.
```

#### Comment 8

1. **Joel Sherrill**, Fri, 08 Oct 2021 15:42:04 GMT

In f6385b4e/rtems:

```
libddl/rtl-mdreloc-h8300.c: Remove remnant of h8300 port
Updates #2452.
```

---

## 2453 - Remove h8300/h8sim BSP

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2453">https://devel.rtems.org/ticket/2453</a> ( <a href="https://devel.rtems.org/ticket/2453">https://devel.rtems.org/ticket/2453</a> )
<b>Id</b>	2453
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:31:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Remove the h8300/h8sim BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](https://devel.rtems.org/wiki/Developer/Removing_a_BSP)

#### Comment 1

1. **Joel Sherrill**, Tue, 03 Nov 2015 19:27:40 GMT
2. **keywords:** **obsolete BSP** added

#### Comment 2

1. **Aun-Ali Zaidi**, Mon, 14 Dec 2015 03:03:14 GMT

In 357fd9c2466f53a35d9821776d56fa236349a489/rtems:

```
h8300/h8sim: Remove
updates #2453.
```

#### Comment 3

1. **Aun-Ali Zaidi**, Mon, 14 Dec 2015 03:07:53 GMT

In fcd7e2207454036956ac46c59cd4509da949ab43/rtems-testing:

```
h8300: Remove h8sim references
updates #2453.
```

#### Comment 4

1. **Aun-Ali Zaidi**, Mon, 14 Dec 2015 03:08:07 GMT
2. **owner**: set to **Aun-Ali Zaidi** <admin@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In ea51d2ac224dd8a1a88e05d16287d6fa1ac6c555/rtems-tools:

```
bsps/h8sim*: Remove
closes #2453.
```

#### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2454 - Warning in threadqops.c

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2454">https://devel.rtems.org/ticket/2454</a> ( <a href="https://devel.rtems.org/ticket/2454">https://devel.rtems.org/ticket/2454</a> )
<b>Id</b>	2454
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:52:20
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 04 Nov 2015 06:41:32 GMT
2. **version**: changed from **4.11** to **4.12**

#### Comment 2

1. **Sebastian Huber**, Wed, 04 Nov 2015 06:53:44 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In eab538cf9e6c16f3ff902bf340ed0111d58fc35b/rtems:

```
score: Fix warning
Close #2454.
```

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2455 - Warning in spsimplsched02**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2455">https://devel.rtems.org/ticket/2455</a> ( <a href="https://devel.rtems.org/ticket/2455">https://devel.rtems.org/ticket/2455</a> )
<b>Id</b>	2455
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 15:53:29
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 04 Nov 2015 06:41:48 GMT
2. **version**: changed from **4.11** to **4.12**

**Comment 2**

1. **Sebastian Huber**, Tue, 05 Jan 2016 12:02:40 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[893f9efe10142279fa2d445b1305e5359f1d5188/rtems]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2457 - Remove powerpc/ep1a BSP**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2457">https://devel.rtems.org/ticket/2457</a> ( <a href="https://devel.rtems.org/ticket/2457">https://devel.rtems.org/ticket/2457</a> )
<b>Id</b>	2457
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 20:06:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Aun-Ali Zaidi <admin@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the powerpc/ep1a BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

**Attachments:**

- 
- Aun-Ali Zaidi, Wed, 09 Dec 2015 03:58:00 GMT**  
**attach:** set to [0001-powerpc-ep1a-Remove.patch](https://devel.rtems.org/ticket/2457/0001-powerpc-ep1a-Remove.patch) (<https://devel.rtems.org/ticket/2457/0001-powerpc-ep1a-Remove.patch>)
  - Aun-Ali Zaidi, Wed, 09 Dec 2015 03:58:12 GMT**  
**attach:** set to [0001-rtems-bit\\_all\\_bsp-Remove-ep1a-reference.patch](https://devel.rtems.org/ticket/2457/0001-rtems-bit_all_bsp-Remove-ep1a-reference.patch) ([https://devel.rtems.org/ticket/2457/0001-rtems-bit\\_all\\_bsp-Remove-ep1a-reference.patch](https://devel.rtems.org/ticket/2457/0001-rtems-bit_all_bsp-Remove-ep1a-reference.patch))
- 

**Comment 1**

- Aun-Ali Zaidi, Wed, 09 Dec 2015 06:29:05 GMT**

In 05d09f44fc298db02043cb6e21783cfb129b1c85/rtems:

```
powerpc/epl1a: Remove
updates #2457.
```

**Comment 2**

- Aun-Ali Zaidi, Wed, 09 Dec 2015 06:29:57 GMT**
- owner:** set to **Aun-Ali Zaidi <admin@...>**
- status:** changed from **new** to **closed**
- resolution:** set to **fixed**

In 6d384ec087724b65a1efb7930d35e87d4669f3bb/rtems-testing:

```
rtems/bit_all_bsp: Remove epl1a reference
closes #2457.
```

**Comment 3**

- Sebastian Huber, Thu, 11 May 2017 07:31:02 GMT**
- milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

- Sebastian Huber, Tue, 10 Oct 2017 06:56:19 GMT**
- component:** changed from **bsps** to **arch/powerpc**

**Comment 5**

- Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT**
- milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2458 - Remove powerpc/score603e BSP**

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2458">https://devel.rtems.org/ticket/2458</a> ( <a href="https://devel.rtems.org/ticket/2458">https://devel.rtems.org/ticket/2458</a> )
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 November 2015 20:06:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Ralph Holmes <ralph@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the powerpc/score603e BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](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.

**Attachments:**

- 
- Ralph Holmes, Tue, 08 Dec 2015 22:56:27 GMT**  
**attach:** set to [0001-powerpc-score603e-Remove-obsolete.patch](https://devel.rtems.org/ticket/2458/0001-powerpc-score603e-Remove-obsolete.patch) (<https://devel.rtems.org/ticket/2458/0001-powerpc-score603e-Remove-obsolete.patch>)
  - Ralph Holmes, Tue, 08 Dec 2015 23:06:36 GMT**  
**attach:** set to [0001-rtems-bit\\_rtems-Remove-reference-to-score603e.patch](https://devel.rtems.org/ticket/2458/0001-rtems-bit_rtems-Remove-reference-to-score603e.patch) ([https://devel.rtems.org/ticket/2458/0001-rtems-bit\\_rtems-Remove-reference-to-score603e.patch](https://devel.rtems.org/ticket/2458/0001-rtems-bit_rtems-Remove-reference-to-score603e.patch))
- 

**Comment 1**

- Joel Sherrill, Tue, 01 Dec 2015 13:51:27 GMT
- keywords:** obsolete BSP added

**Comment 2**

- Ralph Holmes, Wed, 09 Dec 2015 02:17:15 GMT
- In 999529516a32ae73f62c887370540d9574cdcecd/rtems:
- ```
powerpc/score603e: Remove (obsolete).
```
- Updates #2458.

**Comment 3**

- Ralph Holmes, Wed, 09 Dec 2015 02:17:51 GMT
  - owner:** set to Ralph Holmes <ralph@...>
  - status:** changed from new to closed
  - resolution:** set to fixed
- In 94e40137bed8b40459d3eb26043e87bc5b12ec03/rtems-testing:
- ```
rtems/bit_rtems: Remove reference to score603e.
```
- Closes #2458.

**Comment 4**

- Sebastian Huber, Thu, 11 May 2017 07:31:02 GMT
- milestone:** changed from 4.12 to 4.12.0

**Comment 5**

- Sebastian Huber, Tue, 10 Oct 2017 06:56:19 GMT
- component:** changed from bsps to arch/powerpc

**Comment 6**

- Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT
- milestone:** changed from 4.12.0 to 5.1

---

## 2459 - Add rtems\_chain\_get\_first\_unprotected() to chain API

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2459">https://devel.rtems.org/ticket/2459</a> ( <a href="https://devel.rtems.org/ticket/2459">https://devel.rtems.org/ticket/2459</a> )
<b>Id</b>	2459
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 November 2015 10:28:59
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

#### Comment 1

1. **Sebastian Huber**, Thu, 05 Nov 2015 10:33:12 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[aa473025f70d144ef9b50e833e7d9b91aad134f9/rtems]

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:20:51 GMT
2. **component**: changed from **score** to **rtems**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2464 - RSB: Tool patches use the RTEMS version

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2464">https://devel.rtems.org/ticket/2464</a> ( <a href="https://devel.rtems.org/ticket/2464">https://devel.rtems.org/ticket/2464</a> )
<b>Id</b>	2464
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 November 2015 14:16:03
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

In rtems/config/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.



**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Wed, 11 Oct 2017 23:17:34 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2468 - Add Thread Local Storage (TLS) support on x86**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2468">https://devel.rtems.org/ticket/2468</a> ( <a href="https://devel.rtems.org/ticket/2468">https://devel.rtems.org/ticket/2468</a> )
<b>Id</b>	2468
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 November 2015 15:16:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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](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.

**Comment 1**

1. **Sebastian Huber**, Mon, 16 Nov 2015 06:36:48 GMT

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](https://docs.rtems.org/doc-current/share/rtems/html/cpu_supplement/Port-Specific-Information-Thread_002dLocal-Storage.html#Port-Specific-Information-Thread_002dLocal-Storage)

**Comment 2**

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:20:42 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **4.12** to **Indefinite**

**Comment 3**

1. **Sebastian Huber**, Mon, 12 Jun 2017 09:07:42 GMT

In cb0d9a0/rtems:

```
i386: Move _CPU_Context_Initialize()
```

Update #2468.

**Comment 4**

1. **Sebastian Huber**, Mon, 12 Jun 2017 09:08:08 GMT

In 7b0c74ff/rtems:

i386: Support thread-local storage (TLS)

Update #2468.

**Comment 5**

1. **Sebastian Huber**, Mon, 12 Jun 2017 09:10:26 GMT
2. **owner**: changed from **Needs Funding** to **Sebastian Huber**
3. **status**: changed from **assigned** to **accepted**
4. **version**: **4.12** deleted
5. **component**: changed from **General** to **cpukit**
6. **milestone**: changed from **Indefinite** to **4.12.0**

**Comment 6**

1. **Sebastian Huber**, Mon, 12 Jun 2017 09:10:43 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 44c9e33/rtems-docs:

cpu-supplement: Update TLS support status

Close #2468.

**Comment 7**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:19:06 GMT
2. **component**: changed from **score** to **arch/i386**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2477 - Remove <rtems/debug.h>**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2477">https://devel.rtems.org/ticket/2477</a> ( <a href="https://devel.rtems.org/ticket/2477">https://devel.rtems.org/ticket/2477</a> )
<b>Id</b>	2477
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 November 2015 08:30:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

RTEMS has an API for dynamic debug support in . This feature is sparely used:

```

cpukit/sapi/src/debug.c: rtems debug_disable( RTEMS_DEBUG_ALL_MASK );
cpukit/sapi/src/debug.c:void rtems debug_enable (
cpukit/sapi/src/debug.c: rtems debug_control to_be_enabled
cpukit/sapi/src/debug.c:void rtems debug_disable (
cpukit/sapi/src/debug.c: rtems debug_control to_be_disabled
cpukit/sapi/src/debug.c:bool rtems debug_is_enabled(
cpukit/sapi/src/debug.c: rtems debug_control level
cpukit/rtems/include/rtems/rtems/regionimpl.h: if ( rtems debug_is_enabled( RTEMS_DEBUG_REGION ) ) \
cpukit/score/include/rtems/debug.h:typedef uint32_t rtems debug_control;
cpukit/score/include/rtems/debug.h:SCORE_EXTERN rtems debug_control _Debug_Level;
cpukit/score/include/rtems/debug.h:void rtems debug_enable(
cpukit/score/include/rtems/debug.h: rtems debug_control to_be_enabled
cpukit/score/include/rtems/debug.h:void rtems debug_disable(
cpukit/score/include/rtems/debug.h: rtems debug_control to_be_disabled
cpukit/score/include/rtems/debug.h:bool rtems debug_is_enabled(
cpukit/score/include/rtems/debug.h: rtems debug_control level
c/src/lib/libbsp/shared/bootcard.c: * - rtems debug_enable( RTEMS_DEBUG_ALL_MASK );
c/src/lib/libbsp/shared/bootcard.c: rtems debug_enable( RTEMS_DEBUG_ALL_MASK );
c/src/lib/libbsp/shared/include/bootcard.h: * - rtems debug_enable( RTEMS_DEBUG_ALL_MASK )
testsuites/sptestests/spreion_err01/init.c: puts( "TA1 - rtems debug disable - RTEMS_DEBUG_REGION" );
testsuites/sptestests/spreion_err01/init.c: rtems debug_disable( RTEMS_DEBUG_REGION );
testsuites/sptestests/spreion_err01/init.c: puts( "TA1 - rtems debug enable - RTEMS_DEBUG_REGION" );
testsuites/sptestests/spreion_err01/init.c: rtems debug_enable( RTEMS_DEBUG_REGION );
testsuites/sptestests/sp10/init.c: puts( "Init - rtems debug is enabled - is 0x1 set? No" );
testsuites/sptestests/sp10/init.c: is set = rtems debug_is_enabled( 0x1 );
testsuites/sptestests/sp10/init.c: puts( "Init - rtems debug enable - set 0x1" );
testsuites/sptestests/sp10/init.c: rtems debug_enable(0x1);
testsuites/sptestests/sp10/init.c: puts( "Init - rtems debug is enabled - is 0x1 set? Yes" );
testsuites/sptestests/sp10/init.c: is set = rtems debug_is_enabled( 0x1 );
testsuites/sptestests/sp10/init.c: puts( "Init - rtems debug disable - clear 0x1" );
testsuites/sptestests/sp10/init.c: rtems debug_disable(0x1);
testsuites/sptestests/sp10/init.c: puts( "Init - rtems debug is enabled - is 0x1 set? No" );
testsuites/sptestests/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.

#### Comment 1

1. **Sebastian Huber**, Mon, 07 Dec 2015 12:13:47 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 8054b1c7181b7c36e413ce15b686f99d06f4a7d2/rtems:

Remove

Close #2477.

#### Comment 2

1. **Sebastian Huber**, Mon, 07 Dec 2015 13:43:47 GMT

In 452eec433b3aa2fba464cee54f7d3c92726e4e0e/rtems:

doc: Remove reference to debug mask

Update #2477.

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2487 - Should <https://devel.rtems.org/wiki/TBR/Delete/SpecBuilder> be Deleted?

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2487">https://devel.rtems.org/ticket/2487</a> ( <a href="https://devel.rtems.org/ticket/2487">https://devel.rtems.org/ticket/2487</a> )
<b>Id</b>	2487
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	8 December 2015 17:20:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Wed, 11 Oct 2017 23:19:36 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

I cannot find the page in the wiki.

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2488 - Vagrant Scripts**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2488">https://devel.rtems.org/ticket/2488</a> ( <a href="https://devel.rtems.org/ticket/2488">https://devel.rtems.org/ticket/2488</a> )
<b>Id</b>	2488
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 December 2015 18:58:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Ben Gras
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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?

**Comment 1**

1. **Ben Gras**, Fri, 11 Dec 2015 11:43:05 GMT
- Drat. OK I am going to look into this.

**Comment 2**

1. **Ben Gras**, Sat, 12 Dec 2015 20:47:43 GMT

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.

#### Comment 3

1. **Chris Johns**, Sun, 13 Dec 2015 01:46:38 GMT

. 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 patch in the rtems-tools. Can you please test it?

#### Comment 4

1. **Ben Gras**, Sun, 13 Dec 2015 04:35:16 GMT

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 patch 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.

#### Comment 5

1. **Chris Johns**, Sun, 13 Dec 2015 04:38:56 GMT

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>

#### Comment 6

1. **Ben Gras**, Sun, 13 Dec 2015 04:53:13 GMT

Acknowledged. I have to get to bed, please let me update later..

#### Comment 7

1. **Ben Gras**, Sun, 27 Dec 2015 02:33:17 GMT

2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

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.

#### Comment 8

1. **Ben Gras**, Sun, 27 Dec 2015 03:18:58 GMT

@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 :(.

#### Comment 9

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 10

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:12:28 GMT
2. **component**: changed from **Other** to **unspecified**

#### Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2490 - RSB: Use SHA512 instead of MD5

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2490">https://devel.rtems.org/ticket/2490</a> ( <a href="https://devel.rtems.org/ticket/2490">https://devel.rtems.org/ticket/2490</a> )
<b>Id</b>	2490
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 December 2015 07:15:22
<b>Modified</b>	10 April 2018 08:08:31
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Since MD5 is not a secure hash algorithm, we should change all hashes used by the RSB configuration files to use SHA512.

#### Comment 1

1. **Chris Johns**, Fri, 11 Dec 2015 10:42:07 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **accepted**

#### Comment 2

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:05:05 GMT
2. **milestone**: changed from **4.11** to **4.11.2**

#### Comment 3

1. **Chris Johns**, Tue, 21 Mar 2017 03:24:28 GMT
2. **version**: changed from **4.11** to **4.12**
3. **milestone**: changed from **4.11.2** to **4.12**

Moving this to master.

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 6

1. **Chris Johns**, Tue, 10 Apr 2018 08:08:31 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **wontfix**

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.

## 2493 - Remove notepads

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2493">https://devel.rtems.org/ticket/2493</a> ( <a href="https://devel.rtems.org/ticket/2493">https://devel.rtems.org/ticket/2493</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 December 2015 12:42:30
<b>Modified</b>	1 December 2017 14:23:45
<b>Owner</b>	Joel Sherrill <joel.sherrill@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Attachments:

- 
- 1 **Aun-Ali Zaidi**, Wed, 23 Dec 2015 21:06:32 GMT  
**attach:** set to [0001-api-Remove-deprecated-Notepads\\_patch](https://devel.rtems.org/ticket/2493/0001-api-Remove-deprecated-Notepads_patch) ([https://devel.rtems.org/ticket/2493/0001-api-Remove-deprecated-Notepads\\_patch](https://devel.rtems.org/ticket/2493/0001-api-Remove-deprecated-Notepads_patch))
- 

### Comment 1

- 1. **Sebastian Huber**, Tue, 15 Dec 2015 10:54:46 GMT

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.

### Comment 2

- 1. **Aun-Ali Zaidi**, Wed, 23 Dec 2015 21:10:03 GMT

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.

### Comment 3

- 1. **Joel Sherrill**, Thu, 24 Dec 2015 23:05:02 GMT
- 2. **owner:** set to **Joel Sherrill** <joel.sherrill@...>
- 3. **status:** changed from **new** to **closed**
- 4. **resolution:** set to **fixed**

In c924e8502f6ad340acfae0e55443d0acde45fdf1/rtems:

```
user/task.t: Add advice on transitioning use of notepads
closes #2493.
```

### Comment 4

- 1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
- 2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 5

1. **Sebastian Huber**, Mon, 29 May 2017 06:02:19 GMT

In afa5b89/rtems:

```
ada: Remove task notepad support
Update #2493.
```

#### **Comment 6**

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:05:48 GMT

In d8f7bdc/rtems-docs:

```
c-user: Add obsolete configuration options section
Update #2493. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

#### **Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 8**

1. **Sebastian Huber**, Fri, 01 Dec 2017 14:23:45 GMT

In dda8142f/rtems:

```
ada/sp07: Fix uninitialized variable
Bug was introduced by d5154d0f6a04f3b7ed59d9a09038576fe2640756.
Updates #2493.
```

## **2494 - Remove task variables**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2494">https://devel.rtems.org/ticket/2494</a> ( <a href="https://devel.rtems.org/ticket/2494">https://devel.rtems.org/ticket/2494</a> )
<b>Id</b>	2494
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 December 2015 12:45:02
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	admin@...
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### **Attachments:**

1. **Aun-Ali Zaidi**, Tue, 01 Mar 2016 03:38:09 GMT  
**attach**: set to [0001-api-Remove-deprecated-task-variables.patch](https://devel.rtems.org/ticket/2494/0001-api-Remove-deprecated-task-variables.patch) (<https://devel.rtems.org/ticket/2494/0001-api-Remove-deprecated-task-variables.patch>)

#### **Comment 1**

1. **Sebastian Huber**, Tue, 15 Dec 2015 10:50:17 GMT

This ticket depends on #2306.

#### **Comment 2**

1. **Sebastian Huber**, Tue, 15 Dec 2015 10:56:21 GMT



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.

**Comment 3**

1. **Aun-Ali Zaidi**, Tue, 01 Mar 2016 03:38:31 GMT
2. **cc: admin@...** added

**Comment 4**

1. **Sebastian Huber**, Wed, 04 May 2016 05:28:19 GMT  
[1d40d81b4b8dd50e4162b0b79b60d3312d2744e5/rtems]  
Documentation update is missing.

**Comment 5**

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:21:27 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

**Comment 6**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2503 - mvme5500 BSP: Exception Handler uses deprecated Notepads.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2503">https://devel.rtems.org/ticket/2503</a> ( <a href="https://devel.rtems.org/ticket/2503">https://devel.rtems.org/ticket/2503</a> )
<b>Id</b>	2503
<b>Reporter</b>	Aun-Ali Zaidi
<b>Created</b>	23 December 2015 19:20:15
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	admin@...
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The MVME5500 BSP uses Notepads in its exception handler and #2493 removes them. This is obviously not portable and requires a rewrite.

**Comment 1**

1. **Aun-Ali Zaidi**, Wed, 23 Dec 2015 19:22:59 GMT
2. **owner:** set to **joel.sherrill@...**
3. **component:** changed from **General** to **bsps**

**Comment 2**

1. **Aun-Ali Zaidi**, Wed, 23 Dec 2015 19:23:35 GMT
2. **cc: admin@...** added

**Comment 3**

1. **Aun-Ali Zaidi**, Tue, 29 Dec 2015 00:17:47 GMT

**Comment 4**

1. **Joel Sherrill**, Tue, 29 Dec 2015 17:28:56 GMT

#2306 covers this issue. Closing.

**Comment 5**

1. **Joel Sherrill**, Tue, 29 Dec 2015 17:29:13 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

**Comment 6**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 7**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:56:19 GMT

2. **component**: changed from **bsps** to **arch/powerpc**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2509 - Should "https://devel.rtems.org/wiki/TBR/Delete/BSP\_Template" be replaced?**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2509">https://devel.rtems.org/ticket/2509</a> ( <a href="https://devel.rtems.org/ticket/2509">https://devel.rtems.org/ticket/2509</a> )
<b>Id</b>	2509
<b>Reporter</b>	Santosh Vattam
<b>Created</b>	4 January 2016 20:49:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Gedare Bloom
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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?

**Comment 1**

1. **Gedare Bloom**, Tue, 05 Jan 2016 17:33:46 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

Yeah this is an improvement even if we ultimately change how BSPs are documented. Deleting the old one and closing this ticket.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2513 - Remove m68k/idp BSP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2513">https://devel.rtems.org/ticket/2513</a> ( <a href="https://devel.rtems.org/ticket/2513">https://devel.rtems.org/ticket/2513</a> )
<b>Id</b>	2513
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	6 January 2016 20:09:16
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/m68k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	obsolete, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Remove the m68k/idp BSP per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_BSP](https://devel.rtems.org/wiki/Developer/Removing_a_BSP)

### Comment 1

1. **Aun-Ali Zaidi**, Fri, 26 Feb 2016 15:56:52 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

Closing since it is already removed by f2ab5bc5943e1817540804117c4626151759681c.

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:47 GMT
2. **component:** changed from **bsps** to **arch/m68k**

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2514 - Make POSIX API mandatory (except signals and the sporadic server)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2514">https://devel.rtems.org/ticket/2514</a> ( <a href="https://devel.rtems.org/ticket/2514">https://devel.rtems.org/ticket/2514</a> )
<b>Id</b>	2514
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 January 2016 09:06:43
<b>Modified</b>	18 May 2020 07:05:33
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3551

---

### Description

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

#### Attachments:

---

1 **Sebastian Huber, Thu, 05 Oct 2017 05:20:56 GMT**

**attach:** set to [0001-RTEMS-Self-contained-POSIX-objects.patch \(https://devel.rtems.org/ticket/2514/0001-RTEMS-Self-contained-POSIX-objects.patch\)](https://devel.rtems.org/ticket/2514/0001-RTEMS-Self-contained-POSIX-objects.patch)

---

#### Comment 1

1. **Sebastian Huber**, Thu, 07 Jan 2016 09:10:38 GMT

2. **description:** modified (diff)

#### Comment 2

1. **Sebastian Huber**, Fri, 08 Jan 2016 08:02:42 GMT

In fe100e16117c36c40e99a853d09cd8dcf98dbff0/rtems:

```
score: Add fatal errors for NULL entry init tasks
This simplifies the global construction.
Update #2514.
```

#### Comment 3

1. **Sebastian Huber**, Fri, 08 Jan 2016 08:37:30 GMT

In [44e987192e47910b8551a8f9409e9cd6133695d1/rtems]:

score: Avoid dead code in global construction

Update #2514.

#### Comment 4

1. **Sebastian Huber**, Mon, 11 Jan 2016 07:47:12 GMT

In ccd54344d904b657123e4e4ba795a32212382be2/rtems:

```
score: Introduce Thread_Entry_information
This avoids potential dead code in _Thread_Handler(). It gets rid of the dangerous function pointer casts.
Update #2514.
```

#### Comment 5

1. **Sebastian Huber**, Tue, 26 Jan 2016 09:26:22 GMT

In 885c342e043f2281a0bc707cd0bc59726d1c4b79/rtems:

```
mpci: Update due to API changes
Update due to API changes introduced by ccd54344d904b657123e4e4ba795a32212382be2.
Update #2514.
```

#### Comment 6

1. **Sebastian Huber**, Tue, 31 Jan 2017 09:13:49 GMT

2. **version:** 4.12 deleted

3. **milestone:** changed from 4.12 to 5.0

#### Comment 7

1. **Sebastian Huber**, Thu, 11 May 2017 10:05:24 GMT

The signals implementation has some (severe) defects:

#2100 #2263 #2607 #2716 #2690

Fixing them is a major work package. I suggest to enable the non-signal related stuff of the POSIX API by default.

#### Comment 8

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

**1. Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

```
4.12: Update to Newlib 2.5.0.20170922
The time_t is now a 64-bit signed integer.
This update includes a patch to introduce the self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

**Comment 9****1. Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

```
Enforce compatible Newlib version
This Newlib check ensures that we have a 64-bit time_t and self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

**Comment 10****1. Sebastian Huber**, Thu, 05 Oct 2017 12:36:18 GMT

In c090db7/rtems:

```
posix: Implement self-contained POSIX semaphores
For semaphore object pointer and object validation see POSIX_SEMAPHORE_VALIDATE_OBJECT().
Destruction or close of a busy semaphore returns an error status. The object is not flushed.
POSIX semaphores are now available in all configurations and no longer depend on --enable-posix.
Update #2514. Update #3116.
```

**Comment 11****1. Sebastian Huber**, Thu, 05 Oct 2017 12:36:31 GMT

In e67929c/rtems:

```
posix: Implement self-contained POSIX barriers
POSIX barriers are now available in all configurations and no longer depend on --enable-posix.
Update #2514. Update #3114.
```

**Comment 12****1. Sebastian Huber**, Thu, 05 Oct 2017 12:36:43 GMT

In 89fc9345/rtems:

```
posix: Implement self-contained POSIX rwlocks
POSIX rwlocks are now available in all configurations and no longer depend on --enable-posix.
Update #2514. Update #3115.
```

**Comment 13****1. Sebastian Huber**, Thu, 05 Oct 2017 12:36:56 GMT

In 5222488/rtems:

```
posix: Implement self-contained POSIX condvar
POSIX condition variables are now available in all configurations and no longer depend on --enable-posix.
Update #2514. Update #3113.
```

**Comment 14****1. Sebastian Huber**, Thu, 05 Oct 2017 12:37:09 GMT

In de59c065/rtems:

posix: Implement self-contained POSIX mutex  
POSIX mutexes are now available in all configurations and no longer depend on --enable-posix.  
Update #2514. Update #3112.

#### **Comment 15**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:43:49 GMT

In af9115f3/rtems:

posix: Simplify POSIX\_API\_Control  
Return stack area via pthread\_getattr\_np().  
Simplify  
pthread\_attr\_setaffinity\_np(), and pthread\_attr\_getaffinity\_np()  
and let the scheduler do the more sophisticated error checks.  
Make  
pthread\_setaffinity\_np(), pthread\_getaffinity\_np(), pthread\_attr\_setaffinity\_np(), and pthread\_attr\_getaffinity\_np()  
available in all configurations.  
Update #2514. Close #3145. Close #3168.

#### **Comment 16**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:44:03 GMT

In da9f5f1/rtems:

posix: Remove rtems\_pthread\_attribute\_compare()  
Update #2514. Close #3174.

#### **Comment 17**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:44:17 GMT

In 8c5267a/rtems:

posix: Simplify pthread\_attr\_setstack()  
Simplify  
pthread\_attr\_setstack(), and pthread\_attr\_setstacksize().  
Update #2514.

#### **Comment 18**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:44:29 GMT

In 4f9ed26/rtems:

posix: Constify default thread processor affinity  
Set default thread processor affinity to all processors of the pre-allocated set. This allows to constify the  
\_POSIX\_Threads\_Default\_attributes.  
Update #2514.

#### **Comment 19**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:44:43 GMT

In bd5be58f/rtems:

posix: Unconditional thread attribute support  
Update #2514.

#### **Comment 20**

1. **Sebastian Huber**, Wed, 11 Oct 2017 05:39:29 GMT

In a3ad4af/rtems:

posix: Validate affinity sets by the scheduler

**Comment 21**

1. **Sebastian Huber**, Wed, 11 Oct 2017 05:39:43 GMT

In b2dbb634/rtems:

```
score: Remove CPU_set_Control
Use Processor_mask instead.
Update #2514.
```

**Comment 22**

1. **Sebastian Huber**, Wed, 11 Oct 2017 06:34:14 GMT

In 16aaf73b/rtems:

```
smpaffinity01: Fix test case
Update #2514.
```

**Comment 23**

1. **Sebastian Huber**, Wed, 11 Oct 2017 12:09:24 GMT
2. **status**: changed from **new** to **accepted**
3. **summary**: changed from **Make POSIX API mandatory** to **Make POSIX API mandatory (except signals and the sporadic server)**
4. **component**: changed from **unspecified** to **posix**
5. **milestone**: changed from **5.0** to **4.12.0**

**Comment 24**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:20:28 GMT

In 58500540/rtems:

```
posix: Fix const qualifier warning
Update #2514. Update #3179.
```

**Comment 25**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:52:20 GMT

In 2be22d4/rtems:

```
posix: Move POSIX_API_Control::thread
This member is only used by the sporadic server support.
Update #2514.
```

**Comment 26**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:52:32 GMT

In 3f3f424/rtems:

```
posix: Remove POSIX_API_Control::schedparam
Move sporadic server scheduler parameters to POSIX_API_Control::Sporadic. Remove redundant scheduler priority parameter.
Update #2514.
```

**Comment 27**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:52:44 GMT

In 37eb717/rtems:

```
posix: Simplify _POSIX_Threads_Create_extension()
Move unblocked signals initialization to pthread_create().
```

Update #2514.

**Comment 28**

1. **Sebastian Huber**, Wed, 18 Oct 2017 07:34:22 GMT

In dbb30e26/rtems:

```
posix: Fix POSIX disabled build
```

Update #2514.

**Comment 29**

1. **Sebastian Huber**, Mon, 23 Oct 2017 05:13:34 GMT

In eeb8d83/rtems:

```
posix: Fix POSIX disabled build
```

Update #2514.

**Comment 30**

1. **Sebastian Huber**, Thu, 02 Nov 2017 10:25:59 GMT

In 81fd79d/rtems:

```
smppsxaffinity02: Fix thread attribute usage
```

```
The pthread_getattr_np() returns now the stack address and size. Do not use this stack for the new threads.
```

Update #2514. Update #3145. Update #3168.

**Comment 31**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 32**

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:13:44 GMT

In 7147dc4/rtems:

```
posix: Remove POSIX_API_Control::schedpolicy
```

```
Use the thread CPU budget algorithm to determine the scheduler policy. This fixes also pthread_getschedparam() for Classic tasks.
```

Update #2514.

**Comment 33**

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:13:56 GMT

In 64ba1a96/rtems:

```
posix: Change created_with_explicit_scheduler
```

```
Remove POSIX_API_Control::created_with_explicit_scheduler. Add Thread_Control::was_created_with_inherited_scheduler. This fixes also pthread_getattr_np() for Classic tasks.
```

Update #2514.

**Comment 34**

1. **Sebastian Huber**, Tue, 21 Nov 2017 07:09:15 GMT

In c0d602e/rtems:

```
posix: _POSIX_Threads_Get_sched_param_sporadic()
```

```
Remove api parameter to simplify the calling functions.
```

Update #2514.



**Comment 35**

1. **Sebastian Huber**, Mon, 18 Jun 2018 07:54:07 GMT

In 49fd910/rtems-docs:

```
c-user: Remove obsolete RTEMS_SYSINIT_CPU_SET
Update #2514.
```

**Comment 36**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:41:39 GMT

Sebastian.. since this hasn't been touched in a few months, is this complete?

**Comment 37**

1. **Sebastian Huber**, Mon, 15 Oct 2018 05:31:34 GMT

Progress on this ticket was blocked by several things. I hope to close it soon.

**Comment 38**

1. **Sebastian Huber**, Mon, 15 Oct 2018 06:21:45 GMT
2. **blockedby**: set to **3551**

**Comment 39**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:03:05 GMT

In dd804bb/rtems:

```
posix: Provide cancel state/type by default
Sort POSIX sources lexicographically in Makefile.am
Update #2514.
```

**Comment 40**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:03:09 GMT

In 0b2808ce/rtems:

```
posix: Provide scheduler support by default
Update #2514.
```

**Comment 41**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:03:12 GMT

In 8d81622/rtems:

```
posix: Provide non-thread functions by default
Update #2514.
```

**Comment 42**

1. **Sebastian Huber**, Thu, 25 Oct 2018 08:06:11 GMT

In 4a7be22/rtems:

```
posix: Fix build with POSIX API disabled
Update #2514.
```

**Comment 43**

1. **Sebastian Huber**, Thu, 25 Oct 2018 08:06:22 GMT

In 135cb10/rtems:

posix: Provide more functions by default  
Update #2514.

#### **Comment 44**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:11:25 GMT

In 0dbf67b/rtems:

posix: Provide aio\_suspend() by default  
Update #2514.

#### **Comment 45**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:11:34 GMT

In 5090a71b/rtems:

score: Remove bogus thread object name support  
Update #2514.

#### **Comment 46**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:11:42 GMT

In 7038271/rtems:

Remove RTEMS\_SCORE\_OBJECT\_ENABLE\_STRING\_NAMES  
Enable support for string objects names unconditionally. Add const qualifier throughout. Split \_Objects\_Namespace\_remove() into \_Objects\_Namespace\_remove\_u32() and \_Objects\_Namespace\_remove\_string() to avoid an unnecessary dependency on \_Workspace\_Free().  
Update #2514.

#### **Comment 47**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:11:58 GMT

In e97806a/rtems:

posix: Split posix\_api\_configuration\_table  
Use separate configuration variables to avoid false dependencies.  
Update #2514.

#### **Comment 48**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:06 GMT

In 9318cfb0/rtems:

posix: Provide named semaphores by default  
Update #2514.

#### **Comment 49**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:14 GMT

In 701057e0/rtems:

posix: Provide shared memory objects by default  
Update #2514.

#### **Comment 50**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:21 GMT

In fe7aefd5/rtems:

posix: Provide message queues by default  
Update #2514.

#### Comment 51

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:29 GMT

In 033f31c8/rtems:

posix: Hide POSIX\_API\_Control by default  
Update #2514.

#### Comment 52

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:37 GMT

In 54f35888/rtems:

posix: Provide threads by default  
Update #2514.

#### Comment 53

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:45 GMT

In ef16a11/rtems:

posix: Enable psxtmtests tests by default  
Update #2514.

#### Comment 54

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:12:54 GMT

In 24f3e8f/rtems:

posix: Enable more smptests tests by default  
Update #2514.

#### Comment 55

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:13:02 GMT

In 8dc1ed1/rtems:

posix: Enable more psxtests by default  
Update #2514.

#### Comment 56

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:13:10 GMT

In bb3484c9/rtems:

posix: Enable more sptests test cases by default  
Update #2514.

#### Comment 57

1. **Sebastian Huber**, Mon, 05 Nov 2018 06:19:24 GMT

2. **status:** changed from **accepted** to **closed**

3. **resolution:** set to **fixed**

In dd1c262/rtems-docs:

c-user: Update POSIX API configuration

Close ##2514.

### Comment 58

1. **Sebastian Huber**, Mon, 18 May 2020 07:05:33 GMT

In 934cbe7/rtems:

```
posix: Get real priority in pthread_getattr_np()
This is in line with pthread_setschedparam() and pthread_getschedparam().
Update #2514.
```

## 2515 - i386 score/libcpu API Layering Violation

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2515">https://devel.rtems.org/ticket/2515</a> ( <a href="https://devel.rtems.org/ticket/2515">https://devel.rtems.org/ticket/2515</a> )
<b>Id</b>	2515
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	8 January 2016 18:06:20
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	i386
<b>Cc</b>	Joel Sherrill
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 2

1. **Gedare Bloom**, Fri, 30 Jun 2017 13:26:04 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Fixed by 328bd350aa40bd6aff923cd2efd3c14d0c8e0ec4

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2527 - Move pc386/tools/bin2boot to rtems-tools

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2527">https://devel.rtems.org/ticket/2527</a> ( <a href="https://devel.rtems.org/ticket/2527">https://devel.rtems.org/ticket/2527</a> )
<b>Id</b>	2527
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 January 2016 00:36:55
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Per discussion with Chris. Begin to eliminate BSP specific tools.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Joel Sherrill**, Thu, 12 Oct 2017 00:02:55 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:31:00 GMT

This is one item that forces you to install a native compiler to build RTEMS.

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2529 - BSP for the Atmel SAM V71/V70/E70/S70 chip platform**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2529">https://devel.rtems.org/ticket/2529</a> ( <a href="https://devel.rtems.org/ticket/2529">https://devel.rtems.org/ticket/2529</a> )
<b>Id</b>	2529
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 January 2016 14:17:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

<http://www.atmel.com/products/microcontrollers/arm/sam-v-mcus.aspx>

**Comment 1**

1. **Sebastian Huber**, Tue, 19 Jan 2016 07:38:47 GMT

2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In f2e0f8e1a769231257f38a6bb6ab9ea9bbad452f/rtems:

```
bsp/atsam: New
Close #2529.
```

#### Comment 2

1. **Sebastian Huber**, Tue, 19 Jan 2016 07:48:01 GMT

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.

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT
2. **component:** changed from **bsps** to **arch/arm**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## **2536 - RSB allows use of insecure hash algorithms like MD5 and SHA1**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2536">https://devel.rtems.org/ticket/2536</a> ( <a href="https://devel.rtems.org/ticket/2536">https://devel.rtems.org/ticket/2536</a> )
<b>Id</b>	2536
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 January 2016 07:01:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

Support for these hashes should be removed. Hashes should be mandatory.

#### Comment 1

1. **Chris Johns**, Tue, 19 Jan 2016 23:04:04 GMT

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.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 3

1. **Chris Johns**, Thu, 12 Oct 2017 02:52:09 GMT
2. **owner:** set to **Chris Johns <chrisj@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In d94bd01/rtems-source-builder:

```
4.12: Update all MD5 hashes to SHA256.
Closes #2536.
```

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2537 - Use Newlib exec\*() variants and remove RTEMS versions**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2537">https://devel.rtems.org/ticket/2537</a> ( <a href="https://devel.rtems.org/ticket/2537">https://devel.rtems.org/ticket/2537</a> )
<b>Id</b>	2537
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	19 January 2016 18:32:05
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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.

### Comment 1

1. **Joel Sherrill**, Tue, 19 Jan 2016 18:33:27 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 22bb1b61cb4efe0c0dbe41057aac83bb5cffb5d3/rtems:

```
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.
```

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2542 - Review cxx\_iostream size change per function-section changes**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2542">https://devel.rtems.org/ticket/2542</a> ( <a href="https://devel.rtems.org/ticket/2542">https://devel.rtems.org/ticket/2542</a> )
<b>Id</b>	2542
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 January 2016 22:22:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Ralph Holmes
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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  
Date: Sat Jan 23 21:15:40 2016 +0000

powerpc/gen5200: Add per-section compilation and linking support.

For the brs5l BSP variant:

**Comment 1**

1. **Joel Sherrill**, Sat, 23 Jan 2016 22:25:02 GMT

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/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/av5282: Add per-section compilation and linking support. m68k/av5282: Add per-section compilation and linking support. m68k/av5282: 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/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/psb350: 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/rbt4925: Add per-section compilation and linking support. mips/rbt4938: 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/t32mpcc: 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.

**Comment 2**

1. **Joel Sherrill**, Sat, 23 Jan 2016 22:27:17 GMT

2. **owner:** set to **joel.sherrill@...**

3. **version:** changed from **4.10** to **4.12**

4. **component:** changed from **General** to **bsps**

5. **milestone:** changed from **4.11.1** to **4.12**

**Comment 3**

1. **Joel Sherrill**, Sat, 23 Jan 2016 22:36:47 GMT

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):

```
# This BSP does not either (a) use a shared linkcmds base file or (b) include # proper KEEP() directives in its linkcmds* files. Because of these arguments # can not currently be enabled.
```



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/gemuppc: 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/mvme147s: 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.

**Comment 4**

1. **Joel Sherrill**, Mon, 25 Jan 2016 20:14:25 GMT

In 449905a8acaa5eac214c51ef2547b0321e86d6b2/rtems:

```
m68k/mvme*: switch to shared linkcmds.base
updates #2542.
```

**Comment 5**

1. **Joel Sherrill**, Sat, 06 Feb 2016 16:26:17 GMT

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.

**Comment 6**

1. **Joel Sherrill**, Sat, 06 Feb 2016 16:26:33 GMT

2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 7**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2543 - Obsolete gen68302 BSP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2543">https://devel.rtems.org/ticket/2543</a> ( <a href="https://devel.rtems.org/ticket/2543">https://devel.rtems.org/ticket/2543</a> )
<b>Id</b>	2543
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 January 2016 22:41:25
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	admin@...
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Delete the gen68302 BSP after 4.11 and before 4.12.

**Attachments:**

1. **Aun-Ali Zaidi**, Mon, 03 Oct 2016 00:23:25 GMT

**attach**: set to 0001-cpukit-m68k-Remove-leftover-bits-of-gen68302-BSP.patch (<https://devel.rtems.org/ticket/2543/0001-cpukit-m68k-Remove-leftover-bits-of-gen68302-BSP.patch>)

**Comment 1**

1. **Aun-Ali Zaidi**, Mon, 03 Oct 2016 00:43:25 GMT
2. **cc:** **admin@...** added

**Comment 2**

1. **Aun-Ali Zaidi**, Mon, 03 Oct 2016 00:43:27 GMT
2. **cc:** **admin@...** added

**Comment 3**

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:49:47 GMT
2. **status:** changed from **new** to **assigned**

**Comment 4**

1. **Joel Sherrill**, Mon, 03 Apr 2017 23:17:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

This was removed.

**Comment 5**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2544 - Osolete m68k/ods68302**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2544">https://devel.rtems.org/ticket/2544</a> ( <a href="https://devel.rtems.org/ticket/2544">https://devel.rtems.org/ticket/2544</a> )
<b>Id</b>	2544
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 January 2016 22:46:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Obsolete and remove the ods68302 BSP before 4.12.

**Comment 1**

1. **Joel Sherrill**, Sat, 23 Jan 2016 22:47:08 GMT
2. **description:** modified (diff)
3. **summary:** changed from **Osolete m68k/ods302** to **Osolete m68k/ods68302**

**Comment 2**

1. **Aun-Ali Zaidi**, Mon, 03 Oct 2016 00:48:55 GMT
- Duplicate of #2543.

**Comment 3**

1. **Aun-Ali Zaidi**, Mon, 03 Oct 2016 00:49:13 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **duplicate**

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2545 - Obsolete mbx8xx BSP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2545">https://devel.rtems.org/ticket/2545</a> ( <a href="https://devel.rtems.org/ticket/2545">https://devel.rtems.org/ticket/2545</a> )
<b>Id</b>	2545
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 January 2016 22:48:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Obsolete and remove.

**Comment 1**

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:49:47 GMT
2. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Mon, 03 Apr 2017 23:18:15 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

This is done.

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2546 - Obsolete idp BSP**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2546">https://devel.rtems.org/ticket/2546</a> ( <a href="https://devel.rtems.org/ticket/2546">https://devel.rtems.org/ticket/2546</a> )
<b>Id</b>	2546
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 January 2016 23:52:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	arch/m68k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Obsolete and remove the m68k/idp BSP before the 4.12 release.

**Comment 1**

1. **Joel Sherrill**, Sat, 23 Jan 2016 23:57:02 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In f2ab5bc5943e1817540804117c4626151759681c/rtems:

```
Remove m68k/idp BSP
closes #2546.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:57:31 GMT
2. **component**: changed from **bsps** to **arch/m68k**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2553 - [mvme3100] boot\_card() broken by 37030e38**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2553">https://devel.rtems.org/ticket/2553</a> ( <a href="https://devel.rtems.org/ticket/2553">https://devel.rtems.org/ticket/2553</a> )
<b>Id</b>	2553
<b>Reporter</b>	Nick Withers
<b>Created</b>	27 January 2016 04:40:40
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Backtrace with 37030e38\_\_\*\_\_ (with a fatal exception handler installed):

```
#0 fatal extension (the_source=INTERNAL_ERROR_CORE, is_internal=true, the_error=23) at init.c:425
#1 0x000a6d18 in User_extensions_Iterate (arg=arg@entry=0xlab6348, visitor=0xa6c70 <User_extensions_Fatal_visitor>) at
../rtems/c/src/./cpukit/score/src/userextiterate.c:155
#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
#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
#4 0x0007ad40 in RTEMS_Malloc_Initialize (areas=areas@entry=0xlab6398, area_count=area_count@entry=1, extend=extend@entry=0x0)
at ../rtems/c/src/./cpukit/libcsupport/src/malloc_initialize.c:53
#5 0x0005cf84 in bsp_work_area_initialize_default (area_size=, area_begin=) at
../mvme3100/lib/include/bsp/bootcard.h:183
#6 bsp_work_area_initialize () at
../rtems/c/src/lib/libbsp/powerpc/mvme3100/././powerpc/shared/startup/bspgetworkarea.c:23
#7 0x0005ceec4 in boot_card (cmdline=) at ../shared/bootcard.c:80
#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>

#### Attachments:

##### 1 Sebastian Huber, Wed, 27 Jan 2016 06:36:27 GMT

attach: set to 0001-bsps-powerpc-Fix-startup.patch (<https://devel.rtems.org/ticket/2553/0001-bsps-powerpc-Fix-startup.patch>)

#### Comment 1

1. Sebastian Huber, Wed, 27 Jan 2016 06:36:44 GMT
2. owner: set to Sebastian Huber
3. status: changed from new to assigned

#### Comment 2

1. Nick Withers, Wed, 27 Jan 2016 10:23:29 GMT

Thank you again Sebastian, that's worked a treat!

#### Comment 3

1. Sebastian Huber, Wed, 27 Jan 2016 10:32:49 GMT
2. status: changed from assigned to closed
3. resolution: set to fixed

In ab8e821c9ee36dc5c3b429c2ca28e90b2c30432f/rtems:

```
bsps/powerpc: Fix startup
```

```
Do work area initialization after bsp_start() for BSPs using the shared PowerPC work area initialization.
```

```
Close #2553.
```

#### Comment 4

1. Sebastian Huber, Thu, 11 May 2017 07:31:02 GMT
2. milestone: changed from 4.12 to 4.12.0

#### Comment 5

1. Sebastian Huber, Tue, 10 Oct 2017 06:56:19 GMT
2. component: changed from bsp to arch/powerpc

#### Comment 6

1. Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT
2. milestone: changed from 4.12.0 to 5.1

Milestone renamed

## 2554 - New watchdog handler implementation

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2554">https://devel.rtems.org/ticket/2554</a> ( <a href="https://devel.rtems.org/ticket/2554">https://devel.rtems.org/ticket/2554</a> )
<b>Id</b>	2554
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 January 2016 08:28:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

## Description

### 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 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.

## Attachments:

- 
- 1 Sebastian Huber, Wed, 02 Mar 2016 08:02:23 GMT**  
**attach:** set to [tmtime01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png](https://devel.rtems.org/ticket/2554/tmtime01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png) (<https://devel.rtems.org/ticket/2554/tmtime01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png>)
  - 2 Sebastian Huber, Wed, 02 Mar 2016 08:02:37 GMT**  
**attach:** set to [tmtime01-T4240-next.png](https://devel.rtems.org/ticket/2554/tmtime01-T4240-next.png) (<https://devel.rtems.org/ticket/2554/tmtime01-T4240-next.png>)
- 

## Comment 1

- 1 Sebastian Huber, Wed, 27 Jan 2016 09:39:52 GMT**

Profiling data (reduced to show only relevant information) obtained on the 24-processor T4240 system using the `smptests/smpwakeafter01` test.

```

3128351
97821
1435132321
14671
0
21766
10040
124466623
12396

```

```

1548547
79339
1621381982
20436
0
37
11
32946
2791

```

```

14893
2978
32
55
1158320573
2009011082
35986044
6874
6187
8266
35964717

```

```

1803
29041
105
5514
87844
4582492
831
831
0
0
0

```

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.

#### Comment 2

1. **Sebastian Huber**, Thu, 04 Feb 2016 11:59:40 GMT
2. **status:** changed from **new** to **accepted**

#### Comment 3

1. **Sebastian Huber**, Wed, 17 Feb 2016 10:54:37 GMT
- In 10f28914f8bac5b8676ce1b9cc7efecb2b33bb3/rtems:

```

smptests/smpwakeafter01: Add scheduler config
Update #2554.

```

#### Comment 4

1. **Joel Sherrill**, Thu, 18 Feb 2016 19:58:15 GMT

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.

#### Comment 5

1. **Sebastian Huber**, Wed, 02 Mar 2016 08:01:39 GMT

In f831eff7387d9a4ae8460d639da660d5ae2ce4fa/rtems:

```

tmtests/tmtimer01: New test
Test run performed on T4240 running at 1667MHz in uni-processor configuration.
Update #2554.

```

#### Comment 6

1. **Sebastian Huber**, Wed, 02 Mar 2016 08:19:43 GMT

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]:

```
0639732901527
2198615501314
4155121343072
7254535113404
10159523634287
14147327406069
5577219791181555721907509
6550324041369459126215885
Last>
```

#### **Comment 7**

1. **Sebastian Huber**, Wed, 02 Mar 2016 08:22:54 GMT

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:

```
088121412917
2160210101367
4152410891086
7179111211838
10148810162134
14152716983186
5577289491003116262
6550391991030919090
```

#### **Comment 8**

1. **Sebastian Huber**, Wed, 02 Mar 2016 09:26:19 GMT

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.



```

85615
15508
563813241
36355
0
4771
482
11144389
23082

53595
14437
493386525
34175
0
3094
844
8783271
10398

87633
15055
561768649
37314
0
4884
447
10309678
23056

1924
89496
116
4644
119374
4751695
1023
1023
0
0
0

54115
9609
1154
881
1357899955
1035917001
1175742
16188
14403
14350
1130801

686
2220
61
78
4271819
5394270
68964
68964
0
0
0

```

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.

#### **Comment 9**

1. **Sebastian Huber**, Fri, 04 Mar 2016 13:59:46 GMT

[5b0d2c1965e1dab2915231866aaa5623ced66330/rtems] [90d8567d34a6d80da04b1cb37b667a3173f584c4/rtems]  
 [03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

#### **Comment 10**

1. **Sebastian Huber**, Fri, 18 Mar 2016 06:47:28 GMT

In 90de3001089a8de300d9339b2d8d49a51ebd9674/rtems:

score: Destroy thread timer lock

Update #2554.

#### **Comment 11**

1. **Sebastian Huber**, Thu, 12 May 2016 11:35:43 GMT

In 1379d840a483ccdce109fa8e45ef63d51a6e8e00/rtems:

smptests/smpcapture02: Adjust for clock changes

Fix overall clock tick count. Change introduced by 90d8567d34a6d80da04b1cb37b667a3173f584c4.

Update #2554.

**Comment 12**

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT
2. **priority**: changed from **normal** to **high**

**Comment 13**

1. **Sebastian Huber**, Mon, 30 Jan 2017 12:53:21 GMT  
[a17535d222a1268542e97c7e6c1b2fdf045e46d8/rtems-docs]

**Comment 14**

1. **Sebastian Huber**, Mon, 30 Jan 2017 13:22:58 GMT  
[1161ed179c0be212b7909d6a761bfc31cacf4ca3/rtems-docs]

**Comment 15**

1. **Sebastian Huber**, Mon, 30 Jan 2017 13:23:07 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

**Comment 16**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 17**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2555 - Eliminate the Giant lock**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2555">https://devel.rtems.org/ticket/2555</a> ( <a href="https://devel.rtems.org/ticket/2555">https://devel.rtems.org/ticket/2555</a> )
<b>Id</b>	2555
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 January 2016 08:35:06
<b>Modified</b>	15 December 2017 06:24:12
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

## 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.

#### Comment 1

1. **Sebastian Huber**, Thu, 04 Feb 2016 11:59:58 GMT
2. **status**: changed from **new** to **accepted**

#### Comment 2

1. **Sebastian Huber**, Fri, 04 Mar 2016 14:01:28 GMT  
[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

#### Comment 3

1. **Sebastian Huber**, Fri, 04 Mar 2016 14:16:29 GMT  
In 9f5754b5c226202d0a35eb729e68cdd3a26c65fc/rtems:

```
bsps: Avoid Giant lock in simulator clock driver
Update #2555.
```

#### Comment 4

1. **Sebastian Huber**, Mon, 07 Mar 2016 07:38:38 GMT  
Depends on #2625, #2626, #2627, #2628. #2630 and #2631.

#### Comment 5

1. **Sebastian Huber**, Mon, 14 Mar 2016 08:31:00 GMT  
In 77e6eba7146ba2e2074b719eec01cc7c40bbe98b/rtems:

```
score: Add and use _Objects_Get_local()
This simplifies the handling with local-only objects.
Update #2555.
```

#### Comment 6

1. **Sebastian Huber**, Tue, 15 Mar 2016 07:13:12 GMT  
In 18ff88962458f9b0aa1150a4cfc89ac5bdd622e7/rtems:

score: Use ISR lock for IO driver registration  
Create implementation header file.  
Update #2555.

### Comment 7

1. **Sebastian Huber**, Tue, 15 Mar 2016 07:13:27 GMT

In df91dd9f34686567042b055a623ee2db9dbe7ae6/rtems:

monitor: Use object allocator lock  
Use object allocator lock instead of disabled thread dispatching.  
Update #2555.

### Comment 8

1. **Sebastian Huber**, Wed, 16 Mar 2016 06:17:33 GMT

In 05ef28754ea2920133f24ce0d3c6e274408c3b75/rtems:

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.

### Comment 9

1. **Sebastian Huber**, Wed, 16 Mar 2016 06:20:19 GMT

In 474b9beea5fd6153ffa8ffe10d09acdaa8609da/rtems:

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.

### Comment 10

1. **Sebastian Huber**, Thu, 17 Mar 2016 08:03:25 GMT

In 75aef54d16baab507134a5011e955151b990dcf6/rtems:

posix: Avoid Giant lock in sched\_yield()  
Update #2555.

### Comment 11

1. **Sebastian Huber**, Thu, 17 Mar 2016 08:03:38 GMT

In f5bb299190750189e89849a178173a21d1afd104/rtems:

rtems: Avoid Giant lock in rtems\_task\_mode()  
Update #2555.

### Comment 12

1. **Sebastian Huber**, Thu, 17 Mar 2016 08:03:50 GMT

In 92dee4ab9cf806553d0cdaeb4968d25ced4a8b3a/rtems:

rtems: Avoid Giant lock in rtems\_signal\_catch()  
Update #2555.

### Comment 13

1. **Sebastian Huber**, Mon, 21 Mar 2016 06:45:36 GMT

In be8897644043e4378db7add02c3c9e1ac7fde563/rtems:

mpci: Avoid Giant lock  
The object creation/deletion is protected by the object allocator lock.  
Update #2555.

#### **Comment 14**

1. **Sebastian Huber**, Tue, 22 Mar 2016 06:44:37 GMT

In 30cac38f157f0b4bd10a9b310e3dd6fdcf1d242e/rtems:

rtems: Use object allocator lock  
Object creation and destruction is protected by the object allocator lock and not disabled thread dispatching.  
Update #2555.

#### **Comment 15**

1. **Sebastian Huber**, Tue, 22 Mar 2016 07:05:48 GMT

In 865f110b58d944db72a71296fe3f15a4b8de097a/rtems:

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.

#### **Comment 16**

1. **Sebastian Huber**, Tue, 29 Mar 2016 11:43:38 GMT

In 3feca902a2e2dac8e07637be6f5a68524a76f85a/rtems:

score: Fix \_Objects\_MP\_Is\_remote()  
Bug introduced by be8897644043e4378db7add02c3c9e1ac7fde563.  
Update #2555.

#### **Comment 17**

1. **Sebastian Huber**, Thu, 31 Mar 2016 11:57:24 GMT

In c01401c48128218189c0d50743c47679bcad7e0c/rtems:

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.

#### **Comment 18**

1. **Sebastian Huber**, Wed, 06 Apr 2016 08:32:19 GMT

In d995a263b5de31583cd269c71a5ef760e98e8f26/rtems:

score: Delete \_Chain\_Append()  
This function is not used in the score.  
Update #2555.

#### **Comment 19**

1. **Sebastian Huber**, Tue, 19 Apr 2016 05:23:00 GMT

In 362722795abb917fb53d8903eae450c78ba43be4/rtems:

sapi: Avoid Giant lock for extensions  
Extension create and delete is protected by the object allocator lock.  
Update #2555.

**Comment 20**

1. **Sebastian Huber**, Tue, 19 Apr 2016 05:23:26 GMT

In 709f38a97287ff1aa8e8c0668c2d066e711db87c/rtems:

```
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.
```

**Comment 21**

1. **Sebastian Huber**, Thu, 21 Apr 2016 05:34:38 GMT

In 48b04fc388a60fc6621233ddb7cd65d89bb63d8/rtems:

```
posix: Avoid Giant lock for mutexes
Delete _POSIX_Mutex_Get(). Use _POSIX_Mutex_Get_interrupt_disable() instead.
Update #2555.
```

**Comment 22**

1. **Sebastian Huber**, Thu, 21 Apr 2016 05:34:49 GMT

In adbedd10cfe5259018b1682d903ab40f6005b3f0/rtems:

```
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.
```

**Comment 23**

1. **Sebastian Huber**, Wed, 27 Apr 2016 06:51:34 GMT

In 7f4ee2b4ae39928ab5f449048e562ef6b2c5d17d/rtems:

```
posix: Avoid Giant lock for condition variables
Update #2555.
```

**Comment 24**

1. **Sebastian Huber**, Mon, 02 May 2016 10:07:32 GMT

In 7e66865e17d7a82add541056de13717793da002a/rtems:

```
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.
```

**Comment 25**

1. **Sebastian Huber**, Mon, 02 May 2016 10:07:42 GMT

In 6741d30a310695f4fe4c8accb86ccf7389567bd/rtems:

```
rtems: Avoid Giant lock for message queues
Update #2555.
```

**Comment 26**

1. **Sebastian Huber**, Mon, 02 May 2016 10:07:53 GMT

In c8982e5f6a4857444676165deab1e08dc91a6847/rtems:

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.

### **Comment 27**

1. **Sebastian Huber**, Mon, 02 May 2016 10:08:03 GMT

In f009ed086d3da813a2c92b9834c3b2d618894883/rtems:

rtems: Avoid Giant lock for semaphores  
Update #2555.

### **Comment 28**

1. **Sebastian Huber**, Mon, 02 May 2016 10:08:13 GMT

In f4d541ccfe6a6e64a06cbf89bc7b03e045f62281/rtems:

rtems: Avoid Giant lock in `rtems_object_set_name()`  
Update #2555.

### **Comment 29**

1. **Sebastian Huber**, Mon, 02 May 2016 10:08:22 GMT

In 77726405fab31a04834e95968d1942fc81d0644d/rtems:

score: `_Objects_Get_name_as_string()`  
Avoid Giant lock in `_Objects_Get_name_as_string()`.  
Update #2555.

### **Comment 30**

1. **Sebastian Huber**, Mon, 02 May 2016 10:08:41 GMT

In 1ef8e4a8e93a848e2a68f37e029039300f1c936b/rtems:

score: Avoid Giant lock for set time of day  
Update #2555. Update #2630.

### **Comment 31**

1. **Sebastian Huber**, Mon, 02 May 2016 10:09:10 GMT

In 259d885168b548b5e5bea5067f112a0d8b94d167f/rtems:

posix: Remove superfluous thread dispatch disable  
The `_Thread_queue_Enqueue_critical()` already deals with thread dispatching.  
Update #2555.

### **Comment 32**

1. **Sebastian Huber**, Mon, 02 May 2016 10:09:20 GMT

In 66374dfc0c42066fac5f9a62475029711baac735/rtems:

posix: Avoid Giant lock in `_POSIX_signals_Send()`  
Update #2555. Update #2690.

### **Comment 33**

1. **Sebastian Huber**, Wed, 04 May 2016 05:29:06 GMT

[1d40d81b4b8dd50e4162b0b79b60d3312d2744e5/rtems]

**Comment 34**

1. **Sebastian Huber**, Wed, 04 May 2016 05:55:38 GMT

In b30ab250f0967920d6c08eae776fb82e717da182/rtems:

```
mpci: Avoid Giant lock in _MPCI_Process_response()
Update #2555. Update #2703.
```

**Comment 35**

1. **Sebastian Huber**, Fri, 06 May 2016 06:18:14 GMT

In bb2ad039a7246eecd65592a5116c86d3dede34b/rtems:

```
rtems: Avoid Giant lock for signals
Update #2555.
```

**Comment 36**

1. **Sebastian Huber**, Fri, 06 May 2016 06:18:27 GMT

In 64051ec80b55c3945ace509fa275c21ab8c89ab1/rtems:

```
posix: Avoid Giant lock in pthread_equal()
Update #2555.
```

**Comment 37**

1. **Sebastian Huber**, Fri, 06 May 2016 06:18:40 GMT

In f65f803a269784f6f05658054dd1709497ca5049/rtems:

```
score: Avoid Giant lock for CBS scheduler
Update #2555.
```

**Comment 38**

1. **Sebastian Huber**, Thu, 12 May 2016 11:34:25 GMT

In 4d76300ae524f798bf665f6c28dca420fd23a59c/rtems:

```
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.
```

**Comment 39**

1. **Sebastian Huber**, Thu, 12 May 2016 11:34:34 GMT

In 11c66437e750e6f8c464a96476c5f5221c1808a6/rtems:

```
rtems: Avoid Giant lock rtems_task_is_suspended()
Update #2555.
```

**Comment 40**

1. **Sebastian Huber**, Thu, 12 May 2016 11:34:44 GMT

In bd12dda405e1bab16c522f7ef0dd2b455230d269/rtems:

```
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.
```

**Comment 41**



1. **Sebastian Huber**, Thu, 12 May 2016 11:34:54 GMT

In e135271b933c896068a343b161773ce3b685be43/rtems:

```
score: Avoid Giant lock _Scheduler_Set_affinity()
Update #2555.
```

#### **Comment 42**

1. **Sebastian Huber**, Thu, 12 May 2016 11:35:04 GMT

In d99529999451043166c6dbf3ef22be42463e16f3/rtems:

```
score: Avoid Giant lock _Scheduler_Get_affinity()
Update #2555.
```

#### **Comment 43**

1. **Sebastian Huber**, Thu, 12 May 2016 11:35:13 GMT

In 8bc6bf28aa098a03c25763e3c59274874bfbe3da/rtems:

```
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.
```

#### **Comment 44**

1. **Sebastian Huber**, Thu, 12 May 2016 11:35:23 GMT

In ef6f8a8377964a2d94eb7215724d11b499ec078b/rtems:

```
score: Avoid Giant lock for scheduler set/get
Update #2555.
```

#### **Comment 45**

1. **Sebastian Huber**, Fri, 20 May 2016 05:56:47 GMT

In e75374870375099eb097f189905be709008fb3c0/rtems:

```
score: Delete redundant thread life enums
This makes it easier to add more states in the future.
Update #2555. Update #2626.
```

#### **Comment 46**

1. **Sebastian Huber**, Fri, 20 May 2016 05:56:57 GMT

In b7f5e391c0c0e94e5958a294e5d38b1dda7332cc/rtems:

```
score: Add _Thread_Exit()
The goal is to make _Thread_Exit() a no-return function in follow up patches.
Update #2555. Update #2626.
```

#### **Comment 47**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:07 GMT

In 270394eef82ae584477cb9c443d4a5c8e67978eb/rtems:

```
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.
```

**Comment 48**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:17 GMT

In 69c722f3f6ac84eca42e68eda0e1ed63fd3702e7/rtems:

```
score: Delete unused variable
Update #2555. Update #2626.
```

**Comment 49**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:27 GMT

In 9949d8a7d042da7ba53516300db5c34c8b9c8a31/rtems:

```
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.
```

**Comment 50**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:37 GMT

In 7023d82ca6bdf7e0fa1d1c10481671dd744d894/rtems:

```
score: Add _Thread_Raise_real_priority()
Update #2555. Update #2626.
```

**Comment 51**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:47 GMT

In c99eb50b9f66e76cdd6aa0833321550c9b9e655c/rtems:

```
score: Rework _Thread_Exit()
Rework _Thread_Exit() to use _Thread_Change_life_locked().
Update #2555. Update #2626.
```

**Comment 52**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:57 GMT

In 232147ddc12d45ff7872f72a790077c26fe5ca0a/rtems:

```
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.
```

**Comment 53**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:07 GMT

In 9a99ce15d0878d847b4c7e054eb2996a9f5fbc34/rtems:

```
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.
```

**Comment 54**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:17 GMT

In f410ea82a4b9d5609ce170d2aa09027b5a7c4c50/rtems:

```
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.

#### **Comment 55**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:27 GMT

In 0475cca9a015a7b43209270ca6e40aebf177639a/rtems:

score: Add `_Thread_Dispatch_disable_with_CPU()`

Update #2555. Update #2626.

#### **Comment 56**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:37 GMT

In 938839077741d2eac82d9d86705c16e0b9de8379/rtems:

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.

#### **Comment 57**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:47 GMT

In 862a0eeb1197539c0e69381cb5aacb9e1c64c0f/rtems:

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.

#### **Comment 58**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:58 GMT

In ef09017ebb6ac9c1309df4e827b240c14e6dbaa9/rtems:

score: Rework `_Thread_Cancel()`

Rework `_Thread_Cancel()` to use `_Thread_Change_life_locked()`.

Update #2555. Update #2626.

#### **Comment 59**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:08 GMT

In 29e1ecab875c3121357f27e0676913d9ca96183f/rtems:

score: Simplify `_Thread_Life_action_handler()`

Use `_Thread_Change_life_locked()` to avoid duplicated code. Avoid Giant lock in `_Thread_Life_action_handler()`.

Update #2555. Update #2626.

#### **Comment 60**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:18 GMT

In 54550e048d3a49435912797d2024f80671e93267/rtems:

posix: Rework `pthread_join()`

Rework `pthread_join()` to use `_Thread_Join()`.

Close #2402. Update #2555. Update #2626. Close #2714.

#### **Comment 61**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:29 GMT

In 33829ce155069462ba410d396da431386369ed08/rtems:

score: Avoid Giant lock for `_Thread_Start()`  
Update #2555.

#### **Comment 62**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:39 GMT

In da82656065d09f7b6aa411ba361287afd787204/rtems:

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.

#### **Comment 63**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:49 GMT

In 64fe16636b45d7a3d64654707234b885f7ccbaf6/rtems:

posix: Avoid Giant lock for `pthread_kill()`  
Update #2555.

#### **Comment 64**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:00 GMT

In f36ada320dc075503a2c878bc4f9f7ff9d761d41/rtems:

rtems: Avoid Giant lock for `rtems_task_delete()`  
Update #2555.

#### **Comment 65**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:09 GMT

In 92f6883073126f96973252cd57a5c7e24d88d412/rtems:

sptestests/spintrcritical22: Avoid `_Objects_Get()`  
Use `_Semaphore_Get_interrupt_disable()` instead.  
Update #2555.

#### **Comment 66**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:19 GMT

In 5eac967651866b0501593dcfea458452ef9e9128/rtems:

testsuites: Replace `_Thread_Get()`  
Replace `_Thread_Get()` with `_Thread_Get_interrupt_disable()` to avoid the Giant lock.  
Update #2555.

#### **Comment 67**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:29 GMT

In 23294fd2255031eefe708075064f58bf54d43279/rtems:

score: Delete unused `_Thread_Get()`  
Update #2555.

#### **Comment 68**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:39 GMT

In ee710ef483b76ebbd54cdc8fac05a228d9ef30ff/rtems:

```
score: Delete unused _Objects_Get()
Update #2555.
```

### **Comment 69**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:48 GMT

In b80156cf15a9e080e8608a30e3e2795211c03f3e/rtems:

```
score: Avoid Giant _Objects_Extend_information()
Avoid Giant lock for _Objects_Extend_information().
Update #2280. Update #2555.
```

### **Comment 70**

1. **Sebastian Huber**, Fri, 20 May 2016 06:00:59 GMT

In dab902d5b2688fe958118299f7d44d1adbf13878/rtems:

```
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.
```

### **Comment 71**

1. **Sebastian Huber**, Fri, 20 May 2016 06:01:09 GMT

In d2bacb6c38c2bc0e47524b943200e16ad3c26bd8/rtems:

```
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.
```

### **Comment 72**

1. **Sebastian Huber**, Fri, 20 May 2016 06:01:19 GMT

In 4b04cb61552dbaa1a42a64e2f7b823708127e488/rtems:

```
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.
```

### **Comment 73**

1. **Sebastian Huber**, Fri, 20 May 2016 06:01:29 GMT

In 247131632173158cb2668d4e5c7464951b668067/rtems:

```
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.
```

### **Comment 74**

1. **Sebastian Huber**, Fri, 20 May 2016 06:01:39 GMT

In c2f301b580ebb4a46d657651a814bc9348103546/rtems:

```
score: Rename _ISR_Flash() into _ISR_Local_flash()
```

This is a preparation to remove the Giant lock.  
Update #2555.

**Comment 75**

1. **Sebastian Huber**, Fri, 20 May 2016 06:01:48 GMT  
In ceb0f6597c36fabbfcbdf0807fd87dd03a45cc5e/rtems:

score: Remove the Giant lock  
Update #2555.

**Comment 76**

1. **Sebastian Huber**, Mon, 19 Dec 2016 13:47:29 GMT
  2. **status**: changed from **accepted** to **closed**
  3. **resolution**: set to **fixed**
- [09078e0e51531f3b8e166506bdf4719f5ff78717/rtems-docs]

**Comment 77**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 78**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 79**

1. **Sebastian Huber**, Fri, 15 Dec 2017 06:24:12 GMT  
In e1563f37/rtems:

posix: Remove unused global variable  
Update #2702. Update #2555.

**2556 - Implement the O(m) Independence-Preserving Protocol (OMIP)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2556">https://devel.rtems.org/ticket/2556</a> ( <a href="https://devel.rtems.org/ticket/2556">https://devel.rtems.org/ticket/2556</a> )
<b>Id</b>	2556
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 January 2016 08:45:27
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 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 CA and the remaining processors are assigned to a cluster CB 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.

```
pre_emption_intervention(executing):
  if executing.resource_count > 0:
    executing.lock()
    if executing.is_ready():
      for scheduler in executing.schedulers:
        scheduler.lock()
      if !executing.is_scheduled():
        for scheduler in executing.schedulers:
          scheduler.ask_for_help(executing)
      for scheduler in executing.schedulers:
        scheduler.unlock()
    else if executing.active_help_level > 0:
      idle.use(executing.scheduler_node)
    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.

```
typedef struct Thread_Priority_node {
  Priority_Control current_priority;
  Priority_Control real_priority;
  struct Thread_Priority_node *owner;
  RBTNode Node;
  RBTControl Inherited_priorities;
} Thread_Priority_node;
typedef struct {
  ...
  Thread_Priority_node *priority_nodes; /* One per scheduler instances */
  ...
} 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.

#### Attachments:

- 1 Sebastian Huber, Wed, 27 Jan 2016 08:49:03 GMT  
attach: set to [resource.png \(https://devel.rtems.org/ticket/2556/resource.png\)](https://devel.rtems.org/ticket/2556/resource.png)
- 2 Sebastian Huber, Wed, 27 Jan 2016 08:49:16 GMT  
attach: set to [help.png \(https://devel.rtems.org/ticket/2556/help.png\)](https://devel.rtems.org/ticket/2556/help.png)

#### Comment 1

1. **Sebastian Huber**, Wed, 27 Jan 2016 08:46:27 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Sebastian Huber**, Wed, 27 Jan 2016 08:52:02 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Wed, 27 Jan 2016 08:54:45 GMT

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.

**Comment 4**

1. **Sebastian Huber**, Thu, 04 Feb 2016 12:00:29 GMT
2. **status:** changed from **new** to **accepted**

**Comment 5**

1. **Sebastian Huber**, Thu, 12 May 2016 11:34:06 GMT

In 6e4f929296b1cfd50fc8f41f117459e65214b816/rtems:

```
score: Introduce thread state lock
Update #2556.
```

**Comment 6**

1. **Sebastian Huber**, Fri, 20 May 2016 14:13:25 GMT

In 7dfb4b970cbd22cef170b2f45a41f445406a2ce5/rtems:

```
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.
```

**Comment 7**

1. **Sebastian Huber**, Fri, 20 May 2016 14:13:35 GMT

In 8a040fe4eeb9f7ba5c9f95f8abd45b9b6d5f7c4b/rtems:

```
score: Use _RBTree_Insert_inline()
Use _RBTree_Insert_inline() for priority thread queues.
Update #2556.
```

**Comment 8**

1. **Sebastian Huber**, Wed, 22 Jun 2016 12:47:47 GMT

In 77f5599e0d8e6d91190a379be21a332f83252b0/rtems:

```
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.
```

**Comment 9**

1. **Sebastian Huber**, Wed, 22 Jun 2016 12:48:45 GMT

In 9bfad8cd519f17cbb26a672868169fcd304d5bd5/rtems:



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.

#### **Comment 10**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:15 GMT

In f4d1f307926b6319e5d3b325dbe424901285dec1/rtems:

score: Split `_Thread_Change_priority()`

Update #2412. Update #2556. Update #2765.

#### **Comment 11**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:26 GMT

In ac8402ddd6e4a8eb6defb98220d39d4c20a6f025/rtems:

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.

#### **Comment 12**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:36 GMT

In 3a58dc863157bb21054a144c1a21b690544c0d23/rtems:

score: Priority inherit thread queue operations

Move the priority change due to priority inheritance to the thread queue enqueue operation to simplify the locking on SMP configurations.

Update #2412. Update #2556. Update #2765.

#### **Comment 13**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:46 GMT

In 1fcac5adc5ed38fb88ce4c6d24b2ca2e27e3cd10/rtems:

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.

#### **Comment 14**

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:57 GMT

In d79df38c2bea50112214ade95776cb90d693e390/rtems:

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.

#### **Comment 15**

1. **Sebastian Huber**, Wed, 03 Aug 2016 11:58:00 GMT

In ff2e6c647d166fa54769f3c300855ef7f8020668/rtems:

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.

### **Comment 16**

1. **Sebastian Huber**, Thu, 04 Aug 2016 06:29:02 GMT

In 1c1e31f788b85bf3bcadea675110eec35a612eb4/rtems:

score: Optimize `_Thread_queue_Path_release()`

Update #2556.

### **Comment 17**

1. **Sebastian Huber**, Thu, 08 Sep 2016 07:57:08 GMT

In e27421f38661ea18b2a663776ad524afadeba607/rtems:

score: Move scheduler node to own header file

This makes it possible to add scheduler nodes to structures defined in .

Update #2556.

### **Comment 18**

1. **Sebastian Huber**, Thu, 08 Sep 2016 07:57:18 GMT

In 15b5678dcd72a11909a54b63ddc8e57869d63244/rtems:

score: Move thread wait node to scheduler node

Update #2556.

### **Comment 19**

1. **Sebastian Huber**, Thu, 08 Sep 2016 07:57:27 GMT

In 52a661e8f8124b77b29a2ed44c7814fd0a7cf358/rtems:

score: Add scheduler node implementation header

Update #2556.

### **Comment 20**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:05:43 GMT

In 300f6a481aaf9e6d29811faca71bf7104a01492c/rtems:

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.

### **Comment 21**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:05:58 GMT

In 5d6b21198140f406a71599a2d388b6ec47ee3337/rtems:

score: Add scheduler node table for each thread

Update #2556.

### **Comment 22**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:06:10 GMT

In 266d3835d883f908c0e4cbf547359d683f72dcc4/rtems:

```
score: Manage scheduler nodes via thread queues
Update #2556.
```

#### **Comment 23**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:06:34 GMT

In 8123cae864579219e5003a67b451ca4cc07d998b/rtems:

```
rtems: Add rtems_task_get_priority()
Update #2556. Update #2784.
```

#### **Comment 24**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:06:48 GMT

In f6142c19f192e40ee1aa9ff67eb1c711343c157d/rtems:

```
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.
```

#### **Comment 25**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:06:30 GMT

In d097b54633fe98d4370154de5bdea44c32e81648/rtems:

```
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.
```

#### **Comment 26**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:06:40 GMT

In 501043a18bae037ca7195ce6989d3ffa8cc72660/rtems:

```
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.
```

#### **Comment 27**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:06:50 GMT

In 2df4abcee2fd762a9688bef13e152d5b81cc763e/rtems:

```
score: Pass scheduler node to yield operation

Changed for consistency with other scheduler operations.

Update #2556.
```

#### **Comment 28**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:07:00 GMT

In e382a1bfccdecf1dcf01c452ee0edb5afa0660b3/rtems:

```
score: Pass scheduler node to block operation

Changed for consistency with other scheduler operations.

Update #2556.
```

**Comment 29**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:07:10 GMT

In 72e0bdba4580072c33da09fcacbd3063dbc4f2c1/rtems:

```
score: Pass scheduler node to unblock operation
Changed for consistency with other scheduler operations.
Update #2556.
```

**Comment 30**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:07:20 GMT

In 3a724113f953490e05704582fb1effbf6c8e9601/rtems:

```
score: Simplify _Scheduler_SMP_Node_change_state()
Update #2556.
```

**Comment 31**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:07:30 GMT

In 1c9688a9a11c08eabd6443d8bb9ccd439dce82e5/rtems:

```
score: Add _Scheduler_Node_get_scheduler()
Update #2556.
```

**Comment 32**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:07:40 GMT

In 36d7abad13474c6c7211dc07643287747d4594bb/rtems:

```
score: Add _Thread_Scheduler_add_wait_node()
Update #2556.
```

**Comment 33**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:07:50 GMT

In 70c22d939513dd05171d99cb053dc8f71135ee25/rtems:

```
score: Add _Thread_Scheduler_remove_wait_node()
Update #2556.
```

**Comment 34**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:00 GMT

In 07a32d193257f150e5237970a7fa864ab71817b3/rtems:

```
score: Add thread scheduler lock
Update #2556.
```

**Comment 35**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:10 GMT

In a7a8ec03258a7e59a300919485cbbd5f37782416/rtems:

```
score: Protect thread scheduler state changes
Update #2556.
```

**Comment 36**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:20 GMT

In edb020ca678c78e4a1a7ba4becbc46a2d6bf24c7/rtems:

```
score: Protect thread CPU by thread scheduler lock
Update #2556.
```

#### **Comment 37**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:30 GMT

In ebdd2a343181ef5f3fc2f1330930b0ea5c0ed8a4/rtems:

```
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.
```

#### **Comment 38**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:39 GMT

In 240347331d45b0d424077a8b74ee02efc651e003/rtems:

```
score: Add _Thread_Scheduler_process_requests()
Update #2556.
```

#### **Comment 39**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:50 GMT

In 351c14dfd00e1bdaced2823242532cab4bccb58c/rtems:

```
score: Add new SMP scheduler helping protocol
Update #2556.
```

#### **Comment 40**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:08:59 GMT

In 6a82f1ae8c1cd3d24b4ad6dc78431ffffb214151/rtems:

```
score: Yield support for new SMP helping protocol
Update #2556.
```

#### **Comment 41**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:09:09 GMT

In 913864c0b85c9e94140515a44e79d13e999ff9a2/rtems:

```
score: Use scheduler instance specific locks
Update #2556.
```

#### **Comment 42**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:09:19 GMT

In 3a2724805421098df505c0acea106fb294bc2f6a/rtems:

```
score: First part of new MrsP implementation
Update #2556.
```

#### **Comment 43**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:09:30 GMT

In 73a193fdd672486f57ec6db5f9beb50e5264ffac/rtems:

score: Delete unused functions  
Delete `_Scheduler_Thread_change_resource_root()` and `_Scheduler_Thread_change_help_state()`.  
Update #2556.

#### **Comment 44**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:09:40 GMT

In 97f7dac6604b448f0c4ee10f02d192ea42bc6aaa/rtems:

score: Delete `_Scheduler_Ask_for_help_if_necessary`  
Delete `Thread_Control::Resource_node`.  
Update #2556.

#### **Comment 45**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:10:09 GMT

In 6771359fa1488598ccba3fd3c440b95f64965340/rtems:

score: Second part of new MrsP implementation  
Update #2556.

#### **Comment 46**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:10:19 GMT

In 1cafc4664689040d67033d81c9d2e25929d44477/rtems:

score: Delete Resource Handler  
Update #2556.

#### **Comment 47**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:10:29 GMT

In b5f1b249028ea2be69a4ad06aa822c16cb4ac57e/rtems:

score: Delete `Scheduler_Node::accepts_help`  
Update #2556.

#### **Comment 48**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:10:39 GMT

In c0f1f52763b3a231a329da0162979207519a6db6/rtems:

score: Delete `Thread_Scheduler_control::node`  
Update #2556.

#### **Comment 49**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:10:48 GMT

In 7f7424329eafab755381bc638c2cdddc152a909b/rtems:

score: Delete `Thread_Scheduler_control::own_node`  
Update #2556.

#### **Comment 50**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:10:59 GMT

In 2dd098a6359d9df132da09201ea0506c5389dc80/rtems:

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.

#### **Comment 51**

1. **Sebastian Huber**, Wed, 02 Nov 2016 09:11:08 GMT

In 63e2ca1b8b0a651a733d4ac3e0517397d0681214/rtems:

score: Simplify yield and unblock scheduler ops

Update #2556.

#### **Comment 52**

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT
2. **priority**: changed from **normal** to **high**

#### **Comment 53**

1. **Sebastian Huber**, Wed, 01 Feb 2017 06:59:55 GMT
2. **status**: changed from **accepted** to **closed**
3. **version**: **4.12** deleted
4. **resolution**: set to **fixed**

[8add1793d25b2f76d564028f991cac31e0f871b4/rtems-docs]

#### **Comment 54**

1. **Sebastian Huber**, Fri, 03 Feb 2017 09:58:05 GMT

In ca1e546e7772838b20d0792155e2c71514d6b5d3/rtems:

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.

#### **Comment 55**

1. **Sebastian Huber**, Tue, 07 Mar 2017 12:21:24 GMT

In 088acbb0/rtems:

score: Fix scheduler yield in SMP configurations

Check that no ask help request is registered during unblock and yield scheduler operations. There is no need to ask for help if a scheduled thread yields, since this is already covered by the pre-emption detection.

Update #2556.

#### **Comment 56**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 57**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### **2557 - Add word splitting to print output**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2557">https://devel.rtems.org/ticket/2557</a> ( <a href="https://devel.rtems.org/ticket/2557">https://devel.rtems.org/ticket/2557</a> )
<b>Id</b>	2557
<b>Reporter</b>	Amar Takhar
<b>Created</b>	30 January 2016 21:03:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Chris Johns**, Sun, 31 Jan 2016 20:27:25 GMT

The word splitting needs to be in the index. At the moment the Sphinx generated PDF output's indexes overflow with the longer entries. We need to have these entries word split. The Texinfo indexes do this.

**Comment 2**

1. **Chris Johns**, Sat, 14 Jan 2017 20:42:30 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

The latex style has been updated to fix this.

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2559 - Delete the EXTERN pattern**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2559">https://devel.rtems.org/ticket/2559</a> ( <a href="https://devel.rtems.org/ticket/2559">https://devel.rtems.org/ticket/2559</a> )
<b>Id</b>	2559
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 February 2016 11:51:17
<b>Modified</b>	30 April 2020 22:06:27
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**



Change the following pattern:  
some.h:

```
#ifndef SOME_XYZ_EXTERN
#define SOME_XYZ_EXTERN extern
#endif
SOME_XYZ_EXTERN type xyz;
```

some\_xyz.C:

```
#define SOME_XYZ_EXTERN
#include
```

into:  
some.h:

```
extern type xyz;
```

some\_xyz.C:

```
#include
type xyz;
```

See discussion:

<https://lists.rtems.org/pipermail/devel/2016-January/013506.html>

Update Developer Coding Conventions accordingly.

#### Comment 1

1. **Sebastian Huber**, Thu, 04 Feb 2016 12:00:29 GMT
2. **status:** changed from **new** to **accepted**

#### Comment 2

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:41:58 GMT

In d4e81e3c80259467adbd2472fce94aebec3935b5/rtems:

```
orlk: Delete superfluous _CPU_Null_fp_context
Update #2559.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:42:10 GMT

In deaf71637ad7ecb3f3d233039bfefc33b1416957/rtems:

```
i386: Avoid SCORE_EXTERN
Update #2559.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:42:21 GMT

In 59e6e76190383d396582263800e915d54fb0206f/rtems:

```
sh: Avoid SCORE_EXTERN
Update #2559.
```

#### Comment 5

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:42:33 GMT

In af3847a82af1a1eacce5a0b464d4685444040add/rtems:

```
epiphany: Delete superfluous _CPU_Null_fp_context
Update #2559.
```

#### Comment 6

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:42:44 GMT

In d638aca61b6d87a7912f634b3820b0e64efb0767/rtems:

```
mips: Avoid SCORE_EXTERN
Update #2559.
```

**Comment 7**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:42:56 GMT  
In 18a5db205c296b9e3d83a1c7d107e29a996fb12f/rtems:  
  
m68k: Avoid SCORE\_EXTERN  
Update #2559.

**Comment 8**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:43:08 GMT  
In c60093406706cdfc00c093f23e0fd0972a28881/rtems:  
  
lm32: Avoid SCORE\_EXTERN  
Update #2559.

**Comment 9**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:43:20 GMT  
In dab78624ebbd97341497f9d0fe92ed7fe1c8167/rtems:  
  
sparc: Avoid SCORE\_EXTERN  
Update #2559.

**Comment 10**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:43:32 GMT  
In 9f016ec97e9e514fc9bed345005b66d88bbec5d3/rtems:  
  
no\_cpu: Avoid SCORE\_EXTERN  
Update #2559.

**Comment 11**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:43:44 GMT  
In 142868b235a5e2a550080ad1d4698f057716cd25/rtems:  
  
bfin: Delete superfluous \_CPU\_Null\_fp\_context  
Update #2559.

**Comment 12**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:43:56 GMT  
In 6df892688513d2559d493c394f762e38b8267f2c/rtems:  
  
moxie: Delete superfluous \_CPU\_Null\_fp\_context  
Update #2559.

**Comment 13**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:44:07 GMT  
In 51dc9a6121f8d4716b8ee5849feb16f880ecb20c/rtems:  
  
sparc64: Avoid SCORE\_EXTERN  
Update #2559.

**Comment 14**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:44:18 GMT

In 358bd740593132ddb00d6e33b4f512b5f9615597/rtems:

score: Avoid SCORE\_EXTERN

Delete SCORE\_INIT. This finally removes the

some.h:

```
#ifndef SOME_XYZ_EXTERN #define SOME_XYZ_EXTERN extern #endif SOME_XYZ_EXTERN type xyz;`
```

some\_xyz.c:

```
#define SOME_XYZ_EXTERN #include`
```

pattern in favour of

some.h:

```
extern type xyz;
```

some\_xyz.c

```
#include type xyz;`
```

Update #2559.

#### **Comment 15**

1. **Sebastian Huber**, Wed, 17 Feb 2016 08:44:52 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

#### **Comment 16**

1. **Sebastian Huber**, Mon, 14 Mar 2016 09:25:13 GMT

In 62d2540daeb8dac70daa94ab490b626930f92009/rtems:

score: Delete unused SAPI\_IO\_EXTERN

Update #2559.

#### **Comment 17**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 18**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 19**

1. **Joel Sherrill**, Thu, 30 Apr 2020 22:06:27 GMT
2. **description**: modified (diff)

---

## **2560 - smdk2410 is broken due to gp32 removal**

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2560">https://devel.rtems.org/ticket/2560</a> ( <a href="https://devel.rtems.org/ticket/2560">https://devel.rtems.org/ticket/2560</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 February 2016 06:25:44
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	Aun-Ali Zaidi <admin@...>
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The smdk2410 BSPs use files of the removed gp32 BSP.  
 [f2a228b2cb5ce376c56ae8d767084b92f2822af0/rtems]

**Comment 1**

1. **Aun-Ali Zaidi**, Mon, 03 Oct 2016 01:31:26 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Just ran a fresh compile of smdk2410 and everything looks fine. All tests compile fine. I'm closing this for now.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT
2. **component**: changed from **bsps** to **arch/arm**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2562 - RSB Docs Quick Start version number**


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<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2562">https://devel.rtems.org/ticket/2562</a> ( <a href="https://devel.rtems.org/ticket/2562">https://devel.rtems.org/ticket/2562</a> )
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	6 February 2016 12:17:37
<b>Modified</b>	2 April 2020 15:36:38
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	documentation
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:**

**1 shashvat jain, Sun, 18 Nov 2018 14:21:31 GMT**

**attach:** set to [0001-version-number-notation-Ticket-2562-GCI-2018.patch](https://devel.rtems.org/ticket/2562/0001-version-number-notation-Ticket-2562-GCI-2018.patch) (<https://devel.rtems.org/ticket/2562/0001-version-number-notation-Ticket-2562-GCI-2018.patch>)

**2 shashvat jain, Wed, 21 Nov 2018 17:00:26 GMT**

**attach:** set to [0001-Added-version-numbers-guidelines-and-output-to-comma.patch](https://devel.rtems.org/ticket/2562/0001-Added-version-numbers-guidelines-and-output-to-comma.patch) (<https://devel.rtems.org/ticket/2562/0001-Added-version-numbers-guidelines-and-output-to-comma.patch>)

**3 shashvat jain, Wed, 21 Nov 2018 17:43:30 GMT**

**attach:** set to [0001-Closes-Ticket-2562.patch](https://devel.rtems.org/ticket/2562/0001-Closes-Ticket-2562.patch) (<https://devel.rtems.org/ticket/2562/0001-Closes-Ticket-2562.patch>)

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**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 3**

1. **Chris Johns**, Sun, 14 Oct 2018 00:50:11 GMT
2. **owner:** changed from **Chris Johns** to **Gedare Bloom**
3. **status:** changed from **new** to **assigned**

That would be nice to have. Please update once Joel pushes his changes to the Quick Start. Thanks.

**Comment 4**

1. **shashvat jain**, Sun, 18 Nov 2018 14:04:04 GMT

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

**Comment 5**

1. **Chris Johns**, Sun, 18 Nov 2018 21:36:07 GMT

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.

**Comment 6**

1. **shashvat jain**, Wed, 21 Nov 2018 08:59:13 GMT

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.

**Comment 7**

1. **Chris Johns**, Fri, 13 Dec 2019 15:36:10 GMT

Is this in the documentation? I cannot see it in the user of eng manuals.

**Comment 8**

1. **Gedare Bloom**, Thu, 02 Apr 2020 15:36:38 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 7a0834d/rtems-docs:

```
start/user: describe version numbers and releases
```

```
Closes #2562.
```

**2576 - arm/lpc176x: linker script update (add KEEP() sections)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2576">https://devel.rtems.org/ticket/2576</a> ( <a href="https://devel.rtems.org/ticket/2576">https://devel.rtems.org/ticket/2576</a> )
<b>Id</b>	2576
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	6 February 2016 16:24:07
<b>Modified</b>	14 September 2018 19:03:46
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	function sections, KEEP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Sat, 06 Feb 2016 16:26:47 GMT

In e41d8ce5a764d57952102009ff1c5e5ace69a1c8/rtems:

```
arm/.../lpc1768_embed.cfg: Disable per function sections
updates #2576.
```

**Comment 2**

1. **Marcos Diaz**, Thu, 17 Mar 2016 20:12:25 GMT

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.

**Comment 3**

1. **Marcos Diaz**, Tue, 22 Mar 2016 14:51:04 GMT

I suggest to apply the linker flags and deprecate this bug

**Comment 4**

1. **Joel Sherrill**, Tue, 22 Mar 2016 15:10:51 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 1a738edb39d462b9d99be4537782934f5ec56ca5/rtems:

```
lpc1768_mbed.cfg: Turn on per function sections
Closes #2576.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 6**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT
2. **component**: changed from **bsps** to **arch/arm**

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 8**

1. **Joel Sherrill**, Fri, 14 Sep 2018 19:03:46 GMT
2. **keywords**: **function sections KEEP** added

**2606 - alarm() uses seconds watchdog and thus is affected by clock changes**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2606">https://devel.rtems.org/ticket/2606</a> ( <a href="https://devel.rtems.org/ticket/2606">https://devel.rtems.org/ticket/2606</a> )
<b>Id</b>	2606
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	22 February 2016 07:49:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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()`.

**Comment 1**

1. **Sebastian Huber**, Mon, 22 Feb 2016 08:17:07 GMT

In 452f6ba9d193e0937f94432459c74122ea345e74/rtems:

```
psxtests/psxalarm01: Add adjtime() test case
Update #2606.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 22 Feb 2016 13:08:54 GMT
2. **status**: changed from **new** to **accepted**

**Comment 3**

1. **Sebastian Huber**, Fri, 04 Mar 2016 14:01:04 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:11 GMT

2. **component:** changed from **unspecified** to **posix**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2608 - POSIX Condition Variables Clock Attribute Support**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2608">https://devel.rtems.org/ticket/2608</a> ( <a href="https://devel.rtems.org/ticket/2608">https://devel.rtems.org/ticket/2608</a> )
<b>Id</b>	2608
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 February 2016 14:20:08
<b>Modified</b>	5 December 2017 17:04:20
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	Sebastian Huber
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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](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-nUfZFim4Ty0LTDYNhgKBvlwip\\_gLQjTY/edit?usp=sharing](https://docs.google.com/document/d/1GsGer0t84p-nUfZFim4Ty0LTDYNhgKBvlwip_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?

#### Comment 1

1. **Joel Sherrill**, Thu, 16 Jun 2016 14:04:39 GMT

In 6131b849081335e101f92b4a99e01572153d44f5/rtems:

```
Add pthread_condattr_getclock() and pthread_condattr_setclock()
updates #2608.
```

#### Comment 2

1. **Joel Sherrill**, Mon, 03 Apr 2017 23:18:33 GMT
2. **keywords:** **POSIX-Compliance** added

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 4

1. **Joel Sherrill**, Wed, 11 Oct 2017 23:18:54 GMT
2. **owner:** changed from **Joel Sherrill** to **Gedare Bloom**
3. **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.

#### Comment 5

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:35:35 GMT

See also #3182.



**Comment 6**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:11 GMT
2. **component**: changed from **unspecified** to **posix**

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 8**

1. **Gedare Bloom**, Tue, 05 Dec 2017 17:04:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**2617 - rtems\_heap\_allocate\_aligned\_with\_boundary() body and prototype inconsistent**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2617">https://devel.rtems.org/ticket/2617</a> ( <a href="https://devel.rtems.org/ticket/2617">https://devel.rtems.org/ticket/2617</a> )
<b>Id</b>	2617
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	1 March 2016 00:24:40
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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
```

```
)
```

**Comment 1**

1. **Sebastian Huber**, Tue, 01 Mar 2016 06:36:06 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 75518fb78240dbab92fc9d959765639afb32a457/rtems:

```
malloc: Fix function definition
```

```
Close #2617.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2624 - Fix the year 2038 problem**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2624">https://devel.rtems.org/ticket/2624</a> ( <a href="https://devel.rtems.org/ticket/2624">https://devel.rtems.org/ticket/2624</a> )
<b>Id</b>	2624
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 March 2016 06:39:24
<b>Modified</b>	17 September 2018 10:15:05
<b>Owner</b>	Needs Funding
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

```
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.

**Comment 1**

1. **Nick Withers**, Mon, 07 Mar 2016 06:59:51 GMT

`__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>

#### **Comment 2**

1. **Sebastian Huber**, Mon, 07 Mar 2016 07:02:49 GMT

Yes, this is why I wrote temporarily. Once we are reasonably sure that all the integer operations are all right, we use

```
typedef int64_t time_t
```

I am not sure if we should keep the inline functions for clarity.

#### **Comment 3**

1. **Chris Johns**, Mon, 07 Mar 2016 23:01:46 GMT

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 it's struct `iatr` 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.

#### **Comment 4**

1. **Joel Sherrill**, Mon, 07 Mar 2016 23:11:34 GMT

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.

#### **Comment 5**

1. **Sebastian Huber**, Tue, 08 Mar 2016 16:58:06 GMT

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?

#### **Comment 6**

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:20:42 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **4.12** to **Indefinite**

#### **Comment 7**

1. **Sebastian Huber**, Mon, 17 Sep 2018 10:15:05 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **version**: changed from **4.10** to **4.5**
5. **component**: changed from **unspecified** to **tool/newlib**
6. **milestone**: changed from **Indefinite** to **5.1**

Fixed by #3111.

---

## **2625 - Use one lookup tree per-thread for the POSIX keys**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2625">https://devel.rtems.org/ticket/2625</a> ( <a href="https://devel.rtems.org/ticket/2625">https://devel.rtems.org/ticket/2625</a> )
<b>Id</b>	2625
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 March 2016 07:06:25
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 18 Mar 2016 06:47:40 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 5eaf0e7458bac80ba669f03c4feaae5bad55c6c9/rtems:

```
posix: Use per-thread lookup tree for POSIX Keys
Yields higher performance on SMP systems.
Close #2625.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2626 - Unify thread cancel/join and delete**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2626">https://devel.rtems.org/ticket/2626</a> ( <a href="https://devel.rtems.org/ticket/2626">https://devel.rtems.org/ticket/2626</a> )
<b>Id</b>	2626
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 March 2016 07:11:26
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

#### Comment 1

1. **Sebastian Huber**, Fri, 20 May 2016 05:56:47 GMT

In e75374870375099eb097f189905be709008fb3c0/rtems:

```
score: Delete redundant thread life enums
This makes it easier to add more states in the future.
Update #2555. Update #2626.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 20 May 2016 05:56:57 GMT

In b7f5e391c0c0e94e5958a294e5d38b1dda7332cc/rtems:

```
score: Add _Thread_Exit()
The goal is to make _Thread_Exit() a no-return function in follow up patches.
Update #2555. Update #2626.
```

#### Comment 3

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:07 GMT

In 270394eef82ae584477cb9c443d4a5c8e67978eb/rtems:

```
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.
```

#### Comment 4

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:17 GMT

In 69c722f3f6ac84eca42e68eda0e1ed63fd3702e7/rtems:

```
score: Delete unused variable
Update #2555. Update #2626.
```

#### Comment 5

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:27 GMT

In 9949d8a7d042da7ba53516300db5c34c8b9c8a31/rtems:

```
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.
```

#### Comment 6

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:37 GMT

In 7023d82ca6bdf7e0fa1d1c10481671dd744d894/rtems:

```
score: Add _Thread_Raise_real_priority()
Update #2555. Update #2626.
```

#### Comment 7

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:47 GMT

In c99eb50b9f66e76cdd6aa0833321550c9b9e655c/rtems:

score: Rework `_Thread_Exit()`  
 Rework `_Thread_Exit()` to use `_Thread_Change_life_locked()`.  
 Update #2555. Update #2626.

**Comment 8**

1. **Sebastian Huber**, Fri, 20 May 2016 05:57:57 GMT

In 232147ddc12d45ff7872f72a790077c26fe5ca0a/rtems:

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.

**Comment 9**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:07 GMT

In 9a99ce15d0878d847b4c7e054eb2996a9f5fbc34/rtems:

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.

**Comment 10**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:17 GMT

In f410ea82a4b9d5609ce170d2aa09027b5a7c4c50/rtems:

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.

**Comment 11**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:27 GMT

In 0475cca9a015a7b43209270ca6e40aebf177639a/rtems:

score: Add `_Thread_Dispatch_disable_with_CPU()`  
 Update #2555. Update #2626.

**Comment 12**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:37 GMT

In 938839077741d2eac82d9d86705c16e0b9de8379/rtems:

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.

**Comment 13**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:47 GMT

In 862a0eeb1197539c0e69381cb5aacb9e1c64c0f/rtems:

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.

**Comment 14**

1. **Sebastian Huber**, Fri, 20 May 2016 05:58:58 GMT

In ef09017ebb6ac9c1309df4e827b240c14e6dbaa9/rtems:

```
score: Rework _Thread_Cancel()
Rework _Thread_Cancel() to use _Thread_Change_life_locked().
Update #2555. Update #2626.
```

**Comment 15**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:08 GMT

In 29e1ecab875c3121357f27e0676913d9ca96183f/rtems:

```
score: Simplify _Thread_Life_action_handler()
Use _Thread_Change_life_locked() to avoid duplicated code. Avoid Giant lock in _Thread_Life_action_handler().
Update #2555. Update #2626.
```

**Comment 16**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:18 GMT

In 54550e048d3a49435912797d2024f80671e93267/rtems:

```
posix: Rework pthread_join()
Rework pthread_join() to use _Thread_Join().
Close #2402. Update #2555. Update #2626. Close #2714.
```

**Comment 17**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:39 GMT

In da82656065d09f7b6aa411ba361287afdd787204/rtems:

```
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.
```

**Comment 18**

1. **Sebastian Huber**, Fri, 20 May 2016 06:18:58 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 19**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 20**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2627 - Fix CPU time used for threads on SMP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2627">https://devel.rtems.org/ticket/2627</a> ( <a href="https://devel.rtems.org/ticket/2627">https://devel.rtems.org/ticket/2627</a> )
<b>Id</b>	2627
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 March 2016 07:16:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Chris Johns**, Tue, 08 Mar 2016 00:03:16 GMT

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?

### Comment 2

1. **Sebastian Huber**, Wed, 09 Mar 2016 06:50:03 GMT

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.

### Comment 3

1. **Chris Johns**, Wed, 09 Mar 2016 21:26:43 GMT

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.

### Comment 4

1. **Sebastian Huber**, Thu, 17 Mar 2016 08:03:12 GMT

2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

In d37adfe5dd82cc3c933eb521b8f800c342af0e52/rtems:

```
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.](#)**Comment 5**1. **Sebastian Huber**, Tue, 22 Mar 2016 06:28:38 GMT

In baa1362643f20781db1d50a5a4d23e7069d0972a/rtems:

score: Fix for RTEMS\_DEBUG

Update #2627.

**Comment 6**1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT2. **milestone**: changed from **4.12** to **4.12.0****Comment 7**1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2628 - Avoid home-grown condition variable implementation in the Classic Regions**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2628">https://devel.rtems.org/ticket/2628</a> ( <a href="https://devel.rtems.org/ticket/2628">https://devel.rtems.org/ticket/2628</a> )
<b>Id</b>	2628
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 March 2016 07:22:11
<b>Modified</b>	29 November 2017 07:16:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**1. **Sebastian Huber**, Mon, 07 Mar 2016 07:29:10 GMT

Depends on #2629.

**Comment 2**1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT2. **milestone**: changed from **4.12** to **4.12.0****Comment 3**1. **Sebastian Huber**, Thu, 11 May 2017 07:42:40 GMT2. **milestone**: changed from **4.12.0** to **5.0****Comment 4**1. **Chris Johns**, Mon, 14 Aug 2017 00:47:54 GMT2. **version**: **4.10** deleted3. **milestone**: changed from **5.0** to **Indefinite****Comment 5**

1. **Sebastian Huber**, Wed, 29 Nov 2017 07:16:52 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**
4. **milestone**: changed from **Indefinite** to **5.1**

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.

---

## **2631 - Use an ISR lock to protect the state of Classic Rate Monotonic objects**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2631">https://devel.rtems.org/ticket/2631</a> ( <a href="https://devel.rtems.org/ticket/2631">https://devel.rtems.org/ticket/2631</a> )
<b>Id</b>	2631
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 March 2016 07:38:12
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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.

### **Comment 1**

1. **Sebastian Huber**, Tue, 22 Mar 2016 06:28:14 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 90960bd11a91259d9aace3870692dbe2e227de0f/rtems:

```
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.
```

### **Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### **Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2632 - rtems-tester failure**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2632">https://devel.rtems.org/ticket/2632</a> ( <a href="https://devel.rtems.org/ticket/2632">https://devel.rtems.org/ticket/2632</a> )
<b>Id</b>	2632
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	7 March 2016 22:54:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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
```

```
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)

**Comment 1**

1. **Chris Johns**, Wed, 16 Mar 2016 06:30:12 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2633 - waf build failed for rtems-libbsd**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2633">https://devel.rtems.org/ticket/2633</a> ( <a href="https://devel.rtems.org/ticket/2633">https://devel.rtems.org/ticket/2633</a> )
<b>Id</b>	2633
<b>Reporter</b>	joguin
<b>Created</b>	8 March 2016 21:03:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 '_Watchdog_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 ' 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 }' 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 == WATCHDOG_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
```

**Comment 1**

1. **Joel Sherrill**, Tue, 08 Mar 2016 21:33:30 GMT
2. **version:** changed from **4.11** to **4.12**
3. **component:** changed from **General** to **networking**
4. **milestone:** changed from **4.11.1** to **4.12**

**Comment 2**

1. **Joel Sherrill**, Tue, 08 Mar 2016 21:34:16 GMT

Most likely a side-effect of the recent watchdog change to RBTree.

**Comment 3**

1. **Sebastian Huber**, Tue, 08 Mar 2016 23:21:52 GMT

Yes, I had no time to update this since I am on a business trip this week.

#### Comment 4

1. **Sebastian Huber**, Tue, 08 Mar 2016 23:22:04 GMT
2. **status**: changed from **new** to **accepted**

#### Comment 5

1. **Joel Sherrill**, Tue, 08 Mar 2016 23:32:32 GMT
2. **cc**: **Chris Johns** added

#### Comment 6

1. **Joel Sherrill**, Tue, 08 Mar 2016 23:33:25 GMT

Chris pointed out that this means that unless the code as written in 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?

#### Comment 7

1. **Sebastian Huber**, Mon, 14 Mar 2016 08:32:12 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

[a336c4630161a6e5a3742c1430564d5566cafa58/rtems-libbsd]

#### Comment 8

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2634 - New warning in pc386 VESA driver

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2634">https://devel.rtems.org/ticket/2634</a> ( <a href="https://devel.rtems.org/ticket/2634">https://devel.rtems.org/ticket/2634</a> )
<b>Id</b>	2634
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 March 2016 16:22:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Pavel Pisa <ppisa@...>
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Pavel Pisa Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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) ~
```

#### **Attachments:**

1 **Pavel Pisa**, Wed, 09 Mar 2016 19:51:08 GMT

attach: set to [correct-fb\\_vesa\\_rm-warning.diff](https://devel.rtems.org/ticket/2634/correct-fb_vesa_rm-warning.diff) ([https://devel.rtems.org/ticket/2634/correct-fb\\_vesa\\_rm-warning.diff](https://devel.rtems.org/ticket/2634/correct-fb_vesa_rm-warning.diff))

#### Comment 1

1. **Pavel Pisa**, Wed, 09 Mar 2016 19:53:24 GMT

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.

#### Comment 2

1. **Joel Sherrill**, Wed, 09 Mar 2016 20:59:53 GMT

2. cc: **Chris Johns** added

#### Comment 3

1. **Joel Sherrill**, Wed, 09 Mar 2016 21:03:07 GMT

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?

#### Comment 4

1. **Pavel Pisa**, Wed, 09 Mar 2016 21:44:22 GMT

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 Microwindows 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`

```
../source-builder/sb-set-builder \
--log=graphic-build-log.txt \
--prefix=/opt/rtems4.11 \
--rtems-bsp=i386/pc686 \
--with-rtems-bsp=pc686 \
--pkg-tar-files \
4.11/graphics/graphics-all.bset
```

My QEMU command line

```
qemu-system-x86_64 -gdb tcp::1234 -enable-kvm -kernel $APP_BINARY \
-vga cirrus \
-net nic,vlan=0,model=e1000 -net user,vlan=0 \
-serial stdio \
-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.

#### Comment 5

1. **Pavel Pisa**, Wed, 09 Mar 2016 22:04:38 GMT

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 ...

#### Comment 6

1. **Joel Sherrill**, Wed, 09 Mar 2016 22:26:07 GMT

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.

#### Comment 7

1. **Pavel Pisa**, Sat, 16 Apr 2016 22:25:36 GMT

2. owner: set to **Pavel Pisa** <ppisa@...>

3. status: changed from **new** to **closed**

4. **resolution:** set to **fixed**

In b752f9454fd412b0c4e3b15ee853afd4870ccc54/rtems:

```
i386/pc386: reimplemented check for unused EDID entry in fb_vesa.c to suppress GCC 6 warning.
closes #2634
```

**Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 9**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:55:23 GMT
2. **component:** changed from **bsps** to **arch/i386**

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2638 - pc386: ld -r issue with per function sections**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2638">https://devel.rtems.org/ticket/2638</a> ( <a href="https://devel.rtems.org/ticket/2638">https://devel.rtems.org/ticket/2638</a> )
<b>Id</b>	2638
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 March 2016 21:47:37
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 -qonlinkcmds -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
```

**Comment 1**

1. **Chris Johns**, Thu, 10 Mar 2016 23:08:44 GMT

I have seen patches from H,J Lu from Intel recently on binutils about -r. Maybe ask him.

**Comment 2**

1. **Joel Sherrill**, Thu, 10 Mar 2016 23:14:21 GMT

Good idea. I emailed binutils@ and hopefully we will get a hint.

**Comment 3**

1. **Joel Sherrill**, Fri, 11 Mar 2016 22:08:25 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 5e368e8441e21e484a09e0d743a5b6b934e45047/rtems:

```
pc386: Fix linker usage issues with -r and function sections
closes #2638.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### 2641 - configure: enable-rtemsbsp doesn't warn if bsp does not exist

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2641">https://devel.rtems.org/ticket/2641</a> ( <a href="https://devel.rtems.org/ticket/2641">https://devel.rtems.org/ticket/2641</a> )
<b>Id</b>	2641
<b>Reporter</b>	aurelio
<b>Created</b>	11 March 2016 17:03:32
<b>Modified</b>	11 April 2018 01:57:55
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns joel
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Attachments:

1. **Chris Johns, Mon, 14 Mar 2016 02:04:57 GMT**  
**attach**: set to [0001-configure-Check-the-enable-rtemsbsp-list-of-BSPs-ear.patch](https://devel.rtems.org/ticket/2641/0001-configure-Check-the-enable-rtemsbsp-list-of-BSPs-ear.patch) (<https://devel.rtems.org/ticket/2641/0001-configure-Check-the-enable-rtemsbsp-list-of-BSPs-ear.patch>)

#### Comment 1

1. **Chris Johns**, Mon, 14 Mar 2016 02:06:23 GMT
2. **cc: joel** added

Try this patch.

Joel, is this ok to push to master and 4.11?

#### Comment 2

1. **Chris Johns**, Mon, 14 Mar 2016 23:12:56 GMT
2. **owner**: set to **Chris Johns**
3. **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.

#### Comment 3

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**



**Comment 4**

1. **Chris Johns**, Tue, 21 Mar 2017 03:25:40 GMT
2. **version**: changed from **4.11** to **4.12**
3. **milestone**: changed from **4.11.2** to **4.12.1**

This is not suitable for a branch. Moving it to master.

**Comment 5**

1. **Chris Johns**, Mon, 27 Mar 2017 06:48:47 GMT
2. **milestone**: changed from **4.12.1** to **4.12.0**

Move to the first 4.12 milestone.

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 7**

1. **Chris Johns**, Wed, 11 Apr 2018 01:57:55 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 7ff743d/rtems:

```
Generate an error if a BSP in the --enable-rtembsbp list is not valid
Also generate an error if the architecure does not match the --target architecture given to configure's command line.
Close #2641.
```

**2644 - sis does not run on gdb 7.11 but does on gdb 7.9**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2644">https://devel.rtems.org/ticket/2644</a> ( <a href="https://devel.rtems.org/ticket/2644">https://devel.rtems.org/ticket/2644</a> )
<b>Id</b>	2644
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2016 18:01:19
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Tue, 15 Mar 2016 22:24:32 GMT
2. **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:

the run command does not work any more 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:

```

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
GNU gdb (GDB) 7.11
Copyright (C) 2016 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "--host=x86_64-linux-gnu --target=sparc-rtems4.12".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
.
Find the GDB manual and other documentation resources online at:
.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from /home/chris/development/rtems/kernel/erc32-sis/sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe...done.
(gdb) tar sim -v
SIS - SPARC instruction simulator 2.7.5
Bug-reports to Jiri Gaisler ESA/ESTEC (jgaisl@wd.estec.esa.nl)
RAM start: 0x2000000, RAM size: 256 K, ROM size: 128 K
Waitstates = RAM read: 3, RAM write: 3, ROM read: 15, ROM write: 15
Watchdog started, scaler = 255, counter = 65535
serial port A on stdin/stdout
Connected to the simulator.
(gdb) load
loading /home/chris/development/rtems/kernel/erc32-sis/sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe:
section .text at 0x02000000 (0x19980 bytes)
section .rtemsroset at 0x02019980 (0x40 bytes)
section .data at 0x020199c0 (0x670 bytes)
section .bss at 0x0201a040 (0x1920 bytes) (not loaded)
(gdb) run
Starting program: /home/chris/development/rtems/kernel/erc32-sis/sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe
RAM start: 0x2000000, RAM size: 256 K, ROM size: 128 K
Waitstates = RAM read: 3, RAM write: 3, ROM read: 15, ROM write: 15
Watchdog started, scaler = 255, counter = 65535
resuming at 2000000
Waitstates = RAM read: 0, RAM write: 0, ROM read: 0, ROM write: 0
Watchdog disabled
Error manager halt - MEC hardware error
RAM start: 0x2000000, RAM size: 4096 K, ROM size: 1024 K
Error manager halt - IU in error mode
Error manager halt - MEC hardware error
[Inferior 1 (process 42000) exited normally]
(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.

## Comment 2

1. **Chris Johns**, Wed, 16 Mar 2016 04:51:02 GMT

In 0bbd2de7f5306ad15ce544f9c3e9a5d9bb00dc85/rtems-tools:

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.

## Comment 3

1. **Chris Johns**, Wed, 16 Mar 2016 04:55:11 GMT

In 08aa888205798b3416d24544fd06613fd683bb1e/rtems-source-builder:

4.12/gdb-7.11: Add ERC32 patches to fix the simulator.

Updates #2644.

## Comment 4

1. **Joel Sherrill**, Wed, 16 Mar 2016 14:48:04 GMT

sis command still does not work. Or I don't remember how to use it. :)

## Comment 5

1. **Chris Johns**, Wed, 16 Mar 2016 19:55:36 GMT

What is the sis command?

## Comment 6

1. **Chris Johns**, Wed, 16 Mar 2016 19:56:48 GMT

FYI I ran all the SIS and ERC32 tests in a single run. The results are:

```

Passed: 1062
Failed: 3
Timeouts: 3
Invalid: 0
-----
Total: 1068
Failures:
psxcancel.exe
psxcancel.exe
spcontext01.exe
Timeouts:
crypt01.exe
spcontext01.exe
crypt01.exe
Average test time: 0:00:00.667911
Testing time      : 0:11:53.329500

```

#### Comment 7

1. **Joel Sherrill**, Mon, 14 Nov 2016 16:34:00 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

#### Comment 8

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2649 - RSB remove 4.11, 4.10 and 4.9 from the master branch.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2649">https://devel.rtems.org/ticket/2649</a> ( <a href="https://devel.rtems.org/ticket/2649">https://devel.rtems.org/ticket/2649</a> )
<b>Id</b>	2649
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 March 2016 23:05:31
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	RSB
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Chris Johns**, Wed, 16 Mar 2016 05:00:10 GMT

In e7649747c8385a554a49624542f50c6b2f0e42f5/rtems-source-builder:

```
4.11: Remove from master.
```

```
Updates #2649.
```

#### Comment 2

1. **Chris Johns**, Mon, 14 Aug 2017 00:56:50 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: set to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2663 - pc386 BSP has complex dependencies**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2663">https://devel.rtems.org/ticket/2663</a> ( <a href="https://devel.rtems.org/ticket/2663">https://devel.rtems.org/ticket/2663</a> )
<b>Id</b>	2663
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 March 2016 15:22:52
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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%.

**Comment 1**

1. **Sebastian Huber**, Mon, 21 Mar 2016 06:47:24 GMT

This looks like a BSP-specific issue. On which BSP do you see this?

**Comment 2**

1. **Chris Johns**, Mon, 21 Mar 2016 06:50:32 GMT

SIS by the looks of "FWIW the minimum size looks pretty good on the master for `sis`. ...".

**Comment 3**

1. **Sebastian Huber**, Mon, 21 Mar 2016 06:52:49 GMT

Yes, but I don't see this problem on the `sis` BSP.

**Comment 4**

1. **Sebastian Huber**, Mon, 21 Mar 2016 07:41:18 GMT

It seems to be the `pc386` BSP. It pulls in a lot of stuff via `printk()` (e.g. `console_select.c`).

**Comment 5**

1. **Sebastian Huber**, Mon, 21 Mar 2016 07:57:49 GMT
2. **type**: changed from **defect** to **enhancement**
3. **version**: changed from **4.12** to **4.11**
4. **component**: changed from **RTEMS Configuration** to **bsps**

The `pc386` BSP has this problem also in 4.11.

**Comment 6**

1. **Sebastian Huber**, Mon, 21 Mar 2016 07:59:24 GMT
2. **summary**: changed from **Dependency on `open()` and `close()` reintroduced** to **pc386 BSP has complex dependencies**

**Comment 7**

1. **Joel Sherrill**, Mon, 21 Mar 2016 12:35:15 GMT

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.

#### Comment 8

1. **Joel Sherrill**, Mon, 21 Mar 2016 12:36:24 GMT

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.

#### Comment 9

1. **Joel Sherrill**, Mon, 21 Mar 2016 12:36:39 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

#### Comment 10

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 11

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:55:23 GMT
2. **component**: changed from **bsps** to **arch/i386**

#### Comment 12

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2664 - spclock\_err02

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2664">https://devel.rtems.org/ticket/2664</a> ( <a href="https://devel.rtems.org/ticket/2664">https://devel.rtems.org/ticket/2664</a> )
<b>Id</b>	2664
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 March 2016 18:51:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 "../cpukit/./././sis/lib/include/rtems/score/watchdogimpl.h", line 316, function: _Watchdog_Ticks_from_timespec
```

Breakpoint 1, \_ Terminate (the\_source=the\_source@entry=RTEMS\_FATAL\_SOURCE\_ASSERT,

```
is_internal=is_internal@entry=false, the_error=the_error@entry=33694096)
at .././././././rtems/c/src/././cpukit/score/src/interr.c:36
```

```
36 {
(gdb) bt #0 _Terminate (the_source=the_source@entry=RTEMS_FATAL_SOURCE_ASSERT,
```

```
is_internal=is_internal@entry=false, the_error=the_error@entry=33694096)
at ../../../../../../rtems/c/src/../../../../cpukit/score/src/interr.c:36
```

```
#1 0x0200aed4 in rtems_fatal (source=source@entry=RTEMS_FATAL_SOURCE_ASSERT,
```

```
error=error@entry=33694096)
at ../../../../../../rtems/c/src/../../../../cpukit/sapi/src/fatal2.c:34
```

```
#2 0x02004a9c in assert_func (
```

```
file=file@entry=0x201a650 "../../cpukit/../../../../sis/lib/include/rtems/score/watchdogimpl.h", line=line@entry=316,
func=func@entry=0x201a6d0 "_Watchdog_Ticks_from_timespec",
failedexpr=failedexpr@entry=0x201a638 "ticks < 0x400000000")
at ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/assert.c:52
```

```
#3 0x0200bbf8 in _Watchdog_Ticks_from_timespec (ts=0x2022210)
```

```
at ../../cpukit/../../../../sis/lib/include/rtems/score/watchdogimpl.h:316
```

```
#4 _TOD_Set_with_timestamp (tod_as_timestamp=tod_as_timestamp@entry=0x2022280)
```

```
at ../../../../../../rtems/c/src/../../../../cpukit/score/src/coretodset.c:40
```

```
#5 0x02009880 in rtems_clock_set (tod=tod@entry=0x2022304)
```

```
at ../../../../../../rtems/c/src/../../../../cpukit/rtems/src/clockset.c:42
```

```
#6 0x02001818 in Init (argument=)
```

```
at ../../../../../../rtems/c/src/../../../../testsuites/sptestests/spclock_err02/init.c:93
```

```
#7 0x0200fcbc in _Thread_Entry_adaptor_numeric (executing=0x201fb90)
```

```
at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadentryadaptornumeric---Type to continue, or q to quit---
```

```
.c:25 #8 0x02012e0c in _Thread_Handler ()
```

```
at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadhandler.c:93
```

```
#9 0x02012d60 in _Thread_Handler ()
```

```
at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadhandler.c:29
```

```
(gdb) l init.c:93
88 status = rtems_clock_get_tod( &time );
89 directive_failed( status, "rtems_clock_get_tod" );
90 print_time( "TA1 - rtems_clock_get_tod - ", &time, " - RTEMS_SUCCESSFUL\n" );
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_SUCCESSFUL\n" );
96 status = rtems_task_wake_after( rtems_clock_get_ticks_per_second() );
97 status = rtems_clock_get_tod( &time );
(gdb)
```

### Comment 1

1. **Sebastian Huber**, Mon, 21 Mar 2016 06:37:48 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **duplicate**

This is with RTEMS\_DEBUG enabled and is a duplicate of #2624. See also comment in \_Watchdog\_Ticks\_from\_timespec().

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2669 - Update OpenRISC toolchain in 4.12**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2669">https://devel.rtems.org/ticket/2669</a> ( <a href="https://devel.rtems.org/ticket/2669">https://devel.rtems.org/ticket/2669</a> )
<b>Id</b>	2669
<b>Reporter</b>	Stefan Wallentowitz
<b>Created</b>	20 March 2016 15:53:21
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Bump the OpenRISC toolchain to newer versions:

- Binutils to 2.26
- GCC to 4.9.3
- GDB to 7.11

**Attachments:**


---

1 **Stefan Wallentowitz, Sun, 20 Mar 2016 15:53:44 GMT**

**attach:** set to [0001-Bump-OpenRISC-versions.patch](https://devel.rtems.org/ticket/2669/0001-Bump-OpenRISC-versions.patch) (<https://devel.rtems.org/ticket/2669/0001-Bump-OpenRISC-versions.patch>)

---

**Comment 1**

1. **Stefan Wallentowitz**, Thu, 24 Mar 2016 20:19:18 GMT

In eac749bb80b184c1f5e34e40d745e0c428cb9f73/rtems-source-builder:

```
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
```

**Comment 2**

1. **Gedare Bloom**, Fri, 25 Mar 2016 12:27:54 GMT

2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2672 - After latest patches with Objects\_Get\_by\_name rtems-master not compiling without --enable-posix**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2672">https://devel.rtems.org/ticket/2672</a> ( <a href="https://devel.rtems.org/ticket/2672">https://devel.rtems.org/ticket/2672</a> )
<b>Id</b>	2672
<b>Reporter</b>	Serg Kruglov
<b>Created</b>	21 March 2016 15:02:41
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 22 Mar 2016 06:44:56 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In c61431f9349869e94f12787abea796861039054e/rtems:

```
score: Always declare _Objects_Get_by_name()
Still define it only if RTEMS_SCORE_OBJECT_ENABLE_STRING_NAMES is defined.
Close #2672.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2674 - CORE spinlock implementation is next to be useless**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2674">https://devel.rtems.org/ticket/2674</a> ( <a href="https://devel.rtems.org/ticket/2674">https://devel.rtems.org/ticket/2674</a> )
<b>Id</b>	2674
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	22 March 2016 13:27:50
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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)

#### Comment 1

1. **Sebastian Huber**, Wed, 23 Nov 2016 11:55:03 GMT

In c42be504c92d76d2e06d0fc8ebd05fc913376d2d/rtems:

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 aquired and released in addition.

The self-contained pthread\_spinlock\_t object is defined by Newlib in .

```
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.

#### Comment 2

1. **Sebastian Huber**, Wed, 23 Nov 2016 14:12:55 GMT

In d42cf3388e6fdc2a82a4fcb704c8277cd611a5/rtems:

posix: Fix typo

Update #2674.

#### Comment 3

1. **Sebastian Huber**, Fri, 02 Dec 2016 08:57:24 GMT

In aadd318cd92e42839cf86260e1085f2953113180/rtems:

posix: Fix fall back spinlock implementation

Update #2674.

#### Comment 4

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:30:19 GMT

2. **owner**: set to **Sebastian Huber**

3. **status**: changed from **new** to **assigned**

#### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:41:37 GMT

2. **status**: changed from **assigned** to **closed**

3. **version**: **4.10** deleted

4. **resolution**: set to **fixed**

Added to documentation:

**Comment 7**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:16:16 GMT

In 9c0cefb/rtems:

```
confdefs: Add warnings for obsolete options
Update #2674. Close #3112. Close #3113. Close #3114. Close #3115. Close #3116.
```

**Comment 8**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 9**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:53:08 GMT

In 6087f33e/rtems:

```
tmtests/tmfine01: Add test cases
Update #2674. Update #3112. Update #3113. Update #3114. Update #3115.
```

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2676 - Obsolete clock\_get() directive**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2676">https://devel.rtems.org/ticket/2676</a> ( <a href="https://devel.rtems.org/ticket/2676">https://devel.rtems.org/ticket/2676</a> )
<b>Id</b>	2676
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 March 2016 18:32:30
<b>Modified</b>	24 November 2017 12:52:03
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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
./testsuites/sptests/spclockget/spclockget.doc
./cpukit/rtems/include/rtems/rtems/clock.h
./cpukit/rtems/src/clockget.c
```

**Comment 1**

1. **Joel Sherrill**, Thu, 14 Apr 2016 21:53:42 GMT
2. **owner**: set to **Joel Sherrill** <joel@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In e65c45c4b6cf6dfb485bef48385e39969de8b361/rtems:

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.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Sebastian Huber**, Fri, 24 Nov 2017 12:52:03 GMT

In 83ad1c5/rtems:

ada/sp04: Fix clock get

Update #2676.

## 2680 - Add `pthread_setconcurrency()` and `pthread_getconcurrency()`

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2680">https://devel.rtems.org/ticket/2680</a> ( <a href="https://devel.rtems.org/ticket/2680">https://devel.rtems.org/ticket/2680</a> )
<b>Id</b>	2680
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	29 March 2016 21:14:23
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

\_\_ \* 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.

#### Comment 1

1. **Joel Sherrill**, Fri, 15 Apr 2016 14:41:46 GMT
2. **owner**: changed from **Joel Sherrill** to **Chris Johns**
3. **status**: changed from **new** to **assigned**
4. **component**: changed from **cpukit** to **Documentation**
5. **description**: modified (diff)

<https://git.rtems.org/rtems/commit?id=8228548d127dd73439615f45f38f92b8a42bcfed> added the calls.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Joel Sherrill**, Thu, 12 Oct 2017 00:58:27 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d36d685/rtems-docs:

```
posix-users/thread.rst: Add pthread_getconcurrency and pthread_setconcurrency
Closes #2680.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2683 - Configuration table's smp\_enabled conditional on RTEMS\_SMP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2683">https://devel.rtems.org/ticket/2683</a> ( <a href="https://devel.rtems.org/ticket/2683">https://devel.rtems.org/ticket/2683</a> )
<b>Id</b>	2683
<b>Reporter</b>	Chris Johns
<b>Created</b>	4 April 2016 01:48:22
<b>Modified</b>	31 March 2020 10:59:35
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The rtems\_configuration\_table has:

```
#ifdef RTEMS_SMP
bool                smp_enabled;
#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

**Comment 1**

1. **Chris Johns**, Mon, 04 Apr 2016 01:48:55 GMT
2. **description**: modified (diff)

**Comment 2**

1. **Sebastian Huber**, Mon, 04 Apr 2016 05:27:59 GMT

Yes, the top-level configuration tables should contain no pre-processor stuff.

**Comment 3**

1. **Joel Sherrill**, Mon, 04 Apr 2016 09:05:18 GMT

With per function/data element linking, will the smp enabled variable even make it to a linked uniprocessor exe if SMP is disabled and the variable is always false? There will be no code to reference it.

**Comment 4**

1. **Chris Johns**, Mon, 04 Apr 2016 21:23:58 GMT

Replying to joel.sherrill:

With per function/data element linking, will the smp enabled variable even make it to a linked uniprocessor exe if SMP is disabled and the variable is always false? There will be no code to reference it.

It is in the configuration table. All that is being suggested to always have the elements in the table. There is no code.

#### Comment 5

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:25:52 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **4.12** to **Indefinite**

#### Comment 6

1. **Sebastian Huber**, Tue, 31 Mar 2020 10:59:06 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **invalid**
4. **milestone**: changed from **Indefinite** to **5.1**

The configuration table no longer exists. In particular, the SMP enabled indicator is no longer used. The User\_multiprocessing\_table no longer exists. In MPCl configurations, there is now an \_MPCl\_Configuration.

## 2684 - rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122: duplicate if

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2684">https://devel.rtems.org/ticket/2684</a> ( <a href="https://devel.rtems.org/ticket/2684">https://devel.rtems.org/ticket/2684</a> )
<b>Id</b>	2684
<b>Reporter</b>	David Binderman
<b>Created</b>	7 April 2016 21:05:07
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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) {

```

#### Comment 1

1. **Sebastian Huber**, Thu, 14 Apr 2016 05:52:58 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **version**: changed from **4.10** to **4.11**
5. **milestone**: changed from **4.11.1** to **4.12**

#### Comment 2

1. **Sebastian Huber**, Tue, 05 Jul 2016 07:59:52 GMT

2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **component**: changed from **General** to **bsps**

[291945f137d411834c0eaf3b0bb819263efb845b/rtems]

No plans to fix this for RTEMS 4.11.

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component**: changed from **bsps** to **arch/sparc**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## **2685 - c/src/lib/libbsp/arm/atsam/network/if\_atsam.c:409: possible bad if statement**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2685">https://devel.rtems.org/ticket/2685</a> ( <a href="https://devel.rtems.org/ticket/2685">https://devel.rtems.org/ticket/2685</a> )
<b>Id</b>	2685
<b>Reporter</b>	David Binderman
<b>Created</b>	7 April 2016 21:07:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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  
\*/

#### Comment 1

1. **Sebastian Huber**, Thu, 14 Apr 2016 05:52:12 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **version**: changed from **4.10** to **4.12**
5. **milestone**: changed from **4.11.1** to **4.12**

**Comment 2**

1. **Alexander Krutwig**, Mon, 06 Jun 2016 11:17:28 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 15f0f9b448150f1ac828a9d3e498a7249dbdc362/rtems:

atsam: Fix network interface PHY handling  
Close #2685.

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component**: changed from **unspecified** to **arch/arm**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2689 - POSIX key destructors must be called during thread restart**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2689">https://devel.rtems.org/ticket/2689</a> ( <a href="https://devel.rtems.org/ticket/2689">https://devel.rtems.org/ticket/2689</a> )
<b>Id</b>	2689
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 April 2016 06:06:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 14 Apr 2016 06:06:19 GMT
2. **component**: changed from **General** to **cpukit**

**Comment 2**

1. **Sebastian Huber**, Thu, 14 Apr 2016 07:01:14 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 6efa3498504bffde166b4663319bd7d94ea42a08/rtems:

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2692 - User extensions execution order must be clarified**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2692">https://devel.rtems.org/ticket/2692</a> ( <a href="https://devel.rtems.org/ticket/2692">https://devel.rtems.org/ticket/2692</a> )
<b>Id</b>	2692
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 April 2016 07:00:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The implemented and documented execution order of some user extensions disagree. Intended behaviour must be tested. Documentation must be updated accordingly.

**Comment 1**

1. **Sebastian Huber**, Tue, 19 Apr 2016 05:23:26 GMT

In 709f38a97287ff1aa8e8c0668c2d066e711db87c/rtems:

```
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.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT
2. **priority**: changed from **normal** to **high**

**Comment 3**

1. **Sebastian Huber**, Thu, 26 Jan 2017 12:55:05 GMT

In 6f6da82ca0b57ed1c42050f8103c2ea2adb3d3e2/rtems:

```
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.
```



**Comment 4**

1. **Sebastian Huber**, Fri, 27 Jan 2017 06:24:44 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[b1e3b75e907db0f448610f18c5e11dd1ee9448b2/rtems-docs]

**Comment 5**

1. **Sebastian Huber**, Tue, 21 Feb 2017 11:12:45 GMT

In c54769e71e1c87c55e482a3d05322e728fb2aac1/rtems:

```
spextensions01: Fix extension create order
Update #2692.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2693 - Update doc to reflect obsoleting rtems\_clock\_get()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2693">https://devel.rtems.org/ticket/2693</a> ( <a href="https://devel.rtems.org/ticket/2693">https://devel.rtems.org/ticket/2693</a> )
<b>Id</b>	2693
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 April 2016 21:52:32
<b>Modified</b>	15 April 2020 14:57:16
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Attachments:**

1. **Joel Sherrill**, Thu, 14 Apr 2016 21:53:01 GMT  
**attach**: set to [0002-doc-user-clock.t-Remove-obsolete-rtems\\_clock\\_get.patch](https://devel.rtems.org/ticket/2693/0002-doc-user-clock.t-Remove-obsolete-rtems_clock_get.patch) ([https://devel.rtems.org/ticket/2693/0002-doc-user-clock.t-Remove-obsolete-rtems\\_clock\\_get.patch](https://devel.rtems.org/ticket/2693/0002-doc-user-clock.t-Remove-obsolete-rtems_clock_get.patch))

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Wed, 14 Jun 2017 13:50:19 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Joel Sherrill**, Wed, 11 Oct 2017 23:42:57 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 21e0fcd/rtems-docs:

```
c-user: Update to reflect rtems_clock_get() being obsoleted.
Closes #2693.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 6**

1. **Sebastian Huber**, Wed, 15 Apr 2020 14:57:16 GMT

In e150e16/rtems-docs:

```
c-user: Add removed directive rtems_clock_get()
Be in line with Task Manager chapter.
Update #2693.
```

**2694 - linking issue for htonl, etc when using -std=c99**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2694">https://devel.rtems.org/ticket/2694</a> ( <a href="https://devel.rtems.org/ticket/2694">https://devel.rtems.org/ticket/2694</a> )
<b>Id</b>	2694
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 April 2016 15:17:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns Gedare Bloom
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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

```
=====
```

```
#include
```

```
int main(
```

```
    int argc,
    char __argv __
```

```
)
{
```

```
    uint32_t v = (uint32_t) argc;
    uint32_t rc = htonl(v);
    return v;
```

```
}
```

```
=====
```

This script was what I used to find what caused the linking error to go away.

```
=====
RTEMS_MAKEFILE_PATH=/home/joel/rtems-4.11-work/tools/4.12/i386-rtems4.12/pc586/
i386-rtems4.12-gcc -std=c99 \
```

```
-B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
-D_XOPEN_SOURCE=600 -DUSE_SVID main.c -lbsd -lm -lbsd
```

```
i386-rtems4.12-gcc -std=c99 \
```

```
-B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
-DUSE_SVID main.c -lbsd -lm -lbsd
```

```
i386-rtems4.12-gcc -std=c99 \
```

```
-B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
main.c -lbsd -lm -lbsd
```

```
i386-rtems4.12-gcc \
```

```
-B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
main.c -lbsd -lm -lbsd
```

```
=====
```

#### Comment 1

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:53 GMT
2. **priority**: changed from **normal** to **low**

#### Comment 2

1. **Sebastian Huber**, Mon, 23 Jan 2017 07:34:47 GMT

I cannot reproduce this problem on the master.

#### Comment 3

1. **Joel Sherrill**, Mon, 23 Jan 2017 15:42:57 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **worksforme**

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2695 - Add libatomic for RTEMS

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2695">https://devel.rtems.org/ticket/2695</a> ( <a href="https://devel.rtems.org/ticket/2695">https://devel.rtems.org/ticket/2695</a> )
<b>Id</b>	2695
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 April 2016 06:00:26
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Tue, 19 Apr 2016 06:00:38 GMT
2. **version**: changed from **4.10** to **4.11**

**Comment 2**

1. **Sebastian Huber**, Tue, 19 Apr 2016 07:27:46 GMT

<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>

**Comment 3**

1. **Chris Johns**, Tue, 19 Apr 2016 07:33:48 GMT

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>

**Comment 4**

1. **Sebastian Huber**, Tue, 19 Apr 2016 08:16:28 GMT

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>

**Comment 5**

1. **Chris Johns**, Tue, 19 Apr 2016 08:19:46 GMT

Replying to sebastian.huber:

<https://lists.rtems.org/pipermail/devel/2016-April/014558.html>

Is that on top of Joel's patch?

**Comment 6**

1. **Sebastian Huber**, Wed, 27 Apr 2016 07:15:27 GMT

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=235466>

**Comment 7**

1. **Sebastian Huber**, Fri, 01 Jul 2016 10:01:24 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Fixed in this RSB version:

<https://git.rtems.org/rtems-source-builder/commit/?id=3da4d0e5ce50909d4fe45168d6d6a82ebc119f92>

**Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 9**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT

2. **component:** changed from **GCC** to **tool/gcc**

#### Comment 10

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2696 - Unpredictable errno value returned by sem\_wait() in case of semaphore deletion**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2696">https://devel.rtems.org/ticket/2696</a> ( <a href="https://devel.rtems.org/ticket/2696">https://devel.rtems.org/ticket/2696</a> )
<b>Id</b>	2696
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 April 2016 09:14:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

`_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()`.

#### Comment 1

1. **Joel Sherrill**, Tue, 19 Apr 2016 13:10:50 GMT

I went back to the 4.8 branch and the translation was a switch in `semaphorewaitsupp.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.

#### Comment 2

1. **Sebastian Huber**, Tue, 19 Apr 2016 13:14:45 GMT

There was no test case, so the debug check was simply not triggered.

#### Comment 3

1. **Sebastian Huber**, Thu, 21 Apr 2016 05:33:39 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 90f1265e5dffe0f834ee9c55640a34fd90be8f12/rtems:

```
score: Fix _CORE_semaphore_Flush()
Use proper CORE_semaphore_Status for _CORE_semaphore_Flush() and _CORE_semaphore_Destroy() operations.
Close #2696.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

## 2698 - GCC 6.1 is broken for microblaze

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2698">https://devel.rtems.org/ticket/2698</a> ( <a href="https://devel.rtems.org/ticket/2698">https://devel.rtems.org/ticket/2698</a> )
<b>Id</b>	2698
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 April 2016 06:17:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Joel Sherrill**, Thu, 21 Apr 2016 14:54:47 GMT

This is in gcc/config/microblaze/microblaze.h:

```
===== /* Extra switches sometimes passed to the linker. */ /* -xl-mode-xmdstub
translated to -Zxl-mode-xmdstub -- deprecated. */
#define LINK_SPEC "%{shared:-shared} -N -relax \
```

```
%{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:

```
#undef LINK_SPEC `#define LINK_SPEC "%{shared:-shared} -N -relax \
```

```
%{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?

### Comment 2

1. **Joel Sherrill**, Thu, 21 Apr 2016 15:41:04 GMT

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>

### Comment 3

1. **Sebastian Huber**, Wed, 27 Apr 2016 07:08:00 GMT

2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT
2. **component**: changed from **GCC** to **tool/gcc**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2700 - cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2700">https://devel.rtems.org/ticket/2700</a> ( <a href="https://devel.rtems.org/ticket/2700">https://devel.rtems.org/ticket/2700</a> )
<b>Id</b>	2700
<b>Reporter</b>	David Binderman
<b>Created</b>	26 April 2016 09:38:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 ) {
```

**Comment 1**

1. **David Binderman**, Fri, 20 Jan 2017 15:17:24 GMT

Still broken nine months later.

**Comment 2**

1. **Sebastian Huber**, Mon, 23 Jan 2017 13:39:44 GMT
2. **owner**: set to **Sebastian Huber** <sebastian.huber@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In c0151e6c6486ce3ae3623e616326fae626f32eb2/rtems:

```
nfsclient: Fix suspicious condition
```

```
Close #2700.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 23 Jan 2017 13:40:22 GMT

2. **milestone:** changed from **4.11.1** to **4.12**

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2701 - Rename asm file with .S(upper case) ext. name

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2701">https://devel.rtems.org/ticket/2701</a> ( <a href="https://devel.rtems.org/ticket/2701">https://devel.rtems.org/ticket/2701</a> )
<b>Id</b>	2701
<b>Reporter</b>	printk
<b>Created</b>	27 April 2016 16:48:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The are some asm file with .s ext. name, .s and .S is different for gnu as, the pre processed produce .s file from .S. In a word, .S can use #define .s can not.  
 KBuild clean .s files when make clean.  
 I have submit a patch to devel, but blocked. Too big patch.

#### Comment 1

1. **printk**, Wed, 27 Apr 2016 16:50:00 GMT
- find \*.s grep -R xxx.s There is one .am file contains the xxx.s Only one.

#### Comment 2

1. **Sebastian Huber**, Tue, 20 Dec 2016 09:31:52 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 81af80e586475843624c6e8dc3aa77f97b37b5a9/rtems:

```
Rename *.s to *.S
Consistently use *.S for assembler files.
Close #2701.
```

#### Comment 3

1. **Chris Johns**, Mon, 27 Mar 2017 06:48:47 GMT
2. **milestone:** changed from **4.12.1** to **4.12.0**

Move to the first 4.12 milestone.

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:03:57 GMT
2. **component:** changed from **Code** to **build**



**Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:04:12 GMT
2. **component**: changed from **build** to **RSB**

**Comment 6**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:04:32 GMT
2. **component**: changed from **RSB** to **build**

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2702 - Remove descriptor objects for POSIX message queues**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2702">https://devel.rtems.org/ticket/2702</a> ( <a href="https://devel.rtems.org/ticket/2702">https://devel.rtems.org/ticket/2702</a> )
<b>Id</b>	2702
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	29 April 2016 07:11:23
<b>Modified</b>	15 December 2017 06:24:12
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 02 May 2016 10:07:53 GMT

In c8982e5f6a4857444676165deab1e08dc91a6847/rtems:

```
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.

**Comment 2**

1. **Sebastian Huber**, Mon, 19 Dec 2016 13:52:36 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[7b0db6a9d58140150134718c34a1b552d4e0d4ae/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 6**

1. **Sebastian Huber**, Fri, 15 Dec 2017 06:24:12 GMT

In e1563f37/rtems:

```
posix: Remove unused global variable
Update #2702. Update #2555.
```

**2706 - Buffer allocation of capture engine is broken on SMP configurations**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2706">https://devel.rtems.org/ticket/2706</a> ( <a href="https://devel.rtems.org/ticket/2706">https://devel.rtems.org/ticket/2706</a> )
<b>Id</b>	2706
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 May 2016 09:03:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The capture engine uses function static variables.

**Comment 1**

1. **Sebastian Huber**, Thu, 12 May 2016 11:35:52 GMT
2. **owner**: set to **Sebastian Huber** <sebastian.huber@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 2f11d4a0144207321838f746471b56c4cfa40a0d/rtems:

```
capture: Fix buffer allocation and free
Do not use function static variables. Remove superfluous volatile qualifiers. Use proper integer types.
Close #2706.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2707 - Unsafe use of current processor index in capture engine**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2707">https://devel.rtems.org/ticket/2707</a> ( <a href="https://devel.rtems.org/ticket/2707">https://devel.rtems.org/ticket/2707</a> )
<b>Id</b>	2707
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 May 2016 09:05:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The current processor index is used outside a thread dispatch disabled section.

**Comment 1**

1. **Sebastian Huber**, Thu, 12 May 2016 11:35:33 GMT

In 0727760336bfc4f66771f1a86ee3bb923d2cfc4/rtems:

```
rtems: Add rtems_interrupt_lock_interrupt_disable
Update #2707.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 12 May 2016 11:36:20 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In df23f464be5733b489eae03428d5449a37b310b9/rtems:

```
capture: Fix use of per-processor data
Get the current processor index only once and with interrupts disabled.
Close #2707.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2714 - A pthread\_detach() does not lead to a resource reclamation**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2714">https://devel.rtems.org/ticket/2714</a> ( <a href="https://devel.rtems.org/ticket/2714">https://devel.rtems.org/ticket/2714</a> )
<b>Id</b>	2714
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 May 2016 08:59:44
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

According to POSIX a `pthread_detach()` should lead to a resource reclamation if the thread is already cancelled.

**Comment 1**

1. **Sebastian Huber**, Tue, 17 May 2016 09:00:36 GMT

In 9d8ee11e55a0c9e515409f40900917a58d3bf6cc/rtems:

```
psxtests/psxcancel: Add pthread_detach() tests
Update #2714.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 20 May 2016 05:56:37 GMT

In 12a1228c593166069ac316f91865bdd9bb812ba1/rtems:

```
psxclassic01: Assume correct pthread_detach()
Update #2714.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 20 May 2016 05:59:18 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 54550e048d3a49435912797d2024f80671e93267/rtems:

```
posix: Rework pthread_join()
Rework pthread_join() to use _Thread_Join().
Close #2402. Update #2555. Update #2626. Close #2714.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:11 GMT
2. **component**: changed from **unspecified** to **posix**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2718 - Blocking \_CORE\_message\_queue\_Submit() may lead to unpredictable results**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2718">https://devel.rtems.org/ticket/2718</a> ( <a href="https://devel.rtems.org/ticket/2718">https://devel.rtems.org/ticket/2718</a> )
<b>Id</b>	2718
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 May 2016 13:30:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The thread wait return code is not properly initialized before the thread queue enqueue.

**Comment 1**

1. **Sebastian Huber**, Tue, 24 May 2016 13:37:51 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 4b623d655bb4f4853a6ce385ae17e505dddbe7ce/rtems:

```
score: Fix blocking _CORE_message_queue_Submit()
Close #2718.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2722 - SEM\_VALUE\_MAX is unusually small on RTEMS**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2722">https://devel.rtems.org/ticket/2722</a> ( <a href="https://devel.rtems.org/ticket/2722">https://devel.rtems.org/ticket/2722</a> )
<b>Id</b>	2722
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 May 2016 12:13:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

RTEMS defines SEM\_VALUE\_MAX to 32767 in Newlib

newlib/libc/sys/rtems/include/limits.h

Other systems use INT\_MAX or 2147483647.

**Comment 1**

1. **Sebastian Huber**, Wed, 21 Dec 2016 06:44:33 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **component**: changed from **General** to **tools**
5. **type**: changed from **defect** to **enhancement**

<https://sourceware.org/git/gitweb.cgi?p=newlib-cygwin.git;a=commit;h=483e696049e6c254d30663b15c7a5df1b75ca735>

#### Comment 2

1. **Sebastian Huber**, Wed, 21 Dec 2016 06:45:03 GMT
2. **component**: changed from **tools** to **Newlib**

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2723 - CPUINFO command to report per-processor information

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2723">https://devel.rtems.org/ticket/2723</a> ( <a href="https://devel.rtems.org/ticket/2723">https://devel.rtems.org/ticket/2723</a> )
<b>Id</b>	2723
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 May 2016 08:09:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Add a CPUINFO command to report per-processor information, e.g. processor index, online state and scheduler assignment.

```
[/] # cpuinfo
-----
                        PER PROCESSOR INFORMATION
-----
INDEX | ONLINE | SCHEDULER ID | SCHEDULER NAME
-----
 0 | 1 | 0x0f010001 | MPS
 1 | 1 | 0x0f010001 | MPS
 2 | 1 | 0x0f010001 | MPS
 3 | 1 | 0x0f010001 | MPS
 4 | 1 | 0x0f010001 | MPS
 5 | 1 | 0x0f010001 | MPS
 6 | 1 | 0x0f010001 | MPS
 7 | 1 | 0x0f010001 | MPS
 8 | 1 | 0x0f010001 | MPS
 9 | 1 | 0x0f010001 | MPS
10 | 1 | 0x0f010001 | MPS
11 | 1 | 0x0f010001 | MPS
12 | 1 | 0x0f010001 | MPS
13 | 1 | 0x0f010001 | MPS
14 | 1 | 0x0f010001 | MPS
15 | 1 | 0x0f010001 | MPS
16 | 1 | 0x0f010001 | MPS
17 | 1 | 0x0f010001 | MPS
18 | 1 | 0x0f010001 | MPS
19 | 1 | 0x0f010001 | MPS
20 | 1 | 0x0f010001 | MPS
21 | 1 | 0x0f010001 | MPS
22 | 1 | 0x0f010001 | MPS
23 | 1 | 0x0f010001 | MPS
```

#### Comment 1

1. **Sebastian Huber**, Tue, 31 May 2016 08:12:02 GMT

In 01cb5540bd7b391f9a19c79b284dfc4385afc06/rtems:

shell: Add CPUINFO command  
Update #2723.

**Comment 2**

1. **Sebastian Huber**, Mon, 19 Dec 2016 14:07:20 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[f5170100f1a2fe449c327cb6786c4f3202cf07e8/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:35:44 GMT
2. **component**: changed from **misc** to **unspecified**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2725 - Classic binary semaphores without a locking protocol can be released by everyone**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2725">https://devel.rtems.org/ticket/2725</a> ( <a href="https://devel.rtems.org/ticket/2725">https://devel.rtems.org/ticket/2725</a> )
<b>Id</b>	2725
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 June 2016 06:16:16
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 semaphores 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:

```
*** BEGIN OF TEST SP 42 ***
Exercising blocking discipline w/extract in FIFO order
Exercising blocking discipline w/unblock in FIFO order
TA00 - unblocked - OK
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.

**Comment 1**

1. **Sebastian Huber**, Fri, 03 Jun 2016 06:24:47 GMT
2. **component**: changed from **General** to **cpukit**
3. **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**

**Comment 2**

1. **Chris Johns**, Fri, 03 Jun 2016 06:25:16 GMT

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

2. **description:** modified (diff)

### Comment 3

1. **Sebastian Huber**, Mon, 06 Jun 2016 11:17:00 GMT

In 3ad5f86cf6803204b98760cdce0c56ef6d79bccd/rtems:

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

### Comment 4

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT
2. **priority:** changed from **normal** to **high**

### Comment 5

1. **Sebastian Huber**, Mon, 23 Jan 2017 12:46:12 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

[31157bcd477336016a76ae75c8c51aca42c608fb/rtems-docs]

### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2726 - grasc.c: Questionable use of binary semaphore

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2726">https://devel.rtems.org/ticket/2726</a> ( <a href="https://devel.rtems.org/ticket/2726">https://devel.rtems.org/ticket/2726</a> )
<b>Id</b>	2726
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 June 2016 09:02:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Use a simple binary semaphore or binary semaphore with inherit priority instead.

```
c/src/lib/libbsp/sparc/shared/ascs/grasc.c-
c/src/lib/libbsp/sparc/shared/ascs/grasc.c- /* Create semaphores for blocking ASCS_TC/TM functions */
c/src/lib/libbsp/sparc/shared/ascs/grasc.c- if(rtems_semaphore_create(rtems_build_name('A','S','C','0'),1,
c/src/lib/libbsp/sparc/shared/ascs/grasc.c: (RTEMS_FIFO|RTEMS_BINARY_SEMAPHORE|
c/src/lib/libbsp/sparc/shared/ascs/grasc.c- RTEMS_NO_INHERIT_PRIORITY|RTEMS_LOCAL|
c/src/lib/libbsp/sparc/shared/ascs/grasc.c- RTEMS_NO_PRIORITY_CEILING), 0,
c/src/lib/libbsp/sparc/shared/ascs/grasc.c- &cfg->tcsem1) != RTEMS_SUCCESSFUL) {
```



```

c/src/lib/libbsp/sparc/shared/ascs/grascs.c- goto init_error2;
c/src/lib/libbsp/sparc/shared/ascs/grascs.c- }
c/src/lib/libbsp/sparc/shared/ascs/grascs.c- if(rtems_semaphore_create(rtems_build_name('A','S','C','2'),0,
c/src/lib/libbsp/sparc/shared/ascs/grascs.c: (RTEMS_FIFO|RTEMS_BINARY_SEMAPHORE|
c/src/lib/libbsp/sparc/shared/ascs/grascs.c- RTEMS_NO_INHERIT_PRIORITY|RTEMS_LOCAL|
c/src/lib/libbsp/sparc/shared/ascs/grascs.c- RTEMS_NO_PRIORITY_CEILING), 0,
c/src/lib/libbsp/sparc/shared/ascs/grascs.c- &cfg->Ëcsëm2) != RTEMS_SUCCESSFUL) {

```

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Mon, 14 Aug 2017 00:49:08 GMT
2. **version**: changed from **4.10** to **4.12**

**Comment 3**

1. **Daniel Hellstrom**, Wed, 30 Aug 2017 10:41:43 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Fixed by efcac228f4888c2cccfea0caf584705f0ddfc14

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component**: changed from **bsps** to **arch/sparc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2727 - FAT file systems use wrong semaphore for mutual exclusion**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2727">https://devel.rtems.org/ticket/2727</a> ( <a href="https://devel.rtems.org/ticket/2727">https://devel.rtems.org/ticket/2727</a> )
<b>Id</b>	2727
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 June 2016 09:06:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	fs/fat
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```

cpukit/libfs/src/dosfs/msdos_initsupp.c- sc = rtems_semaphore_create(3,
cpukit/libfs/src/dosfs/msdos_initsupp.c- 1,
cpukit/libfs/src/dosfs/msdos_initsupp.c- RTEMS_BINARY_SEMAPHORE | RTEMS_FIFO,
cpukit/libfs/src/dosfs/msdos_initsupp.c: 0,
cpukit/libfs/src/dosfs/msdos_initsupp.c- &fs_info->vol_sema);
cpukit/libfs/src/dosfs/msdos_initsupp.c-

```

Should use a binary semaphore with inherit priority.

**Comment 1**

1. **Sebastian Huber**, Mon, 06 Jun 2016 11:16:31 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In a7f0096b730ebbb0b22b5eacb2ea20cd130344d/rtems:

dosfs: Use proper semaphore attr for mutex  
Close #2727.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:50:58 GMT
2. **component**: changed from **fs** to **fs/fat**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2728 - Pipes use wrong semaphore for mutual exclusion**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2728">https://devel.rtems.org/ticket/2728</a> ( <a href="https://devel.rtems.org/ticket/2728">https://devel.rtems.org/ticket/2728</a> )
<b>Id</b>	2728
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 June 2016 09:07:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```
cpukit/libfs/src/pipe/fifo.c      sc = rtems semaphore create(
cpukit/libfs/src/pipe/fifo.c      rtems_build_name('P', 'I', 'P', 'E'),
cpukit/libfs/src/pipe/fifo.c      1,
cpukit/libfs/src/pipe/fifo.c      RTEMS_BINARY_SEMAPHORE | RTEMS_INHERIT_PRIORITY | RTEMS_PRIORITY,
cpukit/libfs/src/pipe/fifo.c      RTEMS_NO_PRIORITY,
cpukit/libfs/src/pipe/fifo.c      &pipe_semaphore
cpukit/libfs/src/pipe/fifo.c      );
```

Should use a binary semaphore with inherit priority instead.

**Comment 1**

1. **Sebastian Huber**, Mon, 06 Jun 2016 11:16:40 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In c75aa864cf614ec2cc82598eadef6067a7dbe3db/rtems:

pipe: Use proper semaphore attr for mutex  
Close #2728.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

## **2729 - TFTP client uses wrong semaphore for mutual exclusion**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2729">https://devel.rtems.org/ticket/2729</a> ( <a href="https://devel.rtems.org/ticket/2729">https://devel.rtems.org/ticket/2729</a> )
<b>Id</b>	2729
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 June 2016 09:55:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

```
cpukit/libnetworking/lib/tftpDriver.c- rtems_build_name('T', 'E', 'T', 'P'),
cpukit/libnetworking/lib/tftpDriver.c- 1,
cpukit/libnetworking/lib/tftpDriver.c- RTEMS_FIFO |
cpukit/libnetworking/lib/tftpDriver.c- RTEMS_BINARY_SEMAPHORE |
cpukit/libnetworking/lib/tftpDriver.c- RTEMS_NO_INHERIT_PRIORITY |
cpukit/libnetworking/lib/tftpDriver.c- RTEMS_NO_PRIORITY_CEILING |
cpukit/libnetworking/lib/tftpDriver.c- RTEMS_LOCAL,
```

Should use a binary semaphore with inherit priority.

### **Comment 1**

1. **Sebastian Huber**, Mon, 06 Jun 2016 09:55:31 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

### **Comment 2**

1. **Sebastian Huber**, Mon, 06 Jun 2016 11:16:50 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In a2f91f6cb87a5c53d1bb6f3dcb4ad9153078918f/rtems:

```
tftp: Use proper semaphore attr for mutex
Close #2729.
```

### **Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### **Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2732 - Add clock\_nanosleep()**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2732">https://devel.rtems.org/ticket/2732</a> ( <a href="https://devel.rtems.org/ticket/2732">https://devel.rtems.org/ticket/2732</a> )
<b>Id</b>	2732
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	9 June 2016 15:36:47
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	posix
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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](http://pubs.opengroup.org/onlinepubs/009695399/functions/clock_nanosleep.html)

### Comment 1

1. **Gedare Bloom**, Mon, 25 Jul 2016 16:45:22 GMT

In e0f17fcf6f06d3383cd389d809ee4e3d6e0fb14d/rtems:

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

### Comment 2

1. **Gedare Bloom**, Tue, 26 Jul 2016 18:17:57 GMT

In 39d97ab78fcc37eb8b1e7d9f9717f51b249155b/rtems:

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

### Comment 3

1. **Gedare Bloom**, Fri, 29 Jul 2016 17:14:45 GMT

In 842005e432136953d670e39cedc2d665ea949e7b/rtems:

posix: `nanosleep`: optimize away a time conversion

updates #2732

### Comment 4

1. **Gedare Bloom**, Wed, 10 Aug 2016 16:10:21 GMT

In 709594f0fb29d4f860b99cda264ea3e74c635a72/rtems:

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

### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 6

1. **Gedare Bloom**, Fri, 30 Jun 2017 13:27:37 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 7**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2734 - pthread\_setschedprio() is missing**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2734">https://devel.rtems.org/ticket/2734</a> ( <a href="https://devel.rtems.org/ticket/2734">https://devel.rtems.org/ticket/2734</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 June 2016 06:01:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

See also

[http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread\\_setschedprio.html](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](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 .

**Comment 1**

1. **Sebastian Huber**, Mon, 13 Jun 2016 13:38:29 GMT
2. **owner**: set to **Sebastian Huber <sebastian.huber@...>**
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 0c34dbf341095f93a712bbe6d024c8c1d975b6f5/rtems:

```
posix: Add pthread_setschedprio()
```

```
Close #2734.
```

**Comment 2**

1. **Joel Sherrill**, Mon, 03 Apr 2017 23:28:20 GMT
2. **keywords**: **POSIX-Compliance** added

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2735 - pthread\_setschedparam() sets the priority not according to POSIX**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2735">https://devel.rtems.org/ticket/2735</a> ( <a href="https://devel.rtems.org/ticket/2735">https://devel.rtems.org/ticket/2735</a> )
<b>Id</b>	2735
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 June 2016 06:02:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.).

**Comment 1**

1. **Sebastian Huber**, Mon, 13 Jun 2016 13:10:14 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **summary**: changed from **pthread\_setschedparam() set the priority not according to POSIX** to **pthread\_setschedparam() sets the priority not according to POSIX**

**Comment 2**

1. **Sebastian Huber**, Mon, 13 Jun 2016 13:20:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In fc30ac5973aae2393fb318b56346368f5e9b4493/rtems:

```
posix: Fix pthread_setschedparam()
Close #2735.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

---

## **2736 - pthread\_getschedparam() returns wrong priority values**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2736">https://devel.rtems.org/ticket/2736</a> ( <a href="https://devel.rtems.org/ticket/2736">https://devel.rtems.org/ticket/2736</a> )
<b>Id</b>	2736
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 June 2016 06:03:46
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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."

### **Comment 1**

1. **Sebastian Huber**, Mon, 13 Jun 2016 12:59:41 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 23b1bb38b208a6638747bb49b8184a5571e8f5e7/rtems:

```
posix: Fix pthread_getschedparam()
Return the unmodified thread priority value according to POSIX.
Close #2736.
```

### **Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### **Comment 3**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

### **Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2737 - Add CLOCK\_DRIVER\_USE\_ONLY\_BOOT\_PROCESSOR**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2737">https://devel.rtems.org/ticket/2737</a> ( <a href="https://devel.rtems.org/ticket/2737">https://devel.rtems.org/ticket/2737</a> )
<b>Id</b>	2737
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 June 2016 09:19:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 01 Jul 2016 10:02:34 GMT

[b61d5cac7c5f1ba801a8d0f896313b2e5cd01111/rtems]

**Comment 2**

1. **Sebastian Huber**, Wed, 21 Dec 2016 10:09:53 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[e7f40f04d39d3d87d30b50a02bab90a72a9dae61/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2740 - Suboptimal type for Timestamp\_Control**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2740">https://devel.rtems.org/ticket/2740</a> ( <a href="https://devel.rtems.org/ticket/2740">https://devel.rtems.org/ticket/2740</a> )
<b>Id</b>	2740
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 June 2016 08:53:55
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Currently we have

```
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.



**Comment 1**

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:25:52 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **4.12** to **Indefinite**

**Comment 2**

1. **Sebastian Huber**, Fri, 06 Oct 2017 12:59:46 GMT
2. **status**: changed from **assigned** to **accepted**
3. **milestone**: changed from **Indefinite** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Mon, 09 Oct 2017 12:15:53 GMT

In c0623a99/rtems:

```
score: Simplify _Timestamp_Add_to()
```

```
Update #2740.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 09 Oct 2017 12:16:07 GMT

In 2256946/rtems:

```
score: Use struct timespec for TOD
```

```
Use the timestamps only for uptime based values. Use struct timespec for the absolute time values (TOD).
```

```
Update #2740.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 09 Oct 2017 12:16:23 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 65012bf/rtems:

```
score: Change Timestamp_Control to sbintime_t
```

```
The timestamp are based on the uptime. There is no need for a 64-bit seconds part. The signed 32-bit seconds part of the sbintime_t limits the uptime to roughly 68 years.
```

```
Close #2740.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:05:47 GMT

In ed9a6fd/rtems:

```
posix: Use right time format in adjtime()
```

```
Update #2740.
```

**Comment 7**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:27:11 GMT

In 16db540a/rtems:

```
Use right time format in _times()
```

```
Update #2740. Close #3179.
```

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2741 - New warning from printf plugin changes

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2741">https://devel.rtems.org/ticket/2741</a> ( <a href="https://devel.rtems.org/ticket/2741">https://devel.rtems.org/ticket/2741</a> )
<b>Id</b>	2741
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 June 2016 15:38:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

```
../../../../rtems/c/src/lib/libcpu/powerpc/mpc6xx/mmu/pte121.c: In function 'whatPrintf':
../../../../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;
```

### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 2

1. **Sebastian Huber**, Thu, 08 Jun 2017 08:38:22 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

```
[73f8d938474d04013d785f5918d75b9d82c80ca3/rtems]
```

### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:33:12 GMT
2. **component:** changed from **libcpu** to **bsps**

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2742 - New warning in SHM driver

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2742">https://devel.rtems.org/ticket/2742</a> ( <a href="https://devel.rtems.org/ticket/2742">https://devel.rtems.org/ticket/2742</a> )
<b>Id</b>	2742
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 June 2016 16:31:15
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Not sure how to fix this one

```
../../../../rtems/c/src/libchip/shmldr/init.c:241:29: warning: assignment from incompatible pointer type [-Wincompatible-pointer-types]
```

```
MPCI_Shmem_extensions.fatal = MPCI_Fatal;
```

PowerPC/psim with multiprocessing enabled.

**Comment 1**

1. **Joel Sherrill**, Thu, 16 Jun 2016 17:09:52 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Sebastian Huber**, Fri, 17 Jun 2016 06:05:11 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 305231bd3c2cb78421cedb9d7093773359612445/rtems:

```
bsps: Fix MPCI_Fatal() prototype
Close #2742.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2745 - Use clock from pthread\_condattr in pthread\_cond\_timedwait**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2745">https://devel.rtems.org/ticket/2745</a> ( <a href="https://devel.rtems.org/ticket/2745">https://devel.rtems.org/ticket/2745</a> )
<b>Id</b>	2745
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	23 June 2016 20:10:07
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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)

#### Comment 1

1. **Gedare Bloom**, Thu, 23 Jun 2016 20:10:22 GMT
2. **owner**: set to **Gedare Bloom**
3. **status**: changed from **new** to **assigned**

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Gedare Bloom**, Fri, 30 Jun 2017 13:24:31 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

fixed in b5bfaaf9c27996d672f7aad67fee24581ab2f218

#### Comment 4

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2748 - Move RTEMS-specific socket wake-up to RTEMS-specific <rtems/rtems\_bsdnet.h>**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2748">https://devel.rtems.org/ticket/2748</a> ( <a href="https://devel.rtems.org/ticket/2748">https://devel.rtems.org/ticket/2748</a> )
<b>Id</b>	2748
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 June 2016 05:56:41
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	enhancement
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The contains definitions for the RTEMS-specific socket wake-up support. Move this stuff to since this feature is not present in standard network stacks. Portable applications should not use it.

**Comment 1**

1. **Chris Johns**, Tue, 28 Jun 2016 05:57:45 GMT

Will this break existing applications?

**Comment 2**

1. **Sebastian Huber**, Tue, 28 Jun 2016 06:07:06 GMT

Yes, if they use the old network stack and include only .

**Comment 3**

1. **Sebastian Huber**, Tue, 28 Jun 2016 13:20:39 GMT
2. **owner:** set to **Sebastian Huber <sebastian.huber@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In e79a0ca75fbc87c17e220f6a80a64bff3d10c9dd/rtems:

```
libnetworking: Move RTEMS-specific socket wake-up
Close #2748.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2749 - rtems\_task\_set\_scheduler() has insufficient parameters**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2749">https://devel.rtems.org/ticket/2749</a> ( <a href="https://devel.rtems.org/ticket/2749">https://devel.rtems.org/ticket/2749</a> )
<b>Id</b>	2749
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 June 2016 11:12:19
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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.

```

/**
 * @brief Sets the scheduler instance of a task.
 *
 * Initially, the scheduler instance of a task is set to the scheduler instance
 * of the task that created it. This directive allows to move a task from its
 * current scheduler instance to another specified by the scheduler identifier.
 *
 * @param[in] task_id Identifier of the task. Use @ref RTEMS_SELF to select
 * the executing task.
 * @param[in] scheduler_id Identifier of the scheduler instance.
 * @param[in] priority The task priority with respect to the new scheduler
 * instance. The real and initial priority of the task is set to this value.
 * The initial priority is used by rtems_task_restart() for example.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote tasks.
 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
 * @retval RTEMS_INVALID_PRIORITY Invalid priority.
 * @retval RTEMS_RESOURCE_IN_USE The task owns resources which deny a scheduler
 * change.
 *
 * @see rtems_scheduler_ident().
 */
rtems_status_code rtems_task_set_scheduler(
  rtems_id task_id,
  rtems_id scheduler_id,
  rtems_task_priority priority
);

```

## Comment 1

1. **Sebastian Huber**, Thu, 30 Jun 2016 11:35:31 GMT
2. **description:** modified (diff)

## Comment 2

1. **Sebastian Huber**, Fri, 01 Jul 2016 09:57:39 GMT
2. **description:** modified (diff)

## Comment 3

1. **Sebastian Huber**, Fri, 01 Jul 2016 09:58:55 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In c0bd0064ac41f0602c0abfe494dbe140d7c5282f/rtems:

```
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.

## Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

## Comment 5

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:24:23 GMT

2. **component:** changed from **SMP** to **rtems**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2750 - Compile Error When Multiprocessing Enabled**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2750">https://devel.rtems.org/ticket/2750</a> ( <a href="https://devel.rtems.org/ticket/2750">https://devel.rtems.org/ticket/2750</a> )
<b>Id</b>	2750
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 June 2016 14:00:49
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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/basedefs.h:229:5: error: static assertion failed: "Message_queue_MP_Packet"
```

```
_Static_assert(cond, # msg)
```

```
../../../../rtems/c/src/../../../../cpukit/rtems/src/msgmp.c:28:1: note: in expansion of macro 'RTEMS_STATIC_ASSERT'
```

```
RTEMS_STATIC_ASSERT(
```

#### Comment 1

1. **Sebastian Huber**, Fri, 01 Jul 2016 09:59:05 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 4cb13c399827a39a9108a631e6afddf6d96de60c/rtems:

score: Fix MPC1 message layout

Restore the 32-bit priority field in MP\_packet\_Prefix.

Bug introduced by 254dc82daf8cbd6922376fcbb81c31e21cbf4d16.

Close #2750.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2751 - Thread dispatch via interrupt is broken at least on ARM and PowerPC**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2751">https://devel.rtems.org/ticket/2751</a> ( <a href="https://devel.rtems.org/ticket/2751">https://devel.rtems.org/ticket/2751</a> )
<b>Id</b>	2751
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	1 July 2016 07:42:38
<b>Modified</b>	29 June 2018 09:58:41
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 01 Jul 2016 09:58:45 GMT

In 8d5b03802e99e581c360e9a2cf67856596ec824c/rtems:

```
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
```

**Comment 2**

1. **Sebastian Huber**, Fri, 18 Nov 2016 06:59:42 GMT

In d78d5294cd076b48160e12c2f52a940d783b4dac/rtems:

```
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.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:02:28 GMT

In 2072dd242f269ca7d3d14b8f4e2830f15e85e555/rtems:

```
score: Add Per_CPU_Control::isr_dispatch_disable
Update #2751.
```

**Comment 4**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:03:06 GMT

In c11ac2d59dce04b189948dd851b1f1eb6f9a4a52/rtems:

```
sparc: Use Per_CPU_Control::isr_dispatch_disable
Update #2751.
```

**Comment 5**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:03:44 GMT



In d59585db26ea30d23a0d112212cf4b42d01e73fc/rtems:

arm: Use Per\_CPU\_Control::isr\_dispatch\_disable  
Update #2751.

#### Comment 6

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:03:56 GMT

In 7ce60b378dcf732e1467dcb7664a94824ac608c7/rtems:

powerpc: Use Per\_CPU\_Control::isr\_dispatch\_disable  
Update #2751.

#### Comment 7

1. **Sebastian Huber**, Mon, 21 Nov 2016 12:16:16 GMT

In 4e2bc0a308104d96b60d8af1a0c5bcff99fe1564/rtems:

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.

#### Comment 8

1. **Sebastian Huber**, Wed, 23 Nov 2016 11:53:10 GMT

In 1d18a9027d04625306d08c4971a7735ce4b7e9f7/rtems:

arm: Fix \_ARMV4\_Exception\_interrupt  
Use the right register to determine if a thread dispatch is allowed and necessary.  
Update #2751.

#### Comment 9

1. **Sebastian Huber**, Thu, 24 Nov 2016 08:13:18 GMT

In 4b5ff47d159872ef9e1096713fd68367f4640576/rtems:

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.

#### Comment 10

1. **Sebastian Huber**, Fri, 02 Dec 2016 12:56:59 GMT

In f65dcc712ab7ff1fb36da4254b4383f4fc5eb459/rtems:

score: Fix ARM and PowerPC context initialization  
Update #2751.

#### Comment 11

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT

2. **priority**: changed from **normal** to **high**

#### Comment 12

1. **Sebastian Huber**, Tue, 24 Jan 2017 08:45:03 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

In 436a4b384b70b4b050d5c5967c169a2b79f90042/rtems:

```
smptests/smpsignal01: Check signal ISR level
Close #2751.
```

### **Comment 13**

1. **Sebastian Huber**, Tue, 28 Mar 2017 08:34:46 GMT

In cd3d747/rtems:

```
arm: Optimize context switch
```

```
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.
```

```
Close #2954.
```

### **Comment 14**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### **Comment 15**

1. **Sebastian Huber**, Tue, 23 May 2017 08:05:22 GMT

In d5c8756/rtems:

```
arm: Fix profiling support of Thumb-1 targets
```

```
Update #2751.
```

### **Comment 16**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT
2. **component**: changed from **SMP** to **score**

### **Comment 17**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT
2. **component**: changed from **score** to **cpukit**

### **Comment 18**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### **Comment 19**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:41 GMT

In 9704d86f/rtems:

```
riscv: Enable interrupts during dispatch after ISR
```

```
The code sequence is derived from the ARM code (see _ARMV4_Exception_interrupt).
```

```
Update #2751. Update #3433.
```

---

## **2752 - Relax execution environment for thread begin extensions**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2752">https://devel.rtems.org/ticket/2752</a> ( <a href="https://devel.rtems.org/ticket/2752">https://devel.rtems.org/ticket/2752</a> )
<b>Id</b>	2752
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 July 2016 11:58:12
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Currently, the thread begin extensions are invoked with thread dispatching disabled. There is an explanation for this in the code

```

/*
 * Take care that 'begin' extensions get to complete before
 * 'switch' extensions can run. This means must keep dispatch
 * disabled until all 'begin' extensions complete.
 */
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.

**Comment 1**

1. **Sebastian Huber**, Mon, 25 Jul 2016 06:40:43 GMT

In 0fd6f25507fba5f4892b71b58837cdda17856b4/rtems:

```

score: Relax thread begin extension environment
Update #2752.

```

**Comment 2**

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT
2. **priority**: changed from **normal** to **high**

**Comment 3**

1. **Sebastian Huber**, Fri, 27 Jan 2017 06:25:20 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[b1e3b75e907db0f448610f18c5e11dd1ee9448b2/rtems-docs]

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2754 - no .strtab section**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2754">https://devel.rtems.org/ticket/2754</a> ( <a href="https://devel.rtems.org/ticket/2754">https://devel.rtems.org/ticket/2754</a> )
<b>Id</b>	2754
<b>Reporter</b>	Patrick Gauvin
<b>Created</b>	11 July 2016 00:11:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	Ryan Slabaugh
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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:

```
readelf -S libfoo.o | grep strtab
(standard input):97: [92] .shstrtab          STRTAB          00000000 001fb0 00040c 00      0  0  1
(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):

```
make clean all
qemu-system-arm -m 256M -M xilinx-zynq-a9 -serial null -serial mon:stdio \
-nographic -no-reboot -kernel libdl-strtab-test.exe
```

Expected Output:

```
TEST BEGIN
dlopen: no .strtab section
assertion "handle != NULL" failed: file "libdl-strtab-test.c", line 46, function: POSIX Init
```

Development Environment:

- \_\_RTEMS Version\_\_: 4.11 (Branch "4.11", commit 3f72dda6e518d3ea04341ad4df079ecb1895ef7) 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 --prefix=$HOME/development/rtems/4.11 --disable-networking
```

## Attachments:

- Patrick Gauvin, Mon, 11 Jul 2016 00:12:28 GMT**  
attach: set to [libdl-prel31-arm.patch](https://devel.rtems.org/ticket/2754/libdl-prel31-arm.patch) (<https://devel.rtems.org/ticket/2754/libdl-prel31-arm.patch>)
- Patrick Gauvin, Wed, 20 Jul 2016 20:17:07 GMT**  
attach: set to [libdl-strtab-test.tar.gz](https://devel.rtems.org/ticket/2754/libdl-strtab-test.tar.gz) (<https://devel.rtems.org/ticket/2754/libdl-strtab-test.tar.gz>)
- Patrick Gauvin, Wed, 20 Jul 2016 20:17:38 GMT**  
attach: set to [rtems-libdl-obj-cache-disable.patch](https://devel.rtems.org/ticket/2754/rtems-libdl-obj-cache-disable.patch) (<https://devel.rtems.org/ticket/2754/rtems-libdl-obj-cache-disable.patch>)

## Comment 1

- Patrick Gauvin, Wed, 20 Jul 2016 20:26:35 GMT**

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:

```
TEST BEGIN
dlopen:
TEST END
```

## Comment 2

- Chris Johns, Fri, 12 Aug 2016 09:31:12 GMT**

Is this to be fixed on the 4.11 branch as well?

## Comment 3

- Joel Sherrill, Fri, 12 Aug 2016 15:58:59 GMT**

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.

#### Comment 4

1. **Patrick Gauvin**, Sat, 13 Aug 2016 18:07:54 GMT

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.

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.

#### Comment 5

1. **Chris Johns**, Mon, 15 Aug 2016 08:09:16 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 35edf82463f33d30e6bbbbbbafe3aadd80acffb/rtems:

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.

#### Comment 6

1. **Chris Johns**, Mon, 27 Mar 2017 06:50:20 GMT
2. **milestone**: set to **4.12.0**

#### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2765 - Application level deadlocks may lead to SMP lock level deadlocks

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2765">https://devel.rtems.org/ticket/2765</a> ( <a href="https://devel.rtems.org/ticket/2765">https://devel.rtems.org/ticket/2765</a> )
<b>Id</b>	2765
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 July 2016 12:17:27
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Due to a missing deadlock detection application level deadlocks may lead to SMP lock level deadlocks.

#### Comment 1

1. **Sebastian Huber**, Mon, 25 Jul 2016 12:18:48 GMT

In 57a00bc6afd25f5c41006b386627d087ff9d4c66/rtems:

smptests/smpmutex02: New test  
Update #2765.

#### Comment 2

1. **Sebastian Huber**, Mon, 25 Jul 2016 12:20:41 GMT
2. **version:** changed from **4.10** to **4.11**

#### Comment 3

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:15 GMT
- In f4d1f307926b6319e5d3b325dbe424901285dec1/rtems:

score: Split \_Thread\_Change\_priority()  
Update #2412. Update #2556. Update #2765.

#### Comment 4

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:26 GMT
- In ac8402ddd6e4a8eb6defb98220d39d4c20a6f025/rtems:

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.

#### Comment 5

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:36 GMT
- In 3a58dc863157bb21054a144c1a21b690544c0d23/rtems:

score: Priority inherit thread queue operations  
Move the priority change due to priority inheritance to the thread queue enqueue operation to simplify the locking on SMP configurations.  
Update #2412. Update #2556. Update #2765.

#### Comment 6

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:46 GMT
- In 1fcac5adc5ed38fb88ce4c6d24b2ca2e27e3cd10/rtems:

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.

#### Comment 7

1. **Sebastian Huber**, Wed, 27 Jul 2016 08:56:57 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In d79df38c2bea50112214ade95776cb90d693e390/rtems:

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.

#### Comment 8

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

Comment 9

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT
2. **component**: changed from **SMP** to **score**

Comment 10

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT
2. **component**: changed from **score** to **cpukit**

Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2768 - untar does not keep permissions correctly.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2768">https://devel.rtems.org/ticket/2768</a> ( <a href="https://devel.rtems.org/ticket/2768">https://devel.rtems.org/ticket/2768</a> )
<b>Id</b>	2768
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 August 2016 00:13:50
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

On disk I have 'x' with:

```
$ ls -las x
4 -rwxr-xr-x 1 chris caeng 48 Jul 14 11:46 x
```

the tar file shows:

```
$ tar tvf rootfs.tar
-rwxr-xr-x 0 chris caeng 48 Jul 14 11:46 x
```

and in the IMFS it shows:

```
[/] # ls -las x
0 -rw-r--r-- 1 root root 48 Jan 1 00:00 x
```

The makes adding 'joel' scripts difficult.

Comment 1

1. **Chris Johns**, Tue, 09 Aug 2016 07:24:19 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In b0f08c83e23e69c7b19b04d38910f90b5f7af51b/rtems:

```
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.
```

Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## **2769 - rtems-syms does not clean up temp files.**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2769">https://devel.rtems.org/ticket/2769</a> ( <a href="https://devel.rtems.org/ticket/2769">https://devel.rtems.org/ticket/2769</a> )
<b>Id</b>	2769
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 August 2016 00:36:47
<b>Modified</b>	13 April 2018 00:30:33
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

I am seeing temps files such as:

```
$ ls -las /tmp/rld-*
0 -rw----- 1 chris wheel 0 Jul 27 18:16 /tmp/rld--04lbaa.rldxx
0 -rw----- 1 chris wheel 0 Jul 27 18:42 /tmp/rld--0niaaa.rldxx
0 -rw----- 1 chris wheel 0 Jul 27 18:39 /tmp/rld--0viaaa.rldxx
0 -rw----- 1 chris wheel 0 Jul 27 18:38 /tmp/rld--1Hhaaa.rldxx
88 -rw----- 1 chris wheel 87426 Jul 27 18:30 /tmp/rld--1ibaaa.c
0 -rw----- 1 chris wheel 0 Jul 27 18:24 /tmp/rld--2EZaaa.rldxx
0 -rw----- 1 chris wheel 0 Jul 29 17:11 /tmp/rld--2rwaaa.rldxx
0 -rw----- 1 chris wheel 0 Jul 29 18:14 /tmp/rld--2sBaaa.rldxx
88 -rw----- 1 chris wheel 88148 Jul 29 17:40 /tmp/rld--2umaaa.c
88 -rw----- 1 chris wheel 87426 Jul 27 18:25 /tmp/rld--3baaaa.c
88 -rw----- 1 chris wheel 87426 Jul 27 18:27 /tmp/rld--4Jaaaa.c
0 -rw----- 1 chris wheel 0 Jul 27 18:52 /tmp/rld--4Wiaaa.rldxx
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.

### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 3

1. **Chris Johns**, Thu, 12 Apr 2018 23:30:08 GMT

In 2a61542/rtems:

```
libdl: RAP format fixes.
Do not error if a RAP section is not found. Free a symbol table via the RTL allocator interface. Add the symbols to the global symbol table.
Update #2769
```

### Comment 4

1. **Chris Johns**, Thu, 12 Apr 2018 23:30:27 GMT

In 31cd205d/rtems:

```
tools: Add a -N option to force a name on the array.
This can be used to have a different file name for the same data name.
Update #2769
```

### Comment 5



1. **Chris Johns**, Thu, 12 Apr 2018 23:30:41 GMT

In 86e79d7/rtems:

```
testsuites/dl06: Add a test for RAP format.
```

```
This test loads a RAP format file that contains calls that are not in the kernel and linked from libm. It uses and test rtems-ld.
```

```
Update #2769
```

#### Comment 6

1. **Chris Johns**, Fri, 13 Apr 2018 00:30:33 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

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.

## 2770 - Missing documentation for RTEMS\_LINKER\_ROSET\_CONTENT and RTEMS\_LINKER\_RWSET\_CONTENT

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2770">https://devel.rtems.org/ticket/2770</a> ( <a href="https://devel.rtems.org/ticket/2770">https://devel.rtems.org/ticket/2770</a> )
<b>Id</b>	2770
<b>Reporter</b>	Christian Mauderer
<b>Created</b>	2 August 2016 06:33:35
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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>

#### Comment 1

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:08:13 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

[3b9b8a004c5e92f95007036cc7475125450014bb/rtems-docs]

#### Comment 2

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:33:26 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

2. **component:** changed from **Documentation** to **doc**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2771 - Empty C++ file with just <rtems.h> does not compile with HEAD.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2771">https://devel.rtems.org/ticket/2771</a> ( <a href="https://devel.rtems.org/ticket/2771">https://devel.rtems.org/ticket/2771</a> )
<b>Id</b>	2771
<b>Reporter</b>	Chris Johns
<b>Created</b>	4 August 2016 00:20:12
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

I have an application that does not build.

The following C++ file:

```
$ cat t1.cpp
#include
```

does not compile with git head 5fe6d07ad5690e3d9c6445ca3a465a700a5a5015 on Zynq ARM. Build with:

```
$ /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/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \
-specs bsp_specs -qrtems \
-march=armv7-a -mthumb -mcpu=neon -mfloat-abi=hard -mtune=cortex-a9 \
-g -O2 -DNDEBUG -std=c++11 \
-Werror -Wall -Wextra \
-o t1.o \
-c t1.cpp
```

Some (too much to post) of the output is:

```
In file included from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/thread.h:36:0,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/heap.h:22,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/types.h:26,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:31,
                 from t1.cpp:1:
/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)':
/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
    timespec2bintime( &_ts, _time );
                        ^
/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*)':
/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}'
    _time->sec = 0;
    ^~
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/time.h:299:0,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/timestamp.h:43,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/thread.h:36,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/heap.h:22,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/types.h:26,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:31,
                 from t1.cpp:1:
/opt/work/rtems/4.12/arm-rtems4.12/include/machine/_time.h:40:15: note: forward declaration of 'Timestamp_Control {aka struct bintime}'
extern struct bintime _Timecounter_Boottimebin;
                ^~~~~~
```

If '-std=c++11' is removed or replaced with '-std=gnu++11' the error becomes:

```
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'
```

#### Comment 1

1. **Chris Johns**, Thu, 04 Aug 2016 00:22:19 GMT
2. **description:** modified (diff)

#### Comment 2

1. **Chris Johns**, Thu, 04 Aug 2016 00:23:37 GMT

2. **summary:** changed from **Empty C++ file does not compile with HEAD.** to **Empty C++ file with just does not compile with HEAD.**

### Comment 3

1. **Sebastian Huber**, Thu, 04 Aug 2016 05:19:19 GMT

I cannot reproduce this problem. The C++ tests build fine.

### Comment 4

1. **Chris Johns**, Thu, 04 Aug 2016 05:33:46 GMT

Replying to sebastian.huber:

I cannot reproduce this problem.

Is this your build or the RSB?

The C++ tests build fine.

Which tests?

### Comment 5

1. **Sebastian Huber**, Thu, 04 Aug 2016 05:40:29 GMT

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).

### Comment 6

1. **Chris Johns**, Thu, 04 Aug 2016 05:50:55 GMT

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.

### Comment 7

1. **Sebastian Huber**, Thu, 04 Aug 2016 05:54:46 GMT

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.

### Comment 8

1. **Chris Johns**, Thu, 04 Aug 2016 05:56:02 GMT

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.

### Comment 9

1. **Sebastian Huber**, Thu, 04 Aug 2016 05:59:24 GMT

It uses BSD extensions, e.g. struct bintime, thus it doesn't work with -std=c++11.

The main problem is that it includes way too many implementation details.

### Comment 10

1. **Chris Johns**, Thu, 04 Aug 2016 06:00:11 GMT

Ah ok this is the problem. Is this something that needs to be fixed?

**Comment 11**

1. **Sebastian Huber**, Thu, 04 Aug 2016 06:03:08 GMT

Yes, but it has very low priority for me. Its probably something for the new-build-system era.

**Comment 12**

1. **Chris Johns**, Thu, 04 Aug 2016 06:04:59 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

**Comment 13**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 14**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2775 - ARM CP15 arm\_cp15\_set\_translation\_table\_entries fails if TTB in read-only memory**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2775">https://devel.rtems.org/ticket/2775</a> ( <a href="https://devel.rtems.org/ticket/2775">https://devel.rtems.org/ticket/2775</a> )
<b>Id</b>	2775
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 August 2016 03:32:58
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	ARM
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Pavel Pisa**, Sun, 14 Aug 2016 21:51:15 GMT

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.

**Comment 2**

1. **Chris Johns**, Sun, 14 Aug 2016 22:38:09 GMT

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.

**Comment 3**

1. **Chris Johns**, Sun, 14 Aug 2016 23:23:05 GMT
2. **owner**: set to **Chris Johns** <chrisj@...>
3. **status**: changed from **new** to **closed**

**4. resolution: set to fixed**

In 01aa1ba34a1696736ed5200fa1d4be9963d99b3/rtems:

```
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.
```

**Comment 4**

1. **Sebastian Huber**, Wed, 17 Aug 2016 07:34:22 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution: fixed** deleted

This change breaks a lot of ARM BSPs since `bsp_translation_table_end` is not defined.

**Comment 5**

1. **Chris Johns**, Wed, 17 Aug 2016 07:41:49 GMT

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.

**Comment 6**

1. **Sebastian Huber**, Wed, 17 Aug 2016 08:18:38 GMT

You can use `"/path/to/rtems/configure --target=arm-rtems4.12 --enable-maintainer-mode --enable-tests=samples"` to build all ARM BSPs.

**Comment 7**

1. **Chris Johns**, Tue, 23 Aug 2016 01:14:16 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 89a319a0f8bb9374e5a23358b266db3745268a3a/rtems:

```
libbsp/arm: Fix ARM BSPs missing the bsp_translation_table_end symbol.  
Closes #2775.
```

**Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 9**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:32:23 GMT
2. **component:** changed from **libcpu** to **arch/arm**

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2776 - SPI Framework**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2776">https://devel.rtems.org/ticket/2776</a> ( <a href="https://devel.rtems.org/ticket/2776">https://devel.rtems.org/ticket/2776</a> )
<b>Id</b>	2776
<b>Reporter</b>	Alexander Krutwig
<b>Created</b>	9 August 2016 07:42:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	SPI, Framework
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Alexander Krutwig**, Fri, 16 Sep 2016 12:01:46 GMT

In a42be52bbf2b3a549d4b9635a5a93215dacd0657/rtems:

```
Add SPI bus framework
User API is compatible to Linux userspace API. New test libtests/spi01.
Update #2776.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 16 Sep 2016 12:02:20 GMT

Update of BSP manual is missing.

#### Comment 3

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:41:47 GMT

[0cb2748a11ecdb96a40a60a3039dad99da2937/rtems-docs]

#### Comment 4

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:42:00 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

#### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2777 - Remove librtems++

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2777">https://devel.rtems.org/ticket/2777</a> ( <a href="https://devel.rtems.org/ticket/2777">https://devel.rtems.org/ticket/2777</a> )
<b>Id</b>	2777
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 August 2016 02:17:40
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This is old and there are better design patterns for threading and C++. We recommend you use the new C++ standards based support.

**Comment 1**

1. **Chris Johns**, Thu, 11 Aug 2016 07:26:43 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 03c1038edbe9b01a72d4775dcb6ffc1a03193a0c/rtems:

```
librtems++: 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.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:35:44 GMT
2. **component**: changed from **misc** to **unspecified**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2784 - Add function to get the current priority of a task by scheduler instance**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2784">https://devel.rtems.org/ticket/2784</a> ( <a href="https://devel.rtems.org/ticket/2784">https://devel.rtems.org/ticket/2784</a> )
<b>Id</b>	2784
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 September 2016 12:44:55
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```

/**
 * @brief Gets the current priority of the specified task with respect to the
 * specified scheduler instance.
 *
 * The current priority reflects temporary priority adjustments due to locking
 * protocols, the rate-monotonic objects on some schedulers and other
 * mechanisms.
 *
 * @param[in] task_id Identifier of the task. Use @ref RTEMS_SELF to select
 * the executing task.
 * @param[in] scheduler_id Identifier of the scheduler instance.
 * @param[out] priority Returns the current priority of the specified task with
 * respect to the specified scheduler instance.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote tasks.
 * @retval RTEMS_INVALID_ADDRESS The priority parameter is @c NULL.
 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
 * @retval RTEMS_NOT_DEFINED The task has no priority within the specified
 * scheduler instance.
 *
 * @see rtems_scheduler_ident().
 */
rtems_status_code rtems_task_get_priority(
  rtems_id task_id,
  rtems_id scheduler_id,
  rtems_task_priority *priority
);

```

**Comment 1**

1. **Sebastian Huber**, Wed, 21 Sep 2016 07:06:34 GMT

In 8123cae864579219e5003a67b451ca4cc07d998b/rtems:

```

rtems: Add rtems_task_get_priority()
Update #2556. Update #2784.

```

**Comment 2**

1. **Sebastian Huber**, Mon, 19 Dec 2016 13:34:32 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[3be5dd685cd8baa634b9de068b778d5ecd89ae0e/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:24:23 GMT
2. **component**: changed from **SMP** to **rtems**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2788 - RTEMS I2C API only defines Standard-mode (Sm) speed as a default.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2788">https://devel.rtems.org/ticket/2788</a> ( <a href="https://devel.rtems.org/ticket/2788">https://devel.rtems.org/ticket/2788</a> )
<b>Id</b>	2788
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 September 2016 00:54:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.10
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	



**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 21 Sep 2016 08:19:21 GMT

The `cpukit/dev/include/dev/i2c/i2c.h` is an I2C bus implementation header file not a part of the user API ( and . A driver must have an initial speed. The `I2C_BUS_CLOCK_DEFAULT` is the recommended initial speed.

**Comment 2**

1. **Chris Johns**, Wed, 21 Sep 2016 08:21:58 GMT

A driver's initial speed needs to match the hardware. There is nothing that can be recommended. It requires analysis and a real value.

**Comment 3**

1. **Sebastian Huber**, Wed, 21 Sep 2016 08:28:57 GMT

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.

**Comment 4**

1. **Chris Johns**, Wed, 21 Sep 2016 22:38:07 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

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.

**Comment 5**

1. **Sebastian Huber**, Tue, 27 Sep 2016 05:36:27 GMT

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:

```
/**
 * @brief Sets the bus clock.
 *
 * @param[in] bus The bus control.
 * @param[in] clock The desired bus clock in Hz.
 *
 * @retval 0 Successful operation.
 * @retval negative Negative error number in case of an error.
 */
int (*set_clock)(i2c bus *bus, unsigned long clock);
```

**Comment 6**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2790 - Linker sets broken with GCC 7**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2790">https://devel.rtems.org/ticket/2790</a> ( <a href="https://devel.rtems.org/ticket/2790">https://devel.rtems.org/ticket/2790</a> )
<b>Id</b>	2790
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 September 2016 05:41:32
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 12 Oct 2016 09:13:53 GMT

In [be573185e6d6ddafdd3612c7c2db04aa0f65a330/rtems](https://devel.rtems.org/ticket/2790):

score: More robust linker sets

Update #2408. Update #2790.

**Comment 2**

1. **Sebastian Huber**, Thu, 13 Oct 2016 05:15:45 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In [f5eff007a44ad20c2a420b66903508e9d6c3b066/rtems](https://devel.rtems.org/ticket/2790):

score: Rename RTEMS\_OBFUSCATE\_POINTER()

The inline asm construct works for everything which fits into a register.

Close #2790.

**Comment 3**

1. **Sebastian Huber**, Tue, 06 Dec 2016 11:03:23 GMT

In [4b579c5f5170e1fb6a0573729444c289643b7d84/rtems](https://devel.rtems.org/ticket/2790):

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.

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

## 2795 - Overrun Handling for general real-time models

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2795">https://devel.rtems.org/ticket/2795</a> ( <a href="https://devel.rtems.org/ticket/2795">https://devel.rtems.org/ticket/2795</a> )
<b>Id</b>	2795
<b>Reporter</b>	Kuan
<b>Created</b>	8 October 2016 11:49:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom <gedare@...>
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	Overrun, RMS, SP, Scheduler, Periodicity
<b>Cc</b>	Gedare Bloom Joel Sherrill Sebastian Huber
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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 [1-4]. 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 testsuites/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.

### Attachments:

- 
- 1 Kuan, Sat, 08 Oct 2016 11:56:50 GMT**  
attach: set to [patch.diff](https://devel.rtems.org/ticket/2795/patch.diff) (<https://devel.rtems.org/ticket/2795/patch.diff>)
  - 2 Kuan-Hsun Chen, Tue, 18 Oct 2016 12:27:56 GMT**  
attach: set to [patch.2.diff](https://devel.rtems.org/ticket/2795/patch.2.diff) (<https://devel.rtems.org/ticket/2795/patch.2.diff>)
- 

### Comment 1

- 1. Kuan, Sat, 08 Oct 2016 12:03:59 GMT**
- 2. keywords: Overrun RMS SP Scheduler Periodicity added; overrun removed**

### Comment 2

- 1. Sebastian Huber, Wed, 12 Oct 2016 06:01:30 GMT**

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?

### Comment 3

1. **Kuan-Hsun Chen**, Wed, 12 Oct 2016 08:04:20 GMT

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 handling, 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.

### Comment 4

1. **Sebastian Huber**, Wed, 12 Oct 2016 08:12:43 GMT

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.

### Comment 5

1. **Kuan-Hsun Chen**, Wed, 12 Oct 2016 08:25:49 GMT

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.

### Comment 6

1. **Gedare Bloom**, Fri, 13 Jan 2017 21:09:49 GMT

2. **owner:** set to **Gedare Bloom** <gedare@...>

3. **status:** changed from **new** to **closed**

4. **resolution:** set to **fixed**

In cb2cbecefdc124b010aa9d8714856332e3e3a759/rtems:

```
classic: adjust names of RM postponed job functions
closes #2795
```

### Comment 7

1. **Sebastian Huber**, Mon, 23 Jan 2017 09:11:05 GMT

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/spintcritical08 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
```

### Comment 8

1. **Sebastian Huber**, Tue, 24 Jan 2017 12:42:27 GMT

2. **status:** changed from **closed** to **reopened**

3. **resolution:** **fixed** deleted

4. **severity:** changed from **critical** to **blocker**

5. **milestone**: changed from 4.11.1 to 4.12

#### **Comment 9**

1. **Sebastian Huber**, Tue, 24 Jan 2017 12:43:11 GMT

There is a possible deadlock at SMP lock level:

<https://lists.rtems.org/pipermail/devel/2017-January/016754.html>

#### **Comment 10**

1. **Sebastian Huber**, Tue, 24 Jan 2017 13:45:15 GMT

In 1240aade5a35c4e8c43d5409e2329eeb6a173299/rtems:

```
rtems: Fix _Rate_monotonic_Renew_deadline()
Make _Rate_monotonic_Renew_deadline() static and use proper locking in SMP configurations.
Update #2795.
```

#### **Comment 11**

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:04:57 GMT

In 625bd6aca47268bc21cfa38662ebc17413475e82/rtems:

```
rtems: Fix _Rate_monotonic_Release_postponed_job()
Use proper locking in SMP configurations.
Update #2795.
```

#### **Comment 12**

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:05:50 GMT

In b8d6eb719ad016b8e0a7752619a5004960b9711d/rtems:

```
rtems: rtems_rate_monotonic_postponed_job_count()
Use proper locking in SMP configurations.
Update #2795.
```

#### **Comment 13**

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:37:26 GMT

In 29e08d41f42d68fdafba982061ea7a3d57f75731/rtems:

```
sptestests/sprmsched01: Merge and fix
Merge into one file and fix obvious problems (e.g. out of bounds array access).
Update #2795.
```

#### **Comment 14**

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:40:46 GMT

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 1 starts at tick 6144.          Job 1 Task 0 ends at tick 6141.
Job 2 Task 1 starts at tick 8144.          Job 1 Task 1 ends at tick 7169.
Task 0 starts at tick 10009.              Job 2 Task 1 ends at tick 9168.
Job 3 Task 1 starts at tick 16145.         Job 2 Task 0 ends at tick 16140.
RTEMS_TIMEOUT                             Job 3 Task 1 ends at tick 17169.
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?

#### Comment 15

1. **Kuan-Hsun Chen**, Tue, 24 Jan 2017 14:46:59 GMT

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 1 starts at tick 6144.          Job 1 Task 0 ends at tick 6141.
Job 2 Task 1 starts at tick 8144.          Job 1 Task 1 ends at tick 7169.
Task 0 starts at tick 10009.              Job 2 Task 1 ends at tick 9168.
Job 3 Task 1 starts at tick 16145.         Job 2 Task 0 ends at tick 16140.
RTEMS_TIMEOUT                             Job 3 Task 1 ends at tick 17169.
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.

#### Comment 16

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:53:07 GMT

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.

#### Comment 17

1. **Kuan-Hsun Chen**, Tue, 24 Jan 2017 15:07:46 GMT

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...

#### Comment 18

1. **Sebastian Huber**, Wed, 25 Jan 2017 06:33:58 GMT

The missed count is just a statistic.

For the integer overflow in

```
static void _Rate_monotonic_Renew_deadline(
    Rate_monotonic_Control *the_period,
    Thread_Control *owner,
    ISR_lock_Context *lock_context
)
{
    uint64_t deadline;
    ++the_period->postponed_jobs;
    the_period->state = RATE_MONOTONIC_EXPIRED;
    deadline = _Watchdog_Per_CPU_insert_relative(
        &the_period->Timer,
        _Per_CPU_Get(),
        the_period->next_length
    );
    the_period->latest_deadline = deadline;
    _Rate_monotonic_Release( the_period, lock_context );
}
```

we have some options.

Ignore it, then postponed jobs count will be zero again. Issue a new fatal error. Saturate, e.g. stay at 0xffffffff.

I am in favour of 3. It should be documented in any way.

#### **Comment 19**

1. **Sebastian Huber**, Wed, 25 Jan 2017 07:33:32 GMT

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.

#### **Comment 20**

1. **Kuan-Hsun Chen**, Wed, 25 Jan 2017 08:30:40 GMT

I will set a precondition for saturating before ++the\_period->postponed\_jobs, and update the documentation.

#### **Comment 21**

1. **Sebastian Huber**, Wed, 25 Jan 2017 10:17:14 GMT

In 23a11b68cdba71ae34fe1b2271606b167eb6a5b4/rtems:

```
sptestests/spedfsched04: Merge and fix
Merge into one file and fix obvious problems (e.g. out of bounds array access).
Update #2795.
```

#### **Comment 22**

1. **Kuan-Hsun Chen**, Thu, 26 Jan 2017 09:01:03 GMT

In d7feb8677d48162bf8db34406c232e0179d43dc6/rtems:

```
Remove rtems_rate_monotonic_postponed_job_count()
Add a variable named "count" in rtems_rate_monotonic_period_status structure. Revise 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.
```

#### **Comment 23**

1. **Sebastian Huber**, Mon, 30 Jan 2017 07:12:14 GMT

[c660173fa4aed11c12403e359248eee59c5b5a01/rtems-docs]

#### **Comment 24**

1. **Sebastian Huber**, Mon, 30 Jan 2017 07:15:11 GMT

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.

#### **Comment 25**

1. **Kuan-Hsun Chen**, Mon, 30 Jan 2017 10:03:29 GMT

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.

#### **Comment 26**

1. **Kuan-Hsun Chen**, Tue, 31 Jan 2017 06:20:41 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

In 166a9f67cde9085a74d6d5d962160b3c92b3e3d7/rtems:

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.

#### **Comment 27**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 28**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## **2797 - Add ability to add/remove processors to/from a scheduler instance**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2797">https://devel.rtems.org/ticket/2797</a> ( <a href="https://devel.rtems.org/ticket/2797">https://devel.rtems.org/ticket/2797</a> )
<b>Id</b>	2797
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 October 2016 11:32:29
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.



```

/**
 * @brief Adds a processor the set of processors owned by the scheduler.
 *
 * Must be called from task context. This operation obtains and releases the
 * objects allocator lock.
 *
 * @param[in] scheduler_id Identifier of the scheduler.
 * @param[in] cpu_index Index of the processor to add.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ID Invalid scheduler identifier.
 * @retval RTEMS_NOT_CONFIGURED The processor is not configured to be used by
 * the application.
 * @retval RTEMS_INCORRECT_STATE The processor is configured to be used by
 * the application, however, it is not available.
 */
rtems_status_code rtems_scheduler_add_processor(
  rtems_id scheduler_id,
  uint32_t cpu_index
);
/**
 * @brief Removes a processor from set of processors owned by the scheduler.
 *
 * Must be called from task context. This operation obtains and releases the
 * objects allocator lock. Removing a processor from a scheduler is a complex
 * operation that involves all tasks in the system.
 *
 * @param[in] scheduler_id Identifier of the scheduler.
 * @param[in] cpu_index Index of the processor to add.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ID Invalid scheduler identifier.
 * @retval RTEMS_INVALID_NUMBER The processor is not owned by the scheduler.
 * @retval RTEMS_RESOURCE_IN_USE The set of processors owned by the scheduler
 * would be empty after the processor removal and there exists a non-idle
 * task that uses this scheduler as its home scheduler.
 */
rtems_status_code rtems_scheduler_remove_processor(
  rtems_id scheduler_id,
  uint32_t cpu_index
);

```

**Comment 1**

1. **Sebastian Huber**, Thu, 10 Nov 2016 08:59:39 GMT

In 2612a0bf5b9f0105315d62cbacfa9d29a5caa4b5/rtems:

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 10 Nov 2016 08:59:58 GMT

In 1c46b80329d5d099022d8c7e0a8c593845120729/rtems:

score: Add scheduler to per-CPU information

This makes it possible to adjust the scheduler of a processor at run-time.

Update #2797.

**Comment 3**

1. **Sebastian Huber**, Thu, 10 Nov 2016 09:00:18 GMT

In e6107854b2511decef8c209cde14c4826a33ff01/rtems:

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.

**Comment 4**

1. **Sebastian Huber**, Thu, 10 Nov 2016 09:00:27 GMT

In 1f5bee3d85405d42a7f35caf3ff0c190789afd60/rtems:

score: Add and use `Thread_Control::is_idle`

Update #2797.

**Comment 5**

1. **Sebastian Huber**, Thu, 10 Nov 2016 09:00:37 GMT

In 05ca53ddf6bc8333c2f3ad861c5415467c3262d2/rtems:

```
rtems: Add scheduler processor add/remove
Update #2797.
```

#### **Comment 6**

1. **Sebastian Huber**, Thu, 10 Nov 2016 10:35:44 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[bcdca5db9d35138c9c97055b6e71621c451d9542/rtems-docs]

#### **Comment 7**

1. **Sebastian Huber**, Fri, 02 Dec 2016 10:19:31 GMT

In d10716f98f950348cf25df9097402987b6e219fc/rtems:

```
rtems: Fix rtems_scheduler_add_processor()
Fix thread dispatch profiling of rtems_scheduler_add_processor().
Update #2797.
```

#### **Comment 8**

1. **Sebastian Huber**, Fri, 02 Dec 2016 10:52:04 GMT

In 7da78cf637e5d039fd1e0aafd99b282626f9e266/rtems:

```
rtems: Use _Thread_Dispatch_direct()
Update #2797.
```

#### **Comment 9**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 10**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:24:23 GMT
2. **component**: changed from **SMP** to **rtems**

#### **Comment 11**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2798** - Fix POSIX timer interval

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2798">https://devel.rtems.org/ticket/2798</a> ( <a href="https://devel.rtems.org/ticket/2798">https://devel.rtems.org/ticket/2798</a> )
<b>Id</b>	2798
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 October 2016 12:05:47
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

See also:

<https://lists.rtems.org/pipermail/users/2016-October/030714.html>

```
Just back to RTEMS after a long time. I've build the last version (Git)
with last compiler (4.12) and looks like a simple POSIX timer doen't
work anymore... It should display "Signal 14" every second but period is
veryyyy short...and display very fast :(
Any idea? any change in the way to use POSIX with RTEMS?
See my program attached (it works fine with Linux).
I have tested with Raspberry Pi and QEMU/i386.
thx by advance
```

**Comment 1**

1. **Sebastian Huber**, Mon, 31 Oct 2016 12:37:33 GMT

In 3e9f4c9232277079d11814e55af9bed11106bd04/rtems:

```
posix: Fix timeout handling in sigtimedwait()
Update #2798.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 31 Oct 2016 12:37:43 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In bb9f09f34c9bdcf4d2631a1fd317bcefd8426efb/rtems:

```
posix: Fix timer interval
Do not overwrite timer interval with initial interval in _POSIX_Timer_Insert().
Close #2798.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2800 - qoriq variants failing to build**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2800">https://devel.rtems.org/ticket/2800</a> ( <a href="https://devel.rtems.org/ticket/2800">https://devel.rtems.org/ticket/2800</a> )
<b>Id</b>	2800
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 November 2016 16:19:23
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The following qoriq variants fail to build:

```
powerpc-qoriq_core_0
powerpc-qoriq_core_1
powerpc-qoriq_p1020rdb
```

All fail with this error:

```
../../../../../../../../qoriq_core_0/lib/include/bsp/qoriq.h:407:3: error: conflicting types for 'qoriq_gpio'
} qoriq_gpio;
^~~~~~
../../../../../../../../qoriq_core_0/lib/include/bsp/qoriq.h:184:3: note: previous declaration of 'qoriq_gpio' was here
} qoriq_gpio;
^~~~~~
```

Found during full build sweep based on this commit:

```
commit bb9f09f34c9bdcf4d2631a1fd317bcefd8426efb
Author: Sebastian Huber
Date: Mon Oct 31 13:07:34 2016 +0100
    posix: Fix timer interval
    Do not overwrite timer interval with initial interval in
    POSIX_Timer_Insert().
    Close #2798.
```

**Comment 1**

1. **Joel Sherrill**, Wed, 02 Nov 2016 22:13:42 GMT

Confirmed to still be broken on this commit:

```
commit 63e2calb8b0a651a733d4ac3e0517397d0681214
Author: Sebastian Huber
Date: Mon Oct 31 09:13:35 2016 +0100
    score: Simplify yield and unblock scheduler ops
    Update #2556.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 07 Nov 2016 08:32:09 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 6cb234f079527dfd52da7d5a12340408777e48ee/rtems:

```
bsp/qoriq: Remove duplicate qoriq_gpio definition
Close #2800.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:56:19 GMT
2. **component**: changed from **bsps** to **arch/powerpc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2802 - Test "libdl (RTL) 5" fails on SPARC targets

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2802">https://devel.rtems.org/ticket/2802</a> ( <a href="https://devel.rtems.org/ticket/2802">https://devel.rtems.org/ticket/2802</a> )
<b>Id</b>	2802
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 November 2016 13:55:35
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

On GR740 I get:

```
rtl: RELOC_32 0x60ae8 @ 0x86edc in /dl-o5.o
rtl: relocation: .rela.eh_frame, syms:.symtab
rtl: rela: sym: gxx_personality_v0(20)=00001dec type:3 off:00000013 addend:0
CPU 0: IU in error mode (tt = 0x07, mem address not aligned)
0x0001fa9c: c4040000 ld [%l0], %g2
CPU 1: Power down mode
CPU 2: Power down mode
CPU 3: Power down mode
```

On GR712RC I get:

```
rtl: WDISP_30 0x7ffe2ccd @ 0x40087108 in /dl-o5.o
rtl: relocation: .rela.gcc_except_table.exception_dl, syms:.symtab
rtl: rela: sym: ZTISt9exception(32)=40060ae8 type:3 off:00000034 addend:0
rtl: RELOC_32 0x40060ae8 @ 0x400871b4 in /dl-o5.o
rtl: relocation: .rela.eh_frame, syms:.symtab
rtl: rela: sym: gxx_personality_v0(20)=40001dec type:3 off:00000013 addend:0
```

Target resets now.

### Attachments:

- 
- Chris Johns, Fri, 11 Nov 2016 06:09:35 GMT**  
attach: set to [libdl-sparc-R\\_SPARC\\_32-missaligned.patch](https://devel.rtems.org/ticket/2802/libdl-sparc-R_SPARC_32-missaligned.patch) ([https://devel.rtems.org/ticket/2802/libdl-sparc-R\\_SPARC\\_32-missaligned.patch](https://devel.rtems.org/ticket/2802/libdl-sparc-R_SPARC_32-missaligned.patch))
- 

### Comment 1

- Chris Johns, Thu, 10 Nov 2016 05:39:59 GMT**

This is due to the following relocation record:

```
Relocation section '.rela.eh_frame' at offset 0x5fe8 contains 3 entries:
Offset      Info      Type           Sym.Value      Sym. Name + Addend
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.

### Comment 2

- Sebastian Huber, Thu, 10 Nov 2016 07:32:09 GMT**

Is this a bug in the tool chain or the libdl?

### Comment 3

- Chris Johns, Thu, 10 Nov 2016 07:46:01 GMT**

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.

### Comment 4

- Chris Johns, Fri, 11 Nov 2016 05:50:10 GMT**

[https://sourceware.org/bugzilla/show\\_bug.cgi?id=20803](https://sourceware.org/bugzilla/show_bug.cgi?id=20803)

### Comment 5

- Chris Johns, Fri, 11 Nov 2016 06:10:48 GMT**

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.

#### Comment 6

1. **Jiri Gaisler**, Mon, 14 Nov 2016 14:24:08 GMT

In 316da9356ad7b612f6df6ed1e47b62268450438e/rtems:

```
rtl-mdreloc-sparc.c: Do not print unaligned pointer and cause unaligned access.
updates #2802.
```

#### Comment 7

1. **Sebastian Huber**, Tue, 22 Nov 2016 06:41:39 GMT

Now the test terminates with

```
rtl: UA 32 0x8c6d8 @ 0x8c755 in /dl-o5.o
rtl: alloc: del: SYMBOL addr=0x8c780
rtl: alloc: new: OBJECT addr=0x8c7e8 size=132
rtl: linkmap add
rtl: unresolv: global resolve
dlopen:
dlsym:
exception base called
exception_dl: throwing
terminate called after throwing an instance of 'std::runtime_error'
what(): exception dl throw
```

#### Comment 8

1. **Chris Johns**, Tue, 22 Nov 2016 21:26:11 GMT

This error is the expected result of the test. It does not pass. See #2767 for the original issue that raised the problem.

#### Comment 9

1. **Sebastian Huber**, Wed, 23 Nov 2016 06:04:02 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

#### Comment 10

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2803 - Get rid of CPU\_BIG\_ENDIAN and CPU\_LITTLE\_ENDIAN

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2803">https://devel.rtems.org/ticket/2803</a> ( <a href="https://devel.rtems.org/ticket/2803">https://devel.rtems.org/ticket/2803</a> )
<b>Id</b>	2803
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2016 06:33:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 07 Nov 2016 06:48:53 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Sebastian Huber**, Tue, 24 Jan 2017 07:40:44 GMT
- In dc9b70445015402d4d043830ecf4dd84b9400d49/rtems:

Provide for glibc compatibility  
Update #2803.

**Comment 3**

1. **Sebastian Huber**, Tue, 24 Jan 2017 07:40:56 GMT
- In 2711914f828d19d726d3b2d9cda401352b626fc2/rtems:

Use  
Update #2803.

**Comment 4**

1. **Sebastian Huber**, Tue, 24 Jan 2017 07:41:07 GMT
  2. **status:** changed from **new** to **closed**
  3. **resolution:** set to **fixed**
- In 4aa23c9641225476bd61b1f64e324bbd0f76eab5/rtems:

Remove CPU\_BIG\_ENDIAN and CPU\_LITTLE\_ENDIAN  
Use de-facto standard BYTE\_ORDER instead.  
Close #2803.

**Comment 5**

1. **Joel Sherrill**, Tue, 24 Jan 2017 14:26:47 GMT
- Is this mentioned in the porting guide? If so, that needs touching as well.  
If this topic isn't mentioned (which would surprise me), then we need a ticket to discuss endian issues in porting.

**Comment 6**

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:31:59 GMT
- Where can I find the porting guide?

**Comment 7**

1. **Joel Sherrill**, Tue, 24 Jan 2017 16:58:36 GMT
- <https://git.rtems.org/rtems-docs/tree/porting>

**Comment 8**

1. **Sebastian Huber**, Wed, 25 Jan 2017 10:23:37 GMT

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.

**Comment 9**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

---

## **2805 - Use SPRG0 on PowerPC for current per-CPU control (SMP only)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2805">https://devel.rtems.org/ticket/2805</a> ( <a href="https://devel.rtems.org/ticket/2805">https://devel.rtems.org/ticket/2805</a> )
<b>Id</b>	2805
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 November 2016 14:18:46
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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.

### **Comment 1**

1. **Sebastian Huber**, Thu, 10 Nov 2016 09:00:57 GMT

In 38a1449fd47be848cc40593abd40262e9ad2030d/rtems:

```
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.
```

### **Comment 2**

1. **Sebastian Huber**, Thu, 10 Nov 2016 09:19:10 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[6297ad31d09bb5c0bddda418881296b7cbd20152/rtems-docs]

### **Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### **Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:23:41 GMT
2. **component**: changed from **SMP** to **arch/powerpc**

### **Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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## **2806 - Undocumented confdefs.h Configure Options**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2806">https://devel.rtems.org/ticket/2806</a> ( <a href="https://devel.rtems.org/ticket/2806">https://devel.rtems.org/ticket/2806</a> )
<b>Id</b>	2806
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 November 2016 23:18:48
<b>Modified</b>	2 April 2020 08:27:13
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3836
<b>Blocked by</b>	

---

### Description

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

### Comment 1

1. **Sebastian Huber**, Thu, 19 Jan 2017 12:08:02 GMT

For `CONFIGURE_MAXIMUM_PTYS` see #2872.

### Comment 2

1. **Sebastian Huber**, Thu, 26 Jan 2017 07:16:00 GMT
2. **milestone**: changed from **4.11.1** to **4.11.2**

### Comment 3

1. **Sebastian Huber**, Wed, 15 Feb 2017 13:44:44 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **4.11.2** to **Indefinite**

### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

### Comment 5

1. **Sebastian Huber**, Tue, 31 Mar 2020 10:53:12 GMT
2. **owner**: changed from **Needs Funding** to **Sebastian Huber**
3. **milestone**: changed from **Indefinite** to **5.1**

### Comment 6

1. **Sebastian Huber**, Wed, 01 Apr 2020 07:03:30 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4032c96/rtems-docs:

```
c-user: Document all configuration options
```

```
Close #2806.
```

### Comment 7

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:27:13 GMT
  2. **blocking**: set to **3836**
- 

## **2807 - rtems-docs repository is not known to trac**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2807">https://devel.rtems.org/ticket/2807</a> ( <a href="https://devel.rtems.org/ticket/2807">https://devel.rtems.org/ticket/2807</a> )
<b>Id</b>	2807
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 November 2016 09:19:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

#### **Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 2**

1. **Sebastian Huber**, Thu, 08 Jun 2017 08:32:18 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

This works now.

#### **Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2808 - Conditionally provide rtems\_interrupt\_frame**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2808">https://devel.rtems.org/ticket/2808</a> ( <a href="https://devel.rtems.org/ticket/2808">https://devel.rtems.org/ticket/2808</a> )
<b>Id</b>	2808
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 November 2016 09:40:56
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Provide rtems\_interrupt\_frame only if CPU\_ISR\_PASSES\_FRAME\_POINTER is defined to TRUE.

#### **Comment 1**

1. **Sebastian Huber**, Fri, 11 Nov 2016 10:08:04 GMT
2. **description**: modified (diff)

3. **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.

#### Comment 2

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:00:30 GMT

In 141e16d22538bc9f3f79466a774fdad3a9128533/rtems:

```
rtems: Conditionally define rtems_interrupt_frame
Update #2808.
```

#### Comment 3

1. **Sebastian Huber**, Mon, 19 Dec 2016 13:38:59 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

[117f98c9cb990f358eb199ffedba34649a50134d/rtems-docs]

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2809 - Reduce interrupt latency on SMP configurations during thread dispatch

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2809">https://devel.rtems.org/ticket/2809</a> ( <a href="https://devel.rtems.org/ticket/2809">https://devel.rtems.org/ticket/2809</a> )
<b>Id</b>	2809
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 November 2016 11:16:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 heap 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.

#### **Comment 1**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:00:46 GMT

In d18560ae053857484cdb87defde44322ba67bacf/rtems:

```
sparc64: Rename CPU_Minimum_stack_frame
Rename 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.
```

#### **Comment 2**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:01:04 GMT

In 427dcee8372097b0acb695d3e4645d11fccdbb6d/rtems:

```
sparc: Rename CPU_Minimum_stack_frame
Rename SPARC-specific CPU_Minimum_stack_frame to SPARC_Minimum_stack_frame. Rename SPARC-specific CPU_MINIMUM_STACK_FRAME_SIZE to
SPARC_MINIMUM_STACK_FRAME_SIZE.
Update #2809.
```

#### **Comment 3**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:01:20 GMT

In c539a865f4ffc36dcc8395a4c9b9c798e45f3eb2/rtems:

```
sparc: Move CPU_Interrupt_frame related defines
Move CPU_Interrupt_frame related defines to .
Update #2809.
```

#### **Comment 4**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:01:33 GMT

In 40d592eb3e6461605838d9427dcb9f5eadc85862/rtems:

```
bsps/powerpc: Avoid use of CPU_Interrupt_frame
This type is not relevant for the code since only a pointer is passed around.
Update #2809.
```

#### **Comment 5**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:01:49 GMT

In bf4fdb1f1dcc39635f23fbc9585140be5eedb3d4/rtems:

```
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.
```

#### **Comment 6**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:02:02 GMT

In 2599c8e63e575ee2a6f40ca995e12d4579b8ba85/rtems:

powerpc: Add up to date CPU\_Interrupt\_frame  
Rename ppc\_exc\_min\_frame to CPU\_Interrupt\_frame. Move it and the corresponding defines to .  
Update #2809.

#### Comment 7

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:02:16 GMT

In dbecf0ec0d34fa169a0ccaf04505f9ce4e9323b/rtems:

arm: Provide CPU\_Interrupt\_frame for ARMv4  
Update #2809.

#### Comment 8

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:02:42 GMT

In f9aa34ddd9afa2953cf690eadb6119b1d24f4fc6/rtems:

score: Add Per\_CPU\_Control::Interrupt\_frame  
Update #2809.

#### Comment 9

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:02:54 GMT

In d5e073cde70211b2471e4366be397370e9f6ce48/rtems:

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.

#### Comment 10

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:10:09 GMT

2. **priority**: changed from **normal** to **high**

#### Comment 11

1. **Sebastian Huber**, Tue, 24 Jan 2017 08:00:57 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

[ffe8197ac3ef6c504d6d6a233092f2bbc5f82f5c/rtems-docs]

#### Comment 12

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 13

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT

2. **component**: changed from **SMP** to **score**

#### Comment 14

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT

2. **component**: changed from **score** to **cpukit**

#### Comment 15

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2810 - Remove sparc/sis BSP variant

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2810">https://devel.rtems.org/ticket/2810</a> ( <a href="https://devel.rtems.org/ticket/2810">https://devel.rtems.org/ticket/2810</a> )
<b>Id</b>	2810
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 November 2016 16:47:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Jiri Gaisler
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Attachments:

- 
- 1 **Joel Sherrill, Tue, 15 Nov 2016 18:21:26 GMT**  
**attach:** set to [0001-Remove-sparc-sis-BSP.patch](https://devel.rtems.org/ticket/2810/0001-Remove-sparc-sis-BSP.patch) (<https://devel.rtems.org/ticket/2810/0001-Remove-sparc-sis-BSP.patch>)
- 

### Comment 1

1. **Joel Sherrill, Tue, 15 Nov 2016 18:22:19 GMT**
2. **cc:** **Jiri Gaisler** added

### Comment 2

1. **Joel Sherrill, Tue, 29 Nov 2016 15:29:21 GMT**
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In de7b174e381ee60686487c03c6db8d0ed7596da1/rtems:

```
Remove sparc/sis BSP.
closes #2810.
```

### Comment 3

1. **Sebastian Huber, Thu, 11 May 2017 07:31:02 GMT**
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 4

1. **Sebastian Huber, Tue, 10 Oct 2017 06:56:37 GMT**
2. **component:** changed from **bsps** to **arch/sparc**

### Comment 5

1. **Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT**
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2811 - More robust thread dispatching on SMP and ARM Cortex-M

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2811">https://devel.rtems.org/ticket/2811</a> ( <a href="https://devel.rtems.org/ticket/2811">https://devel.rtems.org/ticket/2811</a> )
<b>Id</b>	2811
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 November 2016 06:45:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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:

```
/**
 * @brief Returns true if interrupts are enabled in the specified ISR level,
 * otherwise returns false.
 *
 * @param[in] level The ISR level.
 *
 * @retval true Interrupts are enabled in the ISR level.
 * @retval false Otherwise.
 */
RTEMS_INLINE_ROUTINE bool _CPU_ISR_Is_enabled( uint32_t level )
{
    return false;
}
```

Use this function to ensure that `_Thread_Do_dispatch()` is called with an interrupt level with enabled interrupts, otherwise call `_Terminate()`.

### Comment 1

1. **Chris Johns**, Tue, 15 Nov 2016 06:47:40 GMT

Is this specific to an SMP build?

### Comment 2

1. **Sebastian Huber**, Tue, 15 Nov 2016 06:50:03 GMT

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.

### Comment 3

1. **Chris Johns**, Tue, 15 Nov 2016 20:54:24 GMT

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.

### Comment 4

1. **Sebastian Huber**, Wed, 16 Nov 2016 06:17:31 GMT

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:

```
/* This cannot fail, we know the identifier is valid */
(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.

**Comment 5**

1. **Chris Johns**, Wed, 16 Nov 2016 07:43:30 GMT

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?

**Comment 6**

1. **Sebastian Huber**, Wed, 16 Nov 2016 08:07:30 GMT

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.

### Comment 7

1. **Chris Johns**, Thu, 17 Nov 2016 01:29:24 GMT

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 documentation 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.

### **Comment 8**

1. **Sebastian Huber**, Thu, 17 Nov 2016 14:51:24 GMT

I will focus on fatal error documentation improvements. At least for this particular new one.

### **Comment 9**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:04:08 GMT

In 537f00ebe83370b8336361b8ae34d4a71e7023bb/rtems:

```
score: Restrict task interrupt level to 0 on SMP
Update #2811.
```

### **Comment 10**

1. **Sebastian Huber**, Fri, 18 Nov 2016 07:04:23 GMT

In 408609f6b9cd8e03d3886b7c150efb7e59b5fb0/rtems:

```
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.
```

### **Comment 11**

1. **Sebastian Huber**, Wed, 23 Nov 2016 11:54:10 GMT

In 84e6f15c828869eb7d293096cfcfa0563b5752b3/rtems:

```
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.
```

### **Comment 12**

1. **Sebastian Huber**, Fri, 02 Dec 2016 12:57:09 GMT

In b07e642a2b1249cd64048c5e9f5e45254df7ae65/rtems:

```
smptthreadlife01: Fix due to robust thread dispatch
Update #2811.
```

**Comment 13**

1. **Sebastian Huber**, Fri, 09 Dec 2016 12:04:53 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Documentation update is done.

**Comment 14**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 15**

1. **Sebastian Huber**, Thu, 21 Sep 2017 11:33:40 GMT

In a4bca685/rtems:

```
bsps/powerpc: Fix robust thread dispatch
Implement thread dispatch code in ppc_exc_wrapup() similar to ppc_exc_interrupt().
Update #2811.
```

**Comment 16**

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:10:35 GMT

In 80933ab3/rtems:

```
bsps/powerpc: Fix robust thread dispatch again
Use the saved MSR to account for FPU and AltiVec? settings.
Update #2811.
```

**Comment 17**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2816 - Many ARM BSPs have Static Assert**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2816">https://devel.rtems.org/ticket/2816</a> ( <a href="https://devel.rtems.org/ticket/2816">https://devel.rtems.org/ticket/2816</a> )
<b>Id</b>	2816
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 November 2016 17:39:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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/defs.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 rti22xx_rti22xx_t smdk2410
```

#### Comment 1

1. **Sebastian Huber**, Mon, 21 Nov 2016 09:15:09 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 9f225dea192e7b17ba465a6b78029532cdf97933/rtems:

```
arm: Fix ARM_CONTEXT_CONTROL_ISR_DISPATCH_DISABLE
Close #2816.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component:** changed from **unspecified** to **arch/arm**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2817 - All Blackfin BSPs do not Compile on Master

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2817">https://devel.rtems.org/ticket/2817</a> ( <a href="https://devel.rtems.org/ticket/2817">https://devel.rtems.org/ticket/2817</a> )
<b>Id</b>	2817
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 November 2016 19:51:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Recent changes to master resulted in this:

```
bfm-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -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'
```

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

```

bfin-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -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

```

**Comment 1**

1. **Sebastian Huber**, Mon, 21 Nov 2016 09:07:41 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In c6f446bd702f6bdc469c7ed3a0e2b86cb9810032/rtems:

```

bfin: ASM compatibility for
Close #2817.

```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2818 - NIOS2 Does Not Compile on Master**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2818">https://devel.rtems.org/ticket/2818</a> ( <a href="https://devel.rtems.org/ticket/2818">https://devel.rtems.org/ticket/2818</a> )
<b>Id</b>	2818
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 November 2016 19:52:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```

./.../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 ((status & 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: warning: control reaches end of non-void function [-Wreturn-type]

```

```

}

```

**Comment 1**

1. **Sebastian Huber**, Mon, 21 Nov 2016 09:15:19 GMT
2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

In fd6d3f1f0361b2fe875b08a3c11f078fe933ff24/rtems:

```
nios2: Fix _CPU_ISR_Is_enabled()
Close #2818.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2819 - powerpc-ss555 does not compile on master**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2819">https://devel.rtems.org/ticket/2819</a> ( <a href="https://devel.rtems.org/ticket/2819">https://devel.rtems.org/ticket/2819</a> )
<b>Id</b>	2819
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 November 2016 19:53:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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-grtems -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/cpuimpl.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:17:
```

```
../../../../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.
```

**Comment 1**

1. **Sebastian Huber**, Mon, 21 Nov 2016 10:20:30 GMT
2. **status:** changed from **new** to **closed**

**3. resolution:** set to **fixed**

In f730c25b707c7d6836d0a9bc2453dd0ca3cfa4e0/rtems:

```
powerpc/mpc5xx: Rename CPU_Interrupt_frame
The MPC5XX support uses a legacy interrupt/exception infrastructure.
Close #2819.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:25:10 GMT
2. **component:** changed from **unspecified** to **arch/powerpc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2820 - All SPARC64 BSPs do not Build on master**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2820">https://devel.rtems.org/ticket/2820</a> ( <a href="https://devel.rtems.org/ticket/2820">https://devel.rtems.org/ticket/2820</a> )
<b>Id</b>	2820
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 November 2016 19:54:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 appears 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, __
```

**Comment 1**

1. **Sebastian Huber**, Mon, 21 Nov 2016 09:29:31 GMT

In 27eccdad87a5abaa44edf756254db687a3a05be1/rtems:

```
sparc64: Fix_CPU_ISR_Is_enabled()
Update #2820.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 21 Nov 2016 09:29:41 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In ccc92b81c9fa4a969bdcc92cf19667be105740c3/rtems:

```
score: Group Per_CPU_Control members by alignment
Close #2820.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:46 GMT
2. **component**: changed from **unspecified** to **arch/sparc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2821 - No BSPs Build on Master**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2821">https://devel.rtems.org/ticket/2821</a> ( <a href="https://devel.rtems.org/ticket/2821">https://devel.rtems.org/ticket/2821</a> )
<b>Id</b>	2821
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	21 November 2016 22:58:01
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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: machine/_libatomic.h: No such file or directory
```

```
#include
```

```
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/stdio.h:41:9: error: unknown type name 'ssize_t'
```

```
typedef ssize_t ssize_t;
```

```
../../../../cpukit/../../../../psim/lib/include/sys/stdio.h:46:9: error: unknown type name 'off_t'
```

```
typedef off_t off_t;
```

```
../../../../cpukit/../../../../psim/lib/include/sys/stdio.h:46:17: error: conflicting types for 'off_t'
```

```
typedef off_t off_t;
```

#### Comment 1

1. **Sebastian Huber**, Tue, 22 Nov 2016 06:06:50 GMT

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?

#### Comment 2

1. **Joel Sherrill**, Tue, 22 Nov 2016 16:58:06 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**

Slaps head.. Doh! I switched the testing scripts over to 4.11 to get a warnings report and forgot to switch them back.

Thanks.

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2822 - m32csim does not build on master

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2822">https://devel.rtems.org/ticket/2822</a> ( <a href="https://devel.rtems.org/ticket/2822">https://devel.rtems.org/ticket/2822</a> )
<b>Id</b>	2822
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 November 2016 18:30:51
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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/defs.h:244:17: error: size of array 'rtems_static_assert_PER_CPU_OFFSET_EXECUTING' is negative`

```
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/defs.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(
```

### Comment 1

1. **Sebastian Huber**, Wed, 23 Nov 2016 06:56:05 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In `a550b3f35a32e6c74c78aeda1154b1d901574168/rtems:`

```
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.
```

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2823 - Nearly all m68k BSPs do not Build on Master

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2823">https://devel.rtems.org/ticket/2823</a> ( <a href="https://devel.rtems.org/ticket/2823">https://devel.rtems.org/ticket/2823</a> )
<b>Id</b>	2823
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 November 2016 18:32:44
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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 ../cpukit/../../rtems/c/src/../../cpukit/score/src/percpuasm.c:19:
```

```
../cpukit/../../av5282/lib/include/rtems/score/basedefs.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/basedefs.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(
```

#### Comment 1

1. **Sebastian Huber**, Wed, 23 Nov 2016 06:56:05 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In a550b3f35a32e6c74c78aeda1154b1d901574168/rtems:

```
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.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2824 - arm/lpc23xx\_tli800 no longer links tar01

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2824">https://devel.rtems.org/ticket/2824</a> ( <a href="https://devel.rtems.org/ticket/2824">https://devel.rtems.org/ticket/2824</a> )
<b>Id</b>	2824
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 November 2016 18:34:37
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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/../../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 __
```

**Comment 1**

1. **Sebastian Huber**, Wed, 23 Nov 2016 06:12:02 GMT

No, this is a low-end target in terms of memory.

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Nov 2016 06:47:46 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 3142727602622f7e8f0a58fe3f71648292c3733a/rtems:

```
bsp/lpc23xx_tli800: Disable tar01 test
Close #2824.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component**: changed from **unspecified** to **arch/arm**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2825 - Improve the fatal error handling chapter of the user manual**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2825">https://devel.rtems.org/ticket/2825</a> ( <a href="https://devel.rtems.org/ticket/2825">https://devel.rtems.org/ticket/2825</a> )
<b>Id</b>	2825
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 November 2016 06:08:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

At least replace the "Document me" markers with something useful.

**Comment 1**

1. **Sebastian Huber**, Wed, 23 Nov 2016 11:55:15 GMT

In bee032327997cb9f00d75e816ea93c7e1942a510/rtems:

```
score: Uncomment unused internal error codes
Update #2825.
```

**Comment 2**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Wed, 23 Nov 2016 12:44:34 GMT

In 73f9c2c27ba6a22f8bc3ccef9298c951c3728741/rtems:

```
smptests/smpfatal03: Use timer to provoke error
Avoid use of internal _Thread_Dispatch_disable() function.
Update #2825.
```

### **Comment 3**

1. **Sebastian Huber**, Wed, 23 Nov 2016 12:44:56 GMT

In f6edd8807991f1da8e538c6fbadf1d0c99e76326/rtems:

```
score: Explicitly define the fatal source numbers
Update #2825.
```

### **Comment 4**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:04:49 GMT

In b6606e8d9911d1487dbf8338447e7560d09ff48c/rtems:

```
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.
```

### **Comment 5**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:04:59 GMT

In 6a9282d9bb7dd6d7665adb858161edf4e1d0778a/rtems:

```
Rename is_internal to always_set_to_false
Update #2825.
```

### **Comment 6**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:05:09 GMT

In 279d5260c3660e230189ea7d6b45ddf60523b2fe/rtems:

```
Add INTERNAL_ERROR RTEMS_INIT_TASK_CREATE_FAILED
Update #2825.
```

### **Comment 7**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:05:19 GMT

In 0a81a58254f993652822dddba7b73cc7ac439dad/rtems:

```
Add INTERNAL_ERROR POSIX_INIT_THREAD_CREATE_FAILED
Update #2825.
```

### **Comment 8**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:05:38 GMT

In 825296881297025df2f22e2e4e6f2be1d4f0ea61/rtems:

```
INTERNAL_ERROR LIBIO_USER_ENV_KEY_CREATE_FAILED
Update #2825.
```

### **Comment 9**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:05:48 GMT

In 9622f7796f782a03d0c18261e21d0353880960cf/rtems:

Add INTERNAL\_ERROR\_LIBIO\_SEM\_CREATE\_FAILED

Update #2825.

#### **Comment 10**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:06:07 GMT

In a5ba08eb4f20591e8c36a12ae4a30c13f8be5c56/rtems:

Add INTERNAL\_ERROR\_LIBIO\_STDOUT\_FD\_OPEN\_FAILED

Update #2825.

#### **Comment 11**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:06:16 GMT

In e203b65e516c8201360f018a3f029185cd10cba6/rtems:

Add INTERNAL\_ERROR\_LIBIO\_STDERR\_FD\_OPEN\_FAILED

Update #2825.

#### **Comment 12**

1. **Sebastian Huber**, Mon, 12 Dec 2016 07:08:35 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

Should be sufficiently good for now.

#### **Comment 13**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 14**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT

2. **component**: changed from **Documentation** to **doc**

#### **Comment 15**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### **2826 - arm\_cp15\_get\_translation\_table\_base\_control\_register warning.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2826">https://devel.rtems.org/ticket/2826</a> ( <a href="https://devel.rtems.org/ticket/2826">https://devel.rtems.org/ticket/2826</a> ).
<b>Id</b>	2826
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 November 2016 02:08:26
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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"

```

../../../../cpukit/../../../../xilinx_zynq_zedboard/lib/include/libcpu/arm-cp15.h: In function
'arm_cp15_get_translation_table_base_control_register':
../../../../cpukit/../../../../xilinx_zynq_zedboard/lib/include/libcpu/arm-cp15.h:401:10: warning: return makes pointer from integer without a
cast [-Wint-conversion]
    return ttb_cr;
           ^~~~~

```

#### Comment 1

1. **Sebastian Huber**, Wed, 15 Feb 2017 14:10:48 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[444cb5cd23872182f4a2fac3ca25cdbf79a49bff/rtems]

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component**: changed from **unspecified** to **arch/arm**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2829 - xz git URL in README is broken

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2829">https://devel.rtems.org/ticket/2829</a> ( <a href="https://devel.rtems.org/ticket/2829">https://devel.rtems.org/ticket/2829</a> )
<b>Id</b>	2829
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 November 2016 22:22:19
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Use <http://git.tukaani.org/>?

#### Comment 1

1. **Sebastian Huber**, Thu, 16 Feb 2017 10:19:49 GMT

It should be:

<http://git.tukaani.org/?p=xz-embedded.git;a=summary>

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:35:44 GMT
2. **component**: changed from **misc** to **unspecified**

**Comment 4**

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:37:55 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In dfa9a2e7/rtems:

```
xz/README: Correct URL
Closes #2829.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2835 - Ada support is broken on SMP configurations**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2835">https://devel.rtems.org/ticket/2835</a> ( <a href="https://devel.rtems.org/ticket/2835">https://devel.rtems.org/ticket/2835</a> )
<b>Id</b>	2835
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 December 2016 07:58:07
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Needs Funding
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 07 Mar 2017 10:07:33 GMT
2. **owner**: set to **Needs Funding**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **5.0** to **Indefinite**

**Comment 2**

1. **Sebastian Huber**, Tue, 23 May 2017 07:58:43 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **duplicate**

This is a duplicate of #2289.

**Comment 3**

1. **Sebastian Huber**, Thu, 05 Oct 2017 08:31:08 GMT
2. **milestone**: changed from **Indefinite** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2836 - Add posix\_devctl()**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2836">https://devel.rtems.org/ticket/2836</a> ( <a href="https://devel.rtems.org/ticket/2836">https://devel.rtems.org/ticket/2836</a> )
<b>Id</b>	2836
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 December 2016 16:37:30
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 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.

**Comment 1**

1. **Joel Sherrill**, Fri, 09 Dec 2016 16:39:09 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Joel Sherrill**, Mon, 03 Apr 2017 14:08:38 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

The code, tests, and documentation are merged.

**Comment 3**

1. **Joel Sherrill**, Mon, 03 Apr 2017 23:15:32 GMT
2. **keywords:** **POSIX-Compliance** added

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2838 - Termios task driven mode should use mutex for device operations**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2838">https://devel.rtems.org/ticket/2838</a> ( <a href="https://devel.rtems.org/ticket/2838">https://devel.rtems.org/ticket/2838</a> )
<b>Id</b>	2838
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 December 2016 12:27:32
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Termios has a task driven mode (TERMIOS\_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.

**Comment 1**

1. **Sebastian Huber**, Fri, 16 Dec 2016 10:29:41 GMT

In c3764ce80588461d086e844e68002142dbd1ead9/rtems:

```
termios: Use mutex for task driven mode
```

Termios has a task driven mode (TERMIOS\_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.

**Comment 2**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:48:25 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[5bb51a43d1c770dfadd484f0e5f6d104b8df92e/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Fri, 03 Feb 2017 09:58:24 GMT

In 85ed95ec4808d021be50a1ab1f476476a09c5a22/rtems:

```
termios: Fix static device initialization
```

This enables early printk() support.

Update #2838.

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2839 - Add new interrupt server driven Termios mode**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2839">https://devel.rtems.org/ticket/2839</a> ( <a href="https://devel.rtems.org/ticket/2839">https://devel.rtems.org/ticket/2839</a> )
<b>Id</b>	2839
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 December 2016 12:36:47
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Alexander Krutwig**, Fri, 16 Dec 2016 10:29:55 GMT

In e34fe384cb7ecdd2643e8bf528e08e1c988abc8a/rtems:

```
termios: Add TERMIOS_IRQ_SERVER_DRIVEN
```

```
Add a 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.
```

```
Update #2839.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 23 Dec 2016 14:12:15 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[5bb51a43d1c770dfadd484f0e5f6d104b8df92e/rtems-docs]

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2840 - Use self-contained mutexes for Termios framework**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2840">https://devel.rtems.org/ticket/2840</a> ( <a href="https://devel.rtems.org/ticket/2840">https://devel.rtems.org/ticket/2840</a> )
<b>Id</b>	2840
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 December 2016 12:53:36
<b>Modified</b>	22 February 2018 15:42:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	dev/serial
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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%	=====							
rtems_termios_enqueue_raw_characters	3.804%	=====							
Timecounter_Binuptime	3.715%	=====							
Scheduler_priority_Block	3.104%	=====							
rtems_semaphore_release	3.018%	=====							
Scheduler_priority_Unblock	2.901%	=====							
rtems_termios_read_tty	2.777%	=====							
ARMV7M_NVIC_Interrupt_dispatch	2.750%	=====							
rtems_semaphore_obtain	2.627%	=====							
Thread_Do_dispatch	2.351%	=====							
ARMV7M_Interrupt_service_leave	2.086%	=====							
iproc	1.919%	=====							
CPU_Context_switch									

CPU usage by function with C11 mutexes:

name	ratio	1%	2%	5%	10%	20%	50%	100%	
CPU_Thread_Idle_body	33.395%	=====							
atsam_spi_setup_transfer	6.061%	=====							
atsam_spi_interrupt	4.690%	=====							
Mutex_recursive_Release	3.011%	=====							
Event_Seize	2.955%	=====							
ARMV7M_NVIC_Interrupt_dispatch	2.885%	=====							
rtems_termios_enqueue_raw_characters	2.771%	=====							
rtems_termios_read_tty	2.722%	=====							
Timecounter_Binuptime	2.653%	=====							
Thread_Do_dispatch	2.240%	=====							
Scheduler_priority_Block	2.112%	=====							
ARMV7M_Interrupt_service_leave	2.100%	=====							
Scheduler_priority_Unblock	1.919%	=====							
Mutex_recursive_Acquire	1.876%	=====							
iproc	1.773%	=====							
CPU_Context_switch									

The change resulted in 10% more total idle time on the system.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:42:40 GMT
2. **milestone**: changed from **4.12.0** to **5.0**

**Comment 3**

1. **Chris Johns**, Mon, 14 Aug 2017 00:12:55 GMT
2. **version**: **4.11** deleted
3. **milestone**: changed from **5.0** to **Indefinite**

**Comment 4**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:22:00 GMT

In 2c12262/rtems:

```
termios: Use self-contained objects
Update #2840.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 05 Feb 2018 10:50:41 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **summary**: changed from **Use C11 mutexes for Termios framework** to **Use self-contained mutexes for Termios framework**
5. **component**: changed from **score** to **dev/serial**
6. **milestone**: changed from **Indefinite** to **5.1**

Fixed by #2843.

**Comment 6**

1. **Sebastian Huber**, Thu, 22 Feb 2018 15:42:52 GMT

In 5618997d/rtems:

termios: Fix use of uninitialized variable

Update #2840.

---

## **2841 - Add NXP SC16IS752 serial device driver**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2841">https://devel.rtems.org/ticket/2841</a> ( <a href="https://devel.rtems.org/ticket/2841">https://devel.rtems.org/ticket/2841</a> )
<b>Id</b>	2841
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 December 2016 14:19:23
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

Add Termios device driver for NXP SC16IS752 (RS232/RS485 over SPI or I2C).

### **Comment 1**

1. **Alexander Krutwig**, Fri, 16 Dec 2016 10:30:07 GMT

In 9edc73013bbf20d5ca7df67df46699ca32c3e371/rtems:

dev: Add NXP SC16IS752 serial device driver

Update #2841.

### **Comment 2**

1. **Sebastian Huber**, Mon, 30 Jan 2017 14:07:40 GMT
2. **status**: changed from **new** to **closed**
3. **version**: changed from **4.11** to **4.12**
4. **resolution**: set to **fixed**

### **Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### **Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2842 - Change C11 threads support to use Classic tasks instead of POSIX threads**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2842">https://devel.rtems.org/ticket/2842</a> ( <a href="https://devel.rtems.org/ticket/2842">https://devel.rtems.org/ticket/2842</a> )
<b>Id</b>	2842
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 December 2016 16:22:43
<b>Modified</b>	13 August 2020 04:48:22
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The C11 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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:42:40 GMT
2. **milestone**: changed from **4.12.0** to **5.0**

**Comment 3**

1. **Chris Johns**, Mon, 14 Aug 2017 00:13:17 GMT
2. **version**: **4.11** deleted
3. **milestone**: changed from **5.0** to **Indefinite**

**Comment 4**

1. **Joel Sherrill**, Wed, 12 Aug 2020 21:11:51 GMT
- Can this be closed? I think we have our implementation from FreeBSD and are happy with it.

**Comment 5**

1. **Chris Johns**, Thu, 13 Aug 2020 01:42:07 GMT
- Is the configure option for POSIX going to be removed in the waf build system?

**Comment 6**

1. **Sebastian Huber**, Thu, 13 Aug 2020 04:46:37 GMT
- 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.

**Comment 7**

1. **Sebastian Huber**, Thu, 13 Aug 2020 04:48:22 GMT
2. **status**: changed from **new** to **closed**
3. **version**: set to **4.11**
4. **resolution**: set to **fixed**
5. **milestone**: changed from **Indefinite** to **5.1**

The POSIX thread support is always enabled in RTEMS 5.1. There is no need to change the implementation of C11 threads.

---

**2843 - Use self-contained objects instead of Classic API for drivers and support libraries**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2843">https://devel.rtems.org/ticket/2843</a> ( <a href="https://devel.rtems.org/ticket/2843">https://devel.rtems.org/ticket/2843</a> )
<b>Id</b>	2843
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 December 2016 16:25:04
<b>Modified</b>	8 February 2018 08:59:06
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

## Description

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:

- Use C11 mutexes and condition variables.
- Turn the POSIX synchronization objects into self-contained objects and use them.
- Use FreeBSD synchronization objects like MUTEX(9) or CONDVAR(9).
- 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.

## Comment 1

1. **Sebastian Huber**, Tue, 20 Dec 2016 08:15:06 GMT
2. **description:** modified (diff)
3. **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**

## Comment 2

1. **Chris Johns**, Tue, 20 Dec 2016 10:23:41 GMT

Can Option 4 be NP extensions to POSIX after Option 2 is done?

## Comment 3

1. **Sebastian Huber**, Tue, 20 Dec 2016 10:28:54 GMT

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.

## Comment 4

1. **Gedare Bloom**, Tue, 20 Dec 2016 19:34:28 GMT

What are the downsides for self-contained objects? (Is there a clear definition of what self-contained objects are?)

## Comment 5

1. **Sebastian Huber**, Wed, 21 Dec 2016 06:43:21 GMT

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.

#### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 7

1. **Sebastian Huber**, Thu, 11 May 2017 07:42:40 GMT
2. **milestone**: changed from **4.12.0** to **5.0**

#### Comment 8

1. **Chris Johns**, Mon, 14 Aug 2017 00:55:55 GMT
2. **milestone**: changed from **5.0** to **4.12.0**

Please review and update the milestone. Thanks.

#### Comment 9

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:23:15 GMT
2. **component**: changed from **score** to **bsps**
3. **milestone**: changed from **4.12.0** to **4.13.0**

#### Comment 10

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:26:20 GMT
2. **milestone**: changed from **4.13.0** to **5.0**

#### Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:26:42 GMT
2. **milestone**: changed from **5.0** to **6.1**

Milestone renamed

#### Comment 12

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:40:28 GMT

In 6bc5e47/rtems:

```
smptests: Fix configuration
Update #2843.
```

#### Comment 13

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:21:23 GMT

In f14a04c6/rtems:

```
Add RTEMS thread API
Update #2843.
```

#### Comment 14

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:21:36 GMT

In 1b2da177/rtems:



libblock: Use self-contained mutex for disk lock  
Update #2843.

#### **Comment 15**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:21:48 GMT

In 8d7f3680/rtems:

libblock: Use self-contained mutex and cond var  
Update #2843.

#### **Comment 16**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:22:11 GMT

In dc158ad/rtems:

i2c: Use self-contained mutex  
Update #2843.

#### **Comment 17**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:22:23 GMT

In 36304f3/rtems:

spi: Use self-contained mutex  
Update #2843.

#### **Comment 18**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:22:35 GMT

In 16fc3f9a/rtems:

network: Use self-contained recursive mutex  
Update #2843.

#### **Comment 19**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:22:47 GMT

In b17bcb3/rtems:

JFFS2: Use self-contained recursive mutex  
Update #2843.

#### **Comment 20**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:22:59 GMT

In 3b77417/rtems:

dosfs: Use self-contained recursive mutex  
Update #2843.

#### **Comment 21**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:23:11 GMT

In 0940648f/rtems:

RFS: Use self-contained recursive mutex  
Update #2843.

**Comment 22**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:23:22 GMT

In 8ddd92d/rtems:

```
pipe: Use self-contained mutex
Update #2843.
```

**Comment 23**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:23:34 GMT

In 03e5a780/rtems:

```
NFS: Use self-contained recursive mutex
Update #2843.
```

**Comment 24**

1. **Chris Johns**, Sun, 04 Feb 2018 22:31:46 GMT

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.

**Comment 25**

1. **Sebastian Huber**, Mon, 05 Feb 2018 08:47:18 GMT

In 1472f84/rtems-docs:

```
c-user: Add self-contained objects chapter
Update #2843.
```

**Comment 26**

1. **Sebastian Huber**, Mon, 05 Feb 2018 08:58:31 GMT

In 53b6484/rtems:

```
termios: Remove obsolete configuration options
Update #2843.
```

**Comment 27**

1. **Sebastian Huber**, Mon, 05 Feb 2018 09:01:16 GMT

In 0851404/rtems-docs:

```
c-user: Document obsolete termios config options
Update #2843.
```

**Comment 28**

1. **Sebastian Huber**, Mon, 05 Feb 2018 10:39:43 GMT

In 8b3da13/rtems-libbsd:

```
termios: Update due to API changes
Update #2843.
```

**Comment 29**

1. **Sebastian Huber**, Mon, 05 Feb 2018 11:14:17 GMT

2. **component**: changed from **bsps** to **unspecified**

3. **milestone**: changed from **6.1** to **5.1**

**Comment 30**

1. **Sebastian Huber**, Wed, 07 Feb 2018 13:14:31 GMT

In e16111b/rtems:

```
NFS: Fix use of self-contained objects
Update #2843.
```

#### **Comment 31**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:16:35 GMT

In c8d5bed/rtems:

```
libblock: Use self-contained mutex for nvdisk
Update #2843.
```

#### **Comment 32**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:16:50 GMT

In f9027ccf/rtems:

```
libblock: Use self-contained mutex for flashdisk
Update #2843.
```

#### **Comment 33**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:17:02 GMT

In 868ca746/rtems:

```
libblock: Use self-contained mutex for sparse disk
Update #2843.
```

#### **Comment 34**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:17:17 GMT

In a59a6182/rtems:

```
libblock: Use self-contained mutex for media
Update #2843.
```

#### **Comment 35**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:17:32 GMT

In 0a593c2d/rtems:

```
ftpd: Use self-contained synchronization objects
Update #2843.
```

#### **Comment 36**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:17:45 GMT

In d9800ac/rtems:

```
libdl: Use self-contained recursive mutex
Update #2843.
```

#### **Comment 37**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:17:59 GMT

In 87b7117f/rtems:

libdl: Use self-contained mutex for RAP  
Update #2843.

#### **Comment 38**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:18:12 GMT

In 71a8446/rtems:

libdl: Fix potential overwrite of dest buffer  
Update #2843.

#### **Comment 39**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:18:26 GMT

In 3535439f/rtems:

tftps: Use self-contained mutex  
Update #2843.

#### **Comment 40**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:18:38 GMT

In 2aa5b98/rtems:

syslog: Use self-contained recursive mutex  
Update #2843.

#### **Comment 41**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:18:51 GMT

In 2fd31117/rtems:

stdio-redirector: Use self-contained mutex  
Update #2843.

#### **Comment 42**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:38:11 GMT

In 9ace2648/rtems:

fdt: Use self-contained mutex  
Update #2843.

#### **Comment 43**

1. **Sebastian Huber**, Thu, 08 Feb 2018 08:59:06 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

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)

---

## **2844 - JFFS2: Add IO controls to get filesystem instance information and force a garbage collection**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2844">https://devel.rtems.org/ticket/2844</a> ( <a href="https://devel.rtems.org/ticket/2844">https://devel.rtems.org/ticket/2844</a> )
<b>Id</b>	2844
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 December 2016 11:35:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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).

**Comment 1**

1. **Chris Johns**, Mon, 19 Dec 2016 21:28:42 GMT

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 garbage collection at some later time or will the JFFS be configured to start garbage collection automatically?

**Comment 2**

1. **Sebastian Huber**, Tue, 20 Dec 2016 06:29:55 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Tue, 20 Dec 2016 07:32:35 GMT

In 07c833f8f98c665e2f7d7e9adfa5f5503177dbff/rtems:

```
JFFS2: Add RTEMS_JFFS2_GET_INFO
Add IO control RTEMS_JFFS2_GET_INFO to get some JFFS2 filesystem instance information.
Update #2844.
```

**Comment 4**

1. **Sebastian Huber**, Tue, 20 Dec 2016 07:32:47 GMT

In ade135d45577263fe2c7b4d885e81c1798a1a79a/rtems:

```
JFFS2: Add RTEMS_JFFS2_FORCE_GARBAGE_COLLECTION
Add IO control to force a garbage collection.
Update #2844.
```

**Comment 5**

1. **Sebastian Huber**, Tue, 20 Dec 2016 07:32:59 GMT

In ab834d65e4a96bb59901f4349857ffe3e57a3f54/rtems:

```
JFFS2: RTEMS_JFFS2_ON_DEMAND_GARBAGE_COLLECTION
Update #2844.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 20 Dec 2016 07:33:21 GMT

2. **status**: changed from **new** to **closed**

3. **resolution:** set to **fixed**

#### Comment 7

1. **Chris Johns**, Tue, 20 Dec 2016 07:49:54 GMT

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.

#### Comment 8

1. **Sebastian Huber**, Tue, 20 Dec 2016 07:54:55 GMT

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.

#### Comment 9

1. **Chris Johns**, Tue, 20 Dec 2016 10:20:07 GMT

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.

#### Comment 10

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 11**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2845 - Add I2C framework documentation**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2845">https://devel.rtems.org/ticket/2845</a> ( <a href="https://devel.rtems.org/ticket/2845">https://devel.rtems.org/ticket/2845</a> )
<b>Id</b>	2845
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 December 2016 08:47:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The new I2C framework lacks documentation.

**Comment 1**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:43:39 GMT

[7351405fe6841705d8fab2abbd080552e5290ff8/rtems-docs]

**Comment 2**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:43:55 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2849 - ATA/IDE support in RTEMS is out-dated**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2849">https://devel.rtems.org/ticket/2849</a> ( <a href="https://devel.rtems.org/ticket/2849">https://devel.rtems.org/ticket/2849</a> )
<b>Id</b>	2849
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 December 2016 08:52:50
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:46:19 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[4af69ea42a3167f39d9132a1f723810981086645/rtems-docs]

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2850 - Driver manual covers non-existent Analog Driver**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2850">https://devel.rtems.org/ticket/2850</a> ( <a href="https://devel.rtems.org/ticket/2850">https://devel.rtems.org/ticket/2850</a> )
<b>Id</b>	2850
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 December 2016 08:54:52
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

Remove this chapter from the documentation.

**Comment 1**



1. **Sebastian Huber**, Tue, 20 Dec 2016 10:35:53 GMT
2. **summary**: changed from **Driver manual covers non-existent Analog Driver** to **Driver manual covers non-existent Analog Driver**

**Comment 2**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:44:46 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[4b5b49988d8eaf78ea58e1b290159632ab547c3a/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2851 - Driver manual covers non-existent Discrete Driver**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2851">https://devel.rtems.org/ticket/2851</a> ( <a href="https://devel.rtems.org/ticket/2851">https://devel.rtems.org/ticket/2851</a> )
<b>Id</b>	2851
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 December 2016 08:55:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Remove this chapter from the documentation.

**Comment 1**

1. **Sebastian Huber**, Tue, 20 Dec 2016 10:36:03 GMT
2. **summary**: changed from **Driver manual covers non-existent Discrete Driver** to **Driver manual covers non-existent Discrete Driver**

**Comment 2**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:45:07 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[5b8d5d06c199ac2651103ed11b6f7caea44d1f68/rtems-docs]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2853 - Driver manual covers non-existent Non-Volatile Memory Driver**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2853">https://devel.rtems.org/ticket/2853</a> ( <a href="https://devel.rtems.org/ticket/2853">https://devel.rtems.org/ticket/2853</a> )
<b>Id</b>	2853
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 December 2016 10:37:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

Remove this chapter from the documentation.

**Comment 1**

1. **Sebastian Huber**, Fri, 23 Dec 2016 13:45:41 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[003ee4d27dac8c3e6b7d6f8808f0a54dbb3289b8/rtems-docs]

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**2858 - Add user defined thread names**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2858">https://devel.rtems.org/ticket/2858</a> ( <a href="https://devel.rtems.org/ticket/2858">https://devel.rtems.org/ticket/2858</a> )
<b>Id</b>	2858
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 January 2017 12:41:16
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Joel Sherrill**, Thu, 12 Jan 2017 13:41:01 GMT

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`.

### Comment 2

1. **Sebastian Huber**, Thu, 12 Jan 2017 14:50:47 GMT

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.

### Comment 3

1. **Sebastian Huber**, Thu, 12 Jan 2017 14:53:20 GMT

With the new thread name support I get now

```
[/] # cpuuse
-----
                        CPU USAGE BY THREAD
-----+-----+-----+-----
ID      | NAME                               | SECONDS | PERCENT
-----+-----+-----+-----
0x09010001 | IDLE                               | 2.389090 | 71.877
0x0a010001 | UI1                                 | 0.214980 | 6.464
0x0a010002 | BSWP                                | 0.005139 | 0.154
0x0a010003 | BRDA                                | 0.001066 | 0.032
0x0a010004 | MDIA                                | 0.000583 | 0.017
0x0a010005 | TIME                                | 0.180753 | 5.430
0x0a010006 | IRQS                                | 0.004529 | 0.136
0x0a010007 | swi1: netisr 0                     | 0.002570 | 0.077
0x0a010008 | kqueue ctx task                    | 0.000676 | 0.020
0x0a010009 | swi5: fast task                    | 0.000059 | 0.001
0x0a01000a | thread taskq                       | 0.000058 | 0.001
0x0a01000b | swi6: task queu                    | 0.003285 | 0.098
0x0a01000c | DHCP                                | 0.274554 | 8.237
0x0a01000d | FTPa                                | 0.002210 | 0.066
0x0a01000e | FTPb                                | 0.000352 | 0.010
0x0a01000f | FTPc                                | 0.000240 | 0.007
0x0a010010 | FTPd                                | 0.000347 | 0.010
0x0a010011 | FTPD                                | 0.002903 | 0.087
0x0a010012 | TNTD                                | 0.001117 | 0.033
0x0a010013 | SHLL                                | 0.253692 | 7.599
-----+-----+-----+-----
TIME SINCE LAST CPU USAGE RESET IN SECONDS: 3.338494
-----
```

Before all the libbsd threads had the name "\_BSD".

### Comment 4

1. **Joel Sherrill**, Thu, 12 Jan 2017 16:18:27 GMT

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.

### Comment 5

1. **Sebastian Huber**, Thu, 12 Jan 2017 16:33:21 GMT

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.

#### Comment 6

1. **Sebastian Huber**, Fri, 13 Jan 2017 07:34:32 GMT

In b8bcebea186e2d02334a014d5e792a0dde8007fc/rtems:

score: Add and use \_Objects\_Name\_to\_string()  
Update #2858.

#### Comment 7

1. **Sebastian Huber**, Fri, 13 Jan 2017 07:34:42 GMT

In 2b72162b81b33a9f5983feccadd8426a1ab6f950/rtems:

score: Add Thread\_queue\_Queue::name  
Update #2858.

#### Comment 8

1. **Sebastian Huber**, Fri, 13 Jan 2017 07:34:52 GMT

In 7ced9d9bb2fd51cfef2ce33d22e779adfed604c2/rtems:

score: Add and use \_Thread\_Get\_name()  
Update #2858.

#### Comment 9

1. **Sebastian Huber**, Fri, 13 Jan 2017 07:35:01 GMT

In da6ad56a68676d68782ddcbd443a57337c84ee06/rtems:

score: Add \_Thread\_Set\_name()  
Add configuration option CONFIGURE\_MAXIMUM\_THREAD\_NAME\_SIZE.  
Update #2858.

#### Comment 10

1. **Sebastian Huber**, Fri, 13 Jan 2017 07:35:11 GMT

In 7c49927911badda7907703568cadbcb2f1b7ef9d/rtems:

posix: Add pthread\_getname\_np(), ...  
Add pthread\_getname\_np() and pthread\_setname\_np().  
Update #2858.

#### Comment 11

1. **Sebastian Huber**, Fri, 13 Jan 2017 08:21:31 GMT

In 172f2acb2b0ad183cb2360843e67aa86ca26a210/rtems-libbsd:

Use thread name support  
Update #2858.

#### Comment 12

1. **Sebastian Huber**, Tue, 31 Jan 2017 09:11:16 GMT

In e366f774a76d3607ad41dc0992e787ce38df980d/rtems:

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.

**Comment 13**

1. **Sebastian Huber**, Tue, 31 Jan 2017 09:11:57 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

[40a1e80e6391418450157eb9e69aa8b796123aaa/rtems-docs]

**Comment 14**

1. **Sebastian Huber**, Tue, 14 Feb 2017 10:13:42 GMT

In 468e9a4d99418a95657ab411d6557916d9f68bae/rtems:

```
monitor: Print short and long task names
Print wait object identifier only if it exists.
Update #2858.
```

**Comment 15**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 16**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2859 - Implement POSIX Shared Memory Objects**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2859">https://devel.rtems.org/ticket/2859</a> ( <a href="https://devel.rtems.org/ticket/2859">https://devel.rtems.org/ticket/2859</a> )
<b>Id</b>	2859
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	13 January 2017 16:47:41
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

POSIX Shared Memory is a widely used API for inter-process communication. The functions in the API include:

- `shm_open`
- `ftuncate`
- `mmap`
- `munmap`
- `shm_unlink`
- `close`
- `fstat`
- `fchown`
- `fchmod`

**Comment 1**

1. **Gedare Bloom**, Fri, 13 Jan 2017 17:41:37 GMT

ba77628250ae7158db363fc0d7886ebd43e9cb69

**Comment 2**

1. **Sebastian Huber**, Wed, 25 Jan 2017 12:33:07 GMT

In 7cb7454f9321f9d68ad79c7bc21458755a4a6b46/rtems:

```
psxtests: Relax shared memory tests
There is currently no proper mmap() implementation.
Update #2859.
```

### Comment 3

1. **Joel Sherrill**, Tue, 04 Apr 2017 00:03:21 GMT
2. **keywords:** **POSIX-Compliance** added; **posix** removed

### Comment 4

1. **Gedare Bloom**, Fri, 05 May 2017 15:26:56 GMT

In 87de70a2/rtems:

```
posix/mman: add mmap support for shm objects
Update #2859.
```

### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 6

1. **Kevin Kirsipel**, Fri, 14 Jul 2017 20:04:27 GMT

In 1549beb/rtems:

```
psxtests: Add a mmap dedicated test case
Updates #2859
```

### Comment 7

1. **Sebastian Huber**, Tue, 18 Jul 2017 12:22:46 GMT

Test psx mmap01 fails with RTEMS\_DEBUG:

```
*** BEGIN OF TEST PSX MMAP01 ***
Init: mmap - map at zero
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
37
(gdb) bt
#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
#1 0x0200d688 in _Chain_Append unprotected (the_node=0x2039450, the_chain=0x202f650 ) at
../../../../cpukit/../../../../erc32/lib/include/rtems/score/chainimpl.h:686
#2 0x0200d720 in _Chain_Append unprotected (the_node=0x2039450, the_chain=0x202f650 ) at
../../../../rtems/c/src/../../../../cpukit/sapi/src/chainprotected.c:74
#3 rtems_chain_append (chain=chain@entry=0x202f650 , node=node@entry=0x2039450) at
../../../../rtems/c/src/../../../../cpukit/sapi/src/chainprotected.c:72
#4 0x0200a634 in mmap (addr=addr@entry=0xfffff000, len=len@entry=4096, prot=prot@entry=7, flags=, flags@entry=4114,
fildes=fildes@entry=-1, off=) at ../../../../../../rtems/c/src/../../../../cpukit/posix/src/mmap.c:373
#5 0x020014cc in mmap_map_at_zero () at ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxmmap01/init.c:100
#6 POSIX_Init (argument=) at ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxmmap01/init.c:324
#7 0x0201be58 in Thread_Entry_adaptor_pointer (executing=0x20318d8) at
../../../../rtems/c/src/../../../../cpukit/score/src/threadentryadaptorpointer.c:25
#8 0x0201bed4 in Thread_Handler () at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadhandler.c:88
#9 0x0201be6c in Thread_Handler () at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadhandler.c:38
(gdb) frame 3
#3 rtems_chain_append (chain=chain@entry=0x202f650 , node=node@entry=0x2039450) at
../../../../rtems/c/src/../../../../cpukit/sapi/src/chainprotected.c:72
72 _Chain_Append_unprotected( chain, node );
(gdb) p *node
$1 = {
  next = 0x202f654 ,
  previous = 0x202f650
}
```

### Comment 8

1. **Kevin Kirsipel**, Thu, 20 Jul 2017 05:30:57 GMT

In bb01a36/rtems:

```
Fixed issue with searching mapped addresses
```

The loop that checks if the current address is already mapped uses the same local variable for the chanin node as the newly allocated chain node so the allocated chain node gets over written.

Added a new local variable for the loop that checks the address

Updates #2859.

### Comment 9

1. **Sebastian Huber**, Thu, 20 Jul 2017 05:31:10 GMT

In b965f461/rtems:

```
posix: Use unprotected chain operations
Operations are already protected by mmap_mappings_lock.
Updates #2859.
```

### Comment 10

1. **Sebastian Huber**, Thu, 20 Jul 2017 05:33:50 GMT

The mmap\_mappings\_lock attributes don't create a mutex:

```
#define RTEMS_MUTEX_ATTRIBS \
```

```
(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.

### Comment 11

1. **Gedare Bloom**, Mon, 24 Jul 2017 19:01:33 GMT

In b264998/rtems:

```
posix: replace mmap mappings lock with libio lock
Use the libio mutex lock instead of the mmap mappings lock.
Updates #2859.
```

### Comment 12

1. **Gedare Bloom**, Mon, 24 Jul 2017 19:14:54 GMT

In c6d897e5/rtems:

```
posix: fix warnings with mmap from heap/wkspac
Avoid void pointer arithmetic.
Updates #2859.
```

### Comment 13

1. **Sebastian Huber**, Fri, 28 Jul 2017 11:54:11 GMT

In 77cbb2a/rtems:

```
psxtests/psxmmap01: Fix warning
Update #2859.
```

### Comment 14

1. **Gedare Bloom**, Fri, 28 Jul 2017 19:16:13 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 1ab6d59/rtems-docs:

```
memory_management: update mmap, munmap, shm_open, shm_unlink
Close #2859.
```

**Comment 15**

1. **Gedare Bloom**, Fri, 28 Jul 2017 19:19:00 GMT

I consider this basically complete. Open new tickets against any bugs or added features.

**Comment 16**

1. **Sebastian Huber**, Thu, 14 Sep 2017 05:03:21 GMT

In 694e946/rtems:

```
libio: Remove special-case reference count
The top-level IO library structures should contain no special-case data.
Update #2859.
```

**Comment 17**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT

2. **component**: changed from **score** to **posix**

**Comment 18**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2862 - docs.rtems.org Add support to ReST format releases.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2862">https://devel.rtems.org/ticket/2862</a> ( <a href="https://devel.rtems.org/ticket/2862">https://devel.rtems.org/ticket/2862</a> )
<b>Id</b>	2862
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 January 2017 21:06:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Sun, 13 Aug 2017 23:39:26 GMT

2. **version**: changed from **4.11** to **4.12**

**Comment 3**

1. **Chris Johns**, Mon, 04 Sep 2017 03:29:05 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

Fixed.



**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2863 - Update POSIX 1003.1 Compliance Guide for ReST**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2863">https://devel.rtems.org/ticket/2863</a> ( <a href="https://devel.rtems.org/ticket/2863">https://devel.rtems.org/ticket/2863</a> )
<b>Id</b>	2863
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 January 2017 23:24:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Mon, 14 Aug 2017 00:14:07 GMT
2. **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?

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Joel Sherrill**, Wed, 11 Oct 2017 23:45:37 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **duplicate**

This is a duplicate of #3177

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2864 - docs.rtems.org Automatic update of branches content when a rtems-doc.git change is made.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2864">https://devel.rtems.org/ticket/2864</a> ( <a href="https://devel.rtems.org/ticket/2864">https://devel.rtems.org/ticket/2864</a> )
<b>Id</b>	2864
<b>Reporter</b>	Chris Johns
<b>Created</b>	15 January 2017 23:39:48
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Add support to automatically update the branches when a git commit happens.

**Comment 1**

1. **Amar Takhar**, Mon, 16 Jan 2017 06:00:41 GMT

You mean automatically build the docs when someone makes a commit to them?

A little confused by the description. :)

**Comment 2**

1. **Chris Johns**, Mon, 16 Jan 2017 06:23:20 GMT
2. **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.

**Comment 3**

1. **Amar Takhar**, Mon, 16 Jan 2017 14:09:42 GMT

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.

**Comment 4**

1. **Chris Johns**, Mon, 16 Jan 2017 22:42:15 GMT

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?

#### Comment 5

1. **Amar Takhar**, Tue, 17 Jan 2017 00:15:53 GMT

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.

#### Comment 6

1. **Joel Sherrill**, Tue, 17 Jan 2017 01:40:43 GMT

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.

#### Comment 7

1. **Chris Johns**, Tue, 17 Jan 2017 05:14:41 GMT

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 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.

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.

#### **Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 9**

1. **Chris Johns**, Sun, 13 Aug 2017 23:40:11 GMT
2. **version**: changed from **4.11** to **4.12**

#### **Comment 10**

1. **Chris Johns**, Mon, 04 Sep 2017 01:06:13 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Commits update master and the release branch.

#### **Comment 11**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

#### **Comment 12**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## **2865 - Coverage installed when building the docs repeats catalogue.xml entries**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2865">https://devel.rtems.org/ticket/2865</a> ( <a href="https://devel.rtems.org/ticket/2865">https://devel.rtems.org/ticket/2865</a> )
<b>Id</b>	2865
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 January 2017 00:07:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The catalogue repeats entries.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Fri, 11 Aug 2017 03:46:53 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In feb6832/rtems-docs:

```
coverpage: Fix repeated entries.
Closes #2865.
```

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2867 - Fix exclude rule in rtems-test-check**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2867">https://devel.rtems.org/ticket/2867</a> ( <a href="https://devel.rtems.org/ticket/2867">https://devel.rtems.org/ticket/2867</a> )
<b>Id</b>	2867
<b>Reporter</b>	Stavros Passas
<b>Created</b>	16 January 2017 15:37:30
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	minor
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Attachments:**

1. **Stavros Passas, Mon, 16 Jan 2017 15:44:43 GMT**  
**attach**: set to [fix-2867.patch](https://devel.rtems.org/ticket/2867/fix-2867.patch) (<https://devel.rtems.org/ticket/2867/fix-2867.patch>)

**Comment 1**

1. **Stavros Passas**, Mon, 16 Jan 2017 15:48:37 GMT

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.

**Comment 2**

1. **Joel Sherrill**, Mon, 16 Jan 2017 17:08:47 GMT

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 index 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
```

### Comment 3

1. **Stavros Passas**, Mon, 16 Jan 2017 17:21:06 GMT

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!

### Comment 4

1. **Joel Sherrill**, Mon, 16 Jan 2017 18:23:31 GMT

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.

### Comment 5

1. **Joel Sherrill**, Mon, 16 Jan 2017 18:23:55 GMT

2. **owner:** set to **Chris Johns**

3. **status:** changed from **new** to **assigned**

### Comment 6

1. **Joel Sherrill**, Mon, 16 Jan 2017 19:25:48 GMT

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.

### Comment 7

1. **Joel Sherrill**, Wed, 18 Jan 2017 00:06:34 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

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.

### Comment 8

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## **2868 - src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c: 3 &#42 pointless local variables ?**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2868">https://devel.rtems.org/ticket/2868</a> ( <a href="https://devel.rtems.org/ticket/2868">https://devel.rtems.org/ticket/2868</a> )
<b>Id</b>	2868
<b>Reporter</b>	David Binderman
<b>Created</b>	16 January 2017 17:01:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom <gedare@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	lowest
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

```
[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 ?

### Comment 1

1. **Gedare Bloom**, Thu, 19 Jan 2017 18:00:50 GMT
2. **owner:** set to **Gedare Bloom** <gedare@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 3f09d6354899f032958cbc44e49c7ee99175df27/rtems:

```
smdk2410: delete unused variables
Closes #2868.
```

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component:** changed from **unspecified** to **arch/arm**

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## **2873 - src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320: defective error checking ?**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2873">https://devel.rtems.org/ticket/2873</a> ( <a href="https://devel.rtems.org/ticket/2873">https://devel.rtems.org/ticket/2873</a> )
<b>Id</b>	2873
<b>Reporter</b>	David Binderman
<b>Created</b>	19 January 2017 19:59:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom <gedare@...>
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Gedare Bloom**, Thu, 19 Jan 2017 20:35:03 GMT
2. **owner:** set to **Gedare Bloom <gedare@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 70e8abf3917c93ab085ca77fee379df9fa000183/rtems:

```
raspberrypi: use signed int for return variable
Closes #2873.
```

### Comment 2

1. **Joel Sherrill**, Sun, 05 Feb 2017 02:07:37 GMT

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

### Comment 3

1. **David Binderman**, Sun, 05 Feb 2017 09:06:38 GMT

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.

#### Comment 4

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 5

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component**: changed from **unspecified** to **arch/arm**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2874 - src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt\_timer.c: 4 &#42 pointless check ?

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2874">https://devel.rtems.org/ticket/2874</a> ( <a href="https://devel.rtems.org/ticket/2874">https://devel.rtems.org/ticket/2874</a> )
<b>Id</b>	2874
<b>Reporter</b>	David Binderman
<b>Created</b>	19 January 2017 20:52:11
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	lowest
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

```
[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.

#### Comment 1

1. **Sebastian Huber**, Fri, 20 Jan 2017 13:23:31 GMT
2. **owner**: set to **Sebastian Huber** <sebastian.huber@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In e8606d5b90048b9a5feba09430ac356c422eee7d/rtems:

```
bsp/beatnik: Remove superfluous check
Close #2874.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:25:10 GMT
2. **component**: changed from **unspecified** to **arch/powerpc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2877 - DHCP client fails on complex networks**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2877">https://devel.rtems.org/ticket/2877</a> ( <a href="https://devel.rtems.org/ticket/2877">https://devel.rtems.org/ticket/2877</a> )
<b>Id</b>	2877
<b>Reporter</b>	Stavros Passas
<b>Created</b>	20 January 2017 09:21:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	dhcp
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

- Broadcast a DHCP discover;
- Wait for a DHCP offer;
- Transmit a DHCP request;
- 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.

**Attachments:**

- 
- 1 **Stavros Passas**, Fri, 20 Jan 2017 09:33:28 GMT  
**attach**: set to [fix-2877.patch](https://devel.rtems.org/ticket/2877/fix-2877.patch) (<https://devel.rtems.org/ticket/2877/fix-2877.patch>)
- 

**Comment 1**

1. **Sebastian Huber**, Fri, 20 Jan 2017 09:25:37 GMT

The DHCP client used by libbsd is probably not affected by this problem.

**Comment 2**

1. **Stavros Passas**, Fri, 20 Jan 2017 09:27:16 GMT

Correct, this affects just cpukit/libnetworking/rtems/rtems\_dhcp.c

**Comment 3**

1. **Stavros Passas**, Fri, 20 Jan 2017 09:33:55 GMT

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.

**Comment 4**

1. **Stavros Passas**, Fri, 20 Jan 2017 14:07:39 GMT
2. **owner**: set to [joel.sherrill@...](mailto:joel.sherrill@...)
3. **component**: changed from **General** to **cpukit**

**Comment 5**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 6**

1. **Stavros Passas**, Thu, 08 Jun 2017 08:07:18 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 2585347/rtems:

```
network: Fix DHCP client protocol
Close #2877.
```

**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2878 - src/c/src/lib/libbsp/sparc/shared/can/occan.c:1573: broken error checking ?**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2878">https://devel.rtems.org/ticket/2878</a> ( <a href="https://devel.rtems.org/ticket/2878">https://devel.rtems.org/ticket/2878</a> )
<b>Id</b>	2878
<b>Reporter</b>	David Binderman
<b>Created</b>	20 January 2017 14:14:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 20 Jan 2017 14:14:52 GMT
2. **owner**: set to **Daniel Hellstrom**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Daniel Hellstrom**, Tue, 22 Aug 2017 08:35:33 GMT

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.

**Comment 4**

1. **Daniel Hellstrom**, Wed, 30 Aug 2017 10:40:05 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Fixed by 3471d3da25de4e706f4cdb09d93a4de4e54455df

**Comment 5**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:23:46 GMT
2. **component**: changed from **unspecified** to **arch/sparc**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2879 - src/cpukit/libdebugger/rtems-debugger-server.c: four problems**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2879">https://devel.rtems.org/ticket/2879</a> ( <a href="https://devel.rtems.org/ticket/2879">https://devel.rtems.org/ticket/2879</a> )
<b>Id</b>	2879
<b>Reporter</b>	David Binderman
<b>Created</b>	23 January 2017 17:41:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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

```
if (r < 0) {
    rtems_printf(printer, "error: rtems-db: remote begin: %s: %s\n",
                 rtems_debugger->remote->name, strerror(errno));
    free(rtems_debugger);
    rtems_debugger = NULL;
}
/*
 * Reset at the end of the session.
 */
rtems_debugger->flags = 0;
```

Suggest adding return -1 inside the if.

3.

```
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.

```
src/cpukit/libdebugger/rtems-debugger-server.c:956]: (warning) Char literal compared with pointer 'p'. Did you intend to dereference it?
```

Source code is

```
while (p != NULL && p != '\0') {
```

Maybe better code

```
while (p != NULL && *p != '\0') {
```

**Comment 1**

1. **Chris Johns**, Mon, 23 Jan 2017 23:05:49 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **accepted**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Chris Johns**, Sun, 16 Jul 2017 23:41:37 GMT
2. **description**: modified (diff)

Update formatting to show the code fragments.

**Comment 4**

1. **Chris Johns**, Mon, 07 Aug 2017 23:34:21 GMT
2. **version**: changed from **4.11** to **4.12**
3. **component**: changed from **General** to **cpukit**

**Comment 5**

1. **Chris Johns**, Tue, 15 Aug 2017 01:40:37 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In b2353ed9/rtems:

```
libdebugger: Fixes to debugging, ARM support, locking, and gcc-7.1 warnings.
Add printk support to aid multi-core debugging. Add lock trace to aid lock debugging. Fixes to gcc-7.1 warnings. Fixes from ticket #2879.
Add verbose command controls. Change using the RTEMS sys/lock.h API to manage exception threads. ARM hardware breakpoint fixes. Support for
SMP stepping
is not implemented, this requires use of the context id
register.
Closes #2879.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2880 - src/cpukit/libfs/src/jffs2/src/readinode.c:189: faulty logic**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2880">https://devel.rtems.org/ticket/2880</a> ( <a href="https://devel.rtems.org/ticket/2880">https://devel.rtems.org/ticket/2880</a> )
<b>Id</b>	2880
<b>Reporter</b>	David Binderman
<b>Created</b>	23 January 2017 17:46:08
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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;

```

**Comment 1**

1. **Sebastian Huber**, Tue, 24 Jan 2017 06:32:03 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

This code block is identical to the Linux upstream.

**Comment 2**

1. **David Binderman**, Tue, 24 Jan 2017 08:18:51 GMT

I've reported this strange code to the linux developers.

**Comment 3**

1. **Sebastian Huber**, Tue, 24 Jan 2017 08:20:57 GMT

The JFFS2 code should be updated to a specific Linux version in one rush.

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2883 - src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248: strange expression ?**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2883">https://devel.rtems.org/ticket/2883</a> ( <a href="https://devel.rtems.org/ticket/2883">https://devel.rtems.org/ticket/2883</a> )
<b>Id</b>	2883
<b>Reporter</b>	David Binderman
<b>Created</b>	23 January 2017 19:08:50
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Pavel Pisa
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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;
```

Comment 1

1. **Sebastian Huber**, Tue, 24 Jan 2017 06:41:28 GMT
2. **owner**: set to **Pavel Pisa**
3. **status**: changed from **new** to **assigned**

Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

Comment 3

1. **Joel Sherrill**, Thu, 12 Oct 2017 17:38:41 GMT

Ping Paval. Any idea what this line of code should be?

Comment 4

1. **Pavel Pisa**, Thu, 12 Oct 2017 23:03:14 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In f4009d8/rtems:

```
bsp/tms570: remove duplicate of TMS570_SCI_FLR_TX_EMPTY in console driver.
```

```
Initial idea has been that check for both, TMS570_SCI_FLR_TX_EMPTY and TMS570_SCI_FLR_TXRDY is required before console driver parameters update.
```

```
closes #2883.
```

Comment 5

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:24:30 GMT
2. **component**: changed from **unspecified** to **arch/arm**

Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2885 - Fix rtems\_rate\_monotonic\_postponed\_job\_count() prototype**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2885">https://devel.rtems.org/ticket/2885</a> ( <a href="https://devel.rtems.org/ticket/2885">https://devel.rtems.org/ticket/2885</a> )
<b>Id</b>	2885
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 January 2017 14:01:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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()).

### Comment 1

1. **Sebastian Huber**, Tue, 24 Jan 2017 14:13:27 GMT

There is no test case for this function.

### Comment 2

1. **Kuan-Hsun Chen**, Tue, 24 Jan 2017 15:44:34 GMT

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

### Comment 3

1. **Sebastian Huber**, Wed, 25 Jan 2017 06:28:28 GMT

My preferred option: just add this to rtems\_rate\_monotonic\_period\_status and return it via rtems\_rate\_monotonic\_get\_status().

### Comment 4

1. **Kuan-Hsun Chen**, Wed, 25 Jan 2017 08:28:16 GMT

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().

### Comment 5

1. **Kuan-Hsun Chen**, Wed, 25 Jan 2017 13:19:19 GMT

Sp69 is also planned to be updated, which is the test for rtems\_rate\_monotonic\_get\_status()

### Comment 6

1. **Kuan-Hsun Chen**, Mon, 30 Jan 2017 06:53:30 GMT

In 0794197f729f5ee9551dc7b2e14867f394cbc327/rtems:

```
rtems: Fix _Rate_monotonic_Renew_deadline()
Prepare a precondition to prevent the potential integer overflow.
Remove one redundant parameter in _Rate_monotonic_Renew_deadline().
sptestests/sprmsched02: Create A test case for checking the overflow condition of postponed_jobs in rtems_rate_monotonic_period_status.
Update #2885.
```

### Comment 7

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html



1. **Sebastian Huber**, Mon, 30 Jan 2017 07:06:48 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**Comment 8**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2889 - RTEMS\_STACK\_CHECKER\_EXTENSION has incomplete definition**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2889">https://devel.rtems.org/ticket/2889</a> ( <a href="https://devel.rtems.org/ticket/2889">https://devel.rtems.org/ticket/2889</a> )
<b>Id</b>	2889
<b>Reporter</b>	Stavros Passas
<b>Created</b>	30 January 2017 10:40:08
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Stavros Passas <stavros.passas@...>
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	trivial
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:**

1. **Stavros Passas**, Mon, 30 Jan 2017 10:41:26 GMT  
**attach**: set to [2889-Complete-STACK\\_CHECKER\\_EXTENSION.patch](https://devel.rtems.org/ticket/2889/2889-Complete-STACK_CHECKER_EXTENSION.patch) ([https://devel.rtems.org/ticket/2889/2889-Complete-STACK\\_CHECKER\\_EXTENSION.patch](https://devel.rtems.org/ticket/2889/2889-Complete-STACK_CHECKER_EXTENSION.patch))
- 

**Comment 1**

1. **Stavros Passas**, Mon, 30 Jan 2017 10:41:53 GMT

Fix attached.

**Comment 2**

1. **Stavros Passas**, Mon, 30 Jan 2017 10:51:12 GMT
2. **owner**: set to **Stavros Passas** <stavros.passas@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 575c2e21e25db83a5a8d83d2f4062e0f39f18c46/rtems:

```
Complete STACK_CHECKER_EXTENSION. Fixes #2889
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2890 - \_RbTree\_Initialize\_node generates warnings**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2890">https://devel.rtems.org/ticket/2890</a> ( <a href="https://devel.rtems.org/ticket/2890">https://devel.rtems.org/ticket/2890</a> )
<b>Id</b>	2890
<b>Reporter</b>	Stavros Passas
<b>Created</b>	30 January 2017 11:06:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	trivial
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:**

- 
- 1 **Stavros Passas**, Mon, 30 Jan 2017 11:07:39 GMT  
**attach**: set to [2890-Avoid-warnings-on-\\_RbTree\\_Initialize\\_node.patch](https://devel.rtems.org/ticket/2890/2890-Avoid-warnings-on-_RbTree_Initialize_node.patch) ([https://devel.rtems.org/ticket/2890/2890-Avoid-warnings-on-\\_RbTree\\_Initialize\\_node.patch](https://devel.rtems.org/ticket/2890/2890-Avoid-warnings-on-_RbTree_Initialize_node.patch))
- 

**Comment 1**

1. **Stavros Passas**, Mon, 30 Jan 2017 11:08:39 GMT

Suggested fix attached.

**Comment 2**

1. **Sebastian Huber**, Mon, 30 Jan 2017 11:30:42 GMT
2. **owner**: set to **Sebastian Huber** <sebastian.huber@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In c5430e0618fbe1517417a0b353c12924a8934554/rtems:

```
score: Fix unused parameter warning
Close #2890.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2893 - Remove CONFIGURE\_SMP\_APPLICATION**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2893">https://devel.rtems.org/ticket/2893</a> ( <a href="https://devel.rtems.org/ticket/2893">https://devel.rtems.org/ticket/2893</a> )
<b>Id</b>	2893
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	1 February 2017 10:42:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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`.

**Comment 1**

1. **Sebastian Huber**, Wed, 01 Feb 2017 10:45:53 GMT
2. **version:** changed from **4.12** to **4.11**

**Comment 2**

1. **Sebastian Huber**, Thu, 02 Feb 2017 08:10:05 GMT
- In [f95fa38764c007459cb0bd62a67e83a442f55433/rtems](https://devel.rtems.org/ticket/2893):

```
Remove CONFIGURE_SMP_APPLICATION
Enable the SMP support if CONFIGURE_SMP_MAXIMUM_PROCESSORS > 1.
Update #2893.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 03 Feb 2017 12:30:33 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

[[1f3c22e7868b14482df287656e602e17ccac4adc/rtems-docs](https://devel.rtems.org/ticket/2893)]

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:13:34 GMT
2. **component:** changed from **SMP** to **config**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2894 - Rename `CONFIGURE_SMP_MAXIMUM_PROCESSORS` to `CONFIGURE_MAXIMUM_PROCESSORS`**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2894">https://devel.rtems.org/ticket/2894</a> ( <a href="https://devel.rtems.org/ticket/2894">https://devel.rtems.org/ticket/2894</a> )
<b>Id</b>	2894
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	1 February 2017 10:43:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Rename `CONFIGURE_SMP_MAXIMUM_PROCESSORS` to `CONFIGURE_MAXIMUM_PROCESSORS` since the SMP part is superfluous.

#### Comment 1

1. **Sebastian Huber**, Tue, 14 Feb 2017 09:21:26 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **component**: changed from **Documentation** to **SMP**

[1d073c538527a196cc35dab9d4ff6892e70d770d/rtems-docs]

#### Comment 2

1. **Sebastian Huber**, Tue, 14 Feb 2017 10:13:04 GMT

In 54835ae9b35a595099c22e764bce86dc74d57317/rtems:

```
Rename CONFIGURE_SMP_MAXIMUM_PROCESSORS
```

```
Rename CONFIGURE_SMP_MAXIMUM_PROCESSORS to CONFIGURE_MAXIMUM_PROCESSORS since the SMP part is superfluous.
```

```
Update #2894.
```

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:13:34 GMT
2. **component**: changed from **SMP** to **config**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2895 - Prefix the `confdefs.h` internal defines with an underscore

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2895">https://devel.rtems.org/ticket/2895</a> ( <a href="https://devel.rtems.org/ticket/2895">https://devel.rtems.org/ticket/2895</a> )
<b>Id</b>	2895
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	1 February 2017 10:45:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Prefix the confdefs.h internal defines with an underscore to simplify the review of this extremely complex header file.

**Comment 1**

1. **Chris Johns**, Wed, 01 Feb 2017 23:51:32 GMT

Could you please provide more detail about this change, why it helps and the user impact?

Thanks

**Comment 2**

1. **Sebastian Huber**, Thu, 02 Feb 2017 05:45:24 GMT

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 helps to identify undocumented configuration options.

**Comment 3**

1. **Sebastian Huber**, Tue, 14 Feb 2017 08:45:07 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

[07d71279b46142147f73b00ea8b1731e868e484a/rtems]

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2896 - RSB requirements are missing pax**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2896">https://devel.rtems.org/ticket/2896</a> ( <a href="https://devel.rtems.org/ticket/2896">https://devel.rtems.org/ticket/2896</a> )
<b>Id</b>	2896
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	1 February 2017 16:46:49
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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

**Comment 1**

1. **Joel Sherrill**, Wed, 01 Feb 2017 16:47:05 GMT
2. **owner**: set to **Chris Johns**
3. **component**: changed from **General** to **RSB**

**Comment 2**

1. **Chris Johns**, Wed, 01 Feb 2017 23:43:03 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Chris Johns**, Mon, 14 Aug 2017 00:16:05 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

I need patches to the documentation to fix this.

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2897 - Update termios.h to match the latest FREEBSD definitions**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2897">https://devel.rtems.org/ticket/2897</a> ( <a href="https://devel.rtems.org/ticket/2897">https://devel.rtems.org/ticket/2897</a> )
<b>Id</b>	2897
<b>Reporter</b>	Kevin Kirsipel
<b>Created</b>	1 February 2017 21:27:35
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Needs Funding
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 cfgetspeed, cfgetospeed, cfsetispeed, cfsetospeed functions).

**Attachments:**

- 1 **Kevin Kirsipel, Wed, 01 Feb 2017 21:28:10 GMT**  
**attach:** set to [0001-remove-files-that-are-no-longer-needed-in-libnetwork.patch](https://devel.rtems.org/ticket/2897/0001-remove-files-that-are-no-longer-needed-in-libnetwork.patch) (https://devel.rtems.org/ticket/2897/0001-remove-files-that-are-no-longer-needed-in-libnetwork.patch)
  - 2 **Kevin Kirsipel, Wed, 01 Feb 2017 21:28:27 GMT**  
**attach:** set to [0002-Updating-termios-headers-to-latest-FREEDBSD-verion.patch](https://devel.rtems.org/ticket/2897/0002-Updating-termios-headers-to-latest-FREEDBSD-verion.patch) (https://devel.rtems.org/ticket/2897/0002-Updating-termios-headers-to-latest-FREEDBSD-verion.patch)
  - 3 **Kevin Kirsipel, Wed, 01 Feb 2017 21:29:10 GMT**  
**attach:** set to [log\\_xilinx\\_zynq\\_a9\\_qemu\\_net.log](https://devel.rtems.org/ticket/2897/log_xilinx_zynq_a9_qemu_net.log) (https://devel.rtems.org/ticket/2897/log\_xilinx\_zynq\_a9\_qemu\_net.log)
  - 4 **Kevin Kirsipel, Thu, 02 Feb 2017 23:00:55 GMT**  
**attach:** set to [0001-Adding-new-files-for-inclusion-of-FREEDBSD-termios-fe.patch](https://devel.rtems.org/ticket/2897/0001-Adding-new-files-for-inclusion-of-FREEDBSD-termios-fe.patch) (https://devel.rtems.org/ticket/2897/0001-Adding-new-files-for-inclusion-of-FREEDBSD-termios-fe.patch)
  - 5 **Kevin Kirsipel, Thu, 02 Feb 2017 23:01:34 GMT**  
**attach:** set to [0002-Updating-termios-to-support-FREEDBSD-struct-termios-.patch](https://devel.rtems.org/ticket/2897/0002-Updating-termios-to-support-FREEDBSD-struct-termios-.patch) (https://devel.rtems.org/ticket/2897/0002-Updating-termios-to-support-FREEDBSD-struct-termios-.patch)
  - 6 **Kevin Kirsipel, Thu, 02 Feb 2017 23:01:55 GMT**  
**attach:** set to [0003-test-suites-are-updated-to-reflect-the-changes-made-.patch](https://devel.rtems.org/ticket/2897/0003-test-suites-are-updated-to-reflect-the-changes-made-.patch) (https://devel.rtems.org/ticket/2897/0003-test-suites-are-updated-to-reflect-the-changes-made-.patch)
  - 7 **Kevin Kirsipel, Thu, 02 Feb 2017 23:02:12 GMT**  
**attach:** set to [0004-tools-was-updated-to-reflect-the-changes-made-to-ter.patch](https://devel.rtems.org/ticket/2897/0004-tools-was-updated-to-reflect-the-changes-made-to-ter.patch) (https://devel.rtems.org/ticket/2897/0004-tools-was-updated-to-reflect-the-changes-made-to-ter.patch)
  - 8 **Kevin Kirsipel, Thu, 02 Feb 2017 23:03:23 GMT**  
**attach:** set to [log\\_xilinx\\_zynq\\_a9\\_qemu.log](https://devel.rtems.org/ticket/2897/log_xilinx_zynq_a9_qemu.log) (https://devel.rtems.org/ticket/2897/log\_xilinx\_zynq\_a9\_qemu.log)
- 

#### Comment 1

1. **Kevin Kirsipel, Wed, 01 Feb 2017 21:52:39 GMT**

Ignore the patches and test log. I accidently configured on the wrong tree. I'll post new patches soon.

#### Comment 2

1. **Kevin Kirsipel, Thu, 02 Feb 2017 23:00:00 GMT**

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.

#### Comment 3

1. **Sebastian Huber, Wed, 15 Feb 2017 14:20:42 GMT**
2. **owner:** set to **Needs Funding**
3. **status:** changed from **new** to **assigned**
4. **milestone:** changed from **4.12** to **Indefinite**

#### Comment 4

1. **Kevin Kirsipel, Wed, 22 Mar 2017 10:57:26 GMT**
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1c6926c1/rtems:

```
termios: Synchronize with latest FreeBSD headers
```

```
Adding modified FreeBSD headers to synchronize RTEMS termios with FreeBSD. Modify termios to support dedicated input and output baud for termios structure. Updated BSPs to use dedicated input and output baud in termios structure. Updated tools to use dedicated input and output baud in termios structure. Updated termios testsuites to use dedicated input and output baud in termios structure.
```

```
Close #2897.
```

#### Comment 5

1. **Sebastian Huber, Wed, 22 Mar 2017 10:59:48 GMT**
2. **milestone:** changed from **Indefinite** to **4.12**

#### Comment 6

1. **Sebastian Huber, Mon, 27 Mar 2017 08:31:35 GMT**

In 94a4865/rtems:

```
termios: Avoid invalid memory access
```

```
Update #2897.
```

**Comment 7**

1. **Sebastian Huber**, Mon, 27 Mar 2017 13:39:05 GMT

In 5f382713/rtems:

```
cpukit: Fix Makefile.am and update preinstall.am
Update #2897.
```

**Comment 8**

1. **Sebastian Huber**, Mon, 03 Apr 2017 12:08:49 GMT

In 1301468/rtems:

```
bsps: Fix baud settings
Update #2897.
```

**Comment 9**

1. **Kevin Kirsipel**, Mon, 10 Apr 2017 14:40:08 GMT

In d2390ce4/rtems:

```
Updating default termios initialization for dedicated input/output baud rates
updates #2897.
```

**Comment 10**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 11**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2905 - Merge LEON**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2905">https://devel.rtems.org/ticket/2905</a> ( <a href="https://devel.rtems.org/ticket/2905">https://devel.rtems.org/ticket/2905</a> )
<b>Id</b>	2905
<b>Reporter</b>	Tanu Hari Dixit
<b>Created</b>	6 February 2017 03:06:42
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	project
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	SoC, BSP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Merge LEON

\_\_Students: \_\_ Past, Present, and Potential Students

\_\_Status: \_\_ Some work may be done.

\_\_Introduction: \_\_ Merge Leon RTEMS and mainstream RTEMS merge the Leon DriverManager, samples, and LEON-RTEMS into mainstream RTEMS.

\_\_Goal: \_\_ Concise statement of the overall goal of the project. Refine this initial statement to include: project deliverables (code, docs, testing), required/suggested methodology, standards of quality, possible goal extensions beyond the main objective.

\_\_Requirements: \_\_ List the requirements and level of expertise you estimate are required by the developer tackling this project will have to have: Required level of programming language(s), specific areas of RTEMS or tools, level of familiarity with RTEMS, cross-development, GNU/Linux, etc., development/documentation/testing tools, mathematical/algorithmic background, other desirable skills.



\_\_Resources:\_\_ Current RTEMS developers, papers, etc that may help you in this project.

\_\_Acknowledgements\_\_

- who helped and did work

Miscellaneous Sections

As the project progresses, you will need to add build instructions, etc and this page will evolve from a project description into a HOWTO.

References

- TBD

\_\_Other sections:\_\_ If you have more to say about the project that doesn't fit in the proposed sections of this template, feel free to add other sections at will.

#### Comment 1

1. **Chris Johns**, Mon, 06 Feb 2017 04:02:32 GMT
2. **type**: changed from **enhancement** to **project**

#### Comment 2

1. **Gedare Bloom**, Thu, 02 Mar 2017 20:23:10 GMT
2. **keywords**: **BSP** added

#### Comment 3

1. **Gedare Bloom**, Thu, 02 Mar 2017 20:26:08 GMT

I'm fairly certain this is "done".

#### Comment 4

1. **Sebastian Huber**, Mon, 06 Mar 2017 06:13:55 GMT
2. **status**: changed from **new** to **closed**
3. **version**: **4.11** deleted
4. **resolution**: set to **fixed**
5. **milestone**: changed from **Indefinite** to **4.12**

This is mostly done and certainly not a GSoC project.

#### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 6

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component**: changed from **bsps** to **arch/sparc**

#### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **2906 - rtems-doc waf configure does not detect sphinxcontrib.bibtex status**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2906">https://devel.rtems.org/ticket/2906</a> ( <a href="https://devel.rtems.org/ticket/2906">https://devel.rtems.org/ticket/2906</a> )
<b>Id</b>	2906
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 February 2017 21:16:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	Sebastian Huber Joel Sherrill
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Mon, 04 Sep 2017 01:30:49 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

<https://git.rtems.org/rtems-docs/commit/?id=ff9d55501f5a150d52b43513357becc04171fd61>

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2909 - xz: Support for 64-bit CRC is build although XZ\_USE\_CRC64 is not defined**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2909">https://devel.rtems.org/ticket/2909</a> ( <a href="https://devel.rtems.org/ticket/2909">https://devel.rtems.org/ticket/2909</a> )
<b>Id</b>	2909
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 February 2017 07:52:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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]
```

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

We should enable the 64-bit CRC or remove this file from the build.

#### Comment 1

1. **Joel Sherrill**, Fri, 07 Apr 2017 20:24:01 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In c475924d/rtems:

```
xz_config.h: Define XZ_USE_CRC64
close #2909.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Tue, 13 Jun 2017 09:45:57 GMT

In c7377381/rtems:

```
xz: Use CRC32
This reverts c475924d6d2ea7d5cba160a8a28e88642d6b46d8.
Update #2909. Close #2994.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 06 Jul 2017 13:12:06 GMT

In 71943dd/rtems:

```
xz: Suppress attribute warnings
Update #2909.
```

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2912 - libdebugger: control reaches end of non-void function

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2912">https://devel.rtems.org/ticket/2912</a> ( <a href="https://devel.rtems.org/ticket/2912">https://devel.rtems.org/ticket/2912</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 February 2017 10:15:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

```
../../../../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: warning: control reaches end of non-void function [-Wreturn-type]
```

#### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Sun, 16 Jul 2017 23:31:04 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

This looks fixed to me on master.

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2916 - termios: Change receive callback invocation to enable select() and poll() support**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2916">https://devel.rtems.org/ticket/2916</a> ( <a href="https://devel.rtems.org/ticket/2916">https://devel.rtems.org/ticket/2916</a> )
<b>Id</b>	2916
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 February 2017 07:55:02
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 28 Feb 2017 07:55:08 GMT
2. **owner**: changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Tue, 28 Feb 2017 09:03:08 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

[9fa0f543ecfcf6cdf79d60a3a9f5a0ed845c7046/rtems]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2917 - termios: Make write POSIX compatible**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2917">https://devel.rtems.org/ticket/2917</a> ( <a href="https://devel.rtems.org/ticket/2917">https://devel.rtems.org/ticket/2917</a> )
<b>Id</b>	2917
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 February 2017 07:57:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 28 Feb 2017 07:57:19 GMT
2. **owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Tue, 28 Feb 2017 09:03:33 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

[a165a9607abd4263fa1a572bb227bd9fb537053b/rtems]

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2922 - libdl unresolved externals that use more than one block or multiple entries corrupts.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2922">https://devel.rtems.org/ticket/2922</a> ( <a href="https://devel.rtems.org/ticket/2922">https://devel.rtems.org/ticket/2922</a> )
<b>Id</b>	2922
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 March 2017 03:00:21
<b>Modified</b>	27 November 2018 06:12:50
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 3**

1. **Chris Johns**, Sun, 14 Oct 2018 00:52:20 GMT
2. **owner**: changed from **chrisj@...** to **Chris Johns**
3. **status**: changed from **new** to **accepted**

**Comment 4**

1. **Chris Johns**, Tue, 27 Nov 2018 06:12:50 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

**2923 - Questionable Code in resource\_snapshot.c**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2923">https://devel.rtems.org/ticket/2923</a> ( <a href="https://devel.rtems.org/ticket/2923">https://devel.rtems.org/ticket/2923</a> )
<b>Id</b>	2923
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 March 2017 18:13:20
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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

- `address_of`: Taking address with `&snapshot->active_posix_keys` yields a singleton pointer.
- `assign`: Assigning: `active = &snapshot->active_posix_keys`.

```
142 active = &snapshot->active_posix_keys;
143
```

- 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
```

- Condition `information != NULL`, taking true branch.

```
152 if (information != NULL) {
CID 1399703 (#1 of 1): Out-of-bounds access (ARRAY_VS_SINGLETON)
```

- `ptr_arith`: Using `active` as an array. This might corrupt or misinterpret adjacent memory locations.

```
153 active[i] = _Objects_Active_count(information);
```

**Comment 1**

1. **Joel Sherrill**, Fri, 10 Mar 2017 18:13:45 GMT
2. **owner**: changed from **joel.sherrill@...** to **Sebastian Huber**

3. **status:** changed from **new** to **assigned**

#### Comment 2

1. **Sebastian Huber**, Mon, 13 Mar 2017 06:00:40 GMT

Yes, the code is ugly, but it works quite well.

#### Comment 3

1. **Gedare Bloom**, Mon, 13 Mar 2017 15:08:59 GMT

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;
```

#### Comment 4

1. **Sebastian Huber**, Tue, 14 Mar 2017 06:28:40 GMT

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.

#### Comment 5

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:43:47 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

#### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 2924 - Warnings in SPARC BSPs

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2924">https://devel.rtems.org/ticket/2924</a> ( <a href="https://devel.rtems.org/ticket/2924">https://devel.rtems.org/ticket/2924</a> )
<b>Id</b>	2924
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 March 2017 19:31:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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:647:4: 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:647:4: 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.c:168:3: 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.c:168:3: 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 *}' [-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:647:4: 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:647:4: 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:647:4: 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:647:4: 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 *}' [-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 'apbuart_priv * {aka struct *}' [-Wformat=]
```

## Comment 1

1. **Joel Sherrill**, Fri, 10 Mar 2017 19:31:29 GMT
2. **owner**: changed from **joel.sherrill@...** to **Daniel Hellstrom**
3. **status**: changed from **new** to **assigned**

## Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

## Comment 3



1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component**: changed from **bsps** to **arch/sparc**

**Comment 4**

1. **Joel Sherrill**, Thu, 12 Oct 2017 17:29:59 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

These no longer occur. Closing.

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2925 - Warnings in rtl-obj-cache.c on some targets**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2925">https://devel.rtems.org/ticket/2925</a> ( <a href="https://devel.rtems.org/ticket/2925">https://devel.rtems.org/ticket/2925</a> )
<b>Id</b>	2925
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 March 2017 16:18:23
<b>Modified</b>	14 October 2018 00:47:25
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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=]
~
```

**Comment 1**

1. **Joel Sherrill**, Mon, 13 Mar 2017 16:18:35 GMT
2. **owner**: changed from **joel.sherrill@...** to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 4**

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:47:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

## 2930 - Coverity Reports Out of Bounds Read in drvmgr\_print.c

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2930">https://devel.rtems.org/ticket/2930</a> ( <a href="https://devel.rtems.org/ticket/2930">https://devel.rtems.org/ticket/2930</a> )
<b>Id</b>	2930
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2017 21:31:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

<https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109359850&defectInstanceId=30967449&mergedDefectId=1399730>

```
354 printf(" DRIVER ID: 0x%llx\n", drv->drv_id);
```

- Condition `drv->name`, taking true branch.

```
355 printf(" NAME: %s\n", drv->name ? drv->name : "NO_NAME");
356 printf(" BUS TYPE: %d\n", drv->bus_type);
357 printf(" OPERATIONS:\n");
```

- alias: Assigning: `ppfunc = &drv->ops->init[0]`. `ppfunc` now points to element 0 of `drv->ops->init` (which consists of 4 4-byte elements).
- Condition `i < 6U /* sizeof (struct drvmgr_drv_ops) / sizeof (void *) (void) */`, taking true branch.
- Condition `i < 6U /* sizeof (struct drvmgr_drv_ops) / sizeof (void *) (void) */`, taking true branch.
- `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++)
```

- Jumping back to the beginning of the loop.

CID 1399730 (#1 of 1): Out-of-bounds read (OVERRUN)

- `ovrrun-local`: Overrunning array of 4 4-byte elements at element index 5 (byte offset 20) by dereferencing pointer `ppfunc + i`.

```
360 printf(" %s %p\n", drv_ops_names[i], ppfunc[i]);
361 printf(" NO. DEVICES: %d\n", drv->dev_cnt);
362
```

### Comment 1

1. **Joel Sherrill**, Wed, 15 Mar 2017 16:03:24 GMT
2. **owner**: changed from `joel.sherrill@...` to **Daniel Hellstrom**
3. **status**: changed from **new** to **assigned**

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 3

1. **Daniel Hellstrom**, Tue, 29 Aug 2017 07:09:36 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 3663be53/rtems:

```
drvmgr: clean up info_drv print
Fixes #2930
```

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2933 - Flexibleassign to is broken on new ticket page.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2933">https://devel.rtems.org/ticket/2933</a> ( <a href="https://devel.rtems.org/ticket/2933">https://devel.rtems.org/ticket/2933</a> )
<b>Id</b>	2933
<b>Reporter</b>	Amar Takhar
<b>Created</b>	15 March 2017 16:13:06
<b>Modified</b>	20 October 2018 22:58:08
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3560
<b>Blocked by</b>	

---

**Description**

The plugin needs to be fixed for new trac template changes. I usually don't have to modify this often but we made a huge version jump.

Right now all we see is

assign to

There should be a list of developers.

**Comment 1**

1. **Amar Takhar**, Sat, 20 Oct 2018 22:58:08 GMT
2. **status:** changed from **assigned** to **closed**
3. **version:** set to **5**
4. **resolution:** set to **fixed**
5. **blocking:** set to **3560**
6. **milestone:** set to **5.1**

See #3560 for updates.

---

**2935 - Termios task driven mode not compatible with SMP**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2935">https://devel.rtems.org/ticket/2935</a> ( <a href="https://devel.rtems.org/ticket/2935">https://devel.rtems.org/ticket/2935</a> )
<b>Id</b>	2935
<b>Reporter</b>	Martin Aberg
<b>Created</b>	16 March 2017 10:14:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	termios smp
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 16 Mar 2017 14:39:51 GMT

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:42:07 GMT

In f7a2dcf/rtems-docs:

```
bsp-howto: Warn about TERMIO_TASK_DRIVEN
Update #2935.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:43:12 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

We should keep the task driven mode as is. Maybe remove it in the future.

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2941 - building rsb freezes**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2941">https://devel.rtems.org/ticket/2941</a> ( <a href="https://devel.rtems.org/ticket/2941">https://devel.rtems.org/ticket/2941</a> )
<b>Id</b>	2941
<b>Reporter</b>	DHANPAL SINGH
<b>Created</b>	17 March 2017 11:05:30
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```
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
download: 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 bytes downloading: 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
reporting: 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
building: 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
cleaning: 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
download: 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
download: 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
download: sources/newlib-2.5.0.20170228.tar.gz - 17.1MB of 17.1MB (100%)
download: http://www.mpr.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

```

#### Comment 1

1. **Joel Sherrill**, Fri, 17 Mar 2017 13:03:41 GMT

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.

#### Comment 2

1. **Gedare Bloom**, Fri, 17 Mar 2017 19:33:57 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

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.

#### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 4

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:26:07 GMT
2. **component**: changed from **unspecified** to **tools/rsb**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2942 - rtems building error

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2942">https://devel.rtems.org/ticket/2942</a> ( <a href="https://devel.rtems.org/ticket/2942">https://devel.rtems.org/ticket/2942</a> )
<b>Id</b>	2942
<b>Reporter</b>	DHANPAL SINGH
<b>Created</b>	17 March 2017 14:28:11
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

```
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 rtems
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
Generating ./cpukit/score/cpu/lm32/preinstall.am
Generating ./cpukit/score/cpu/nios2/preinstall.am
Generating ./cpukit/score/cpu/epiphany/preinstall.am
Generating ./cpukit/score/cpu/sparc64/preinstall.am
Generating ./cpukit/score/cpu/m32c/preinstall.am
Generating ./cpukit/score/cpu/i386/preinstall.am
Generating ./cpukit/score/cpu/mips/preinstall.am
Generating ./cpukit/score/cpu/v850/preinstall.am
Generating ./cpukit/score/cpu/or1k/preinstall.am
Generating ./cpukit/score/cpu/bfin/preinstall.am
Generating ./cpukit/score/cpu/sh/preinstall.am
Generating ./cpukit/score/cpu/m68k/preinstall.am
Generating ./cpukit/score/cpu/powerpc/preinstall.am
Generating ./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
Generating ./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
Generating ./cpukit/librpc/preinstall.am
Generating ./cpukit/telnetd/preinstall.am
Generating ./cpukit/libdebugger/preinstall.am
Generating ./cpukit/rtems/preinstall.am
Generating ./cpukit/libmd/preinstall.am
Generating ./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
Generating ./c/src/lib/libbsp/arm/csb336/preinstall.am
Generating ./c/src/lib/libbsp/arm/smdk2410/preinstall.am
Generating ./c/src/lib/libbsp/arm/realview-pbx-a9/preinstall.am
Generating ./c/src/lib/libbsp/arm/preinstall.am
Generating ./c/src/lib/libbsp/arm/stm32f4/preinstall.am
Generating ./c/src/lib/libbsp/arm/atsam/preinstall.am
Generating ./c/src/lib/libbsp/arm/rtl22xx/preinstall.am
Generating ./c/src/lib/libbsp/arm/csb337/preinstall.am
Generating ./c/src/lib/libbsp/arm/beagle/preinstall.am
Generating ./c/src/lib/libbsp/arm/edb7312/preinstall.am
Generating ./c/src/lib/libbsp/arm/lm3s69xx/preinstall.am
Generating ./c/src/lib/libbsp/arm/lpc176x/preinstall.am
Generating ./c/src/lib/libbsp/arm/lpc24xx/preinstall.am
Generating ./c/src/lib/libbsp/arm/gumstix/preinstall.am
Generating ./c/src/lib/libbsp/arm/xilinx-zynq/preinstall.am
Generating ./c/src/lib/libbsp/arm/gdbarmsim/preinstall.am
Generating ./c/src/lib/libbsp/arm/lpc32xx/preinstall.am
Generating ./c/src/lib/libbsp/arm/tms570/preinstall.am
```

```

Generating ./src/lib/libbsp/arm/raspberrypi/preinstall.am
Generating ./src/lib/libbsp/arm/altera-cyclone-v/preinstall.am
Generating ./src/lib/libbsp/Im32/milkymist/preinstall.am
Generating ./src/lib/libbsp/Im32/Im32_evr/preinstall.am
Generating ./src/lib/libbsp/nios2/nios2_iss/preinstall.am
Generating ./src/lib/libbsp/epiphany/preinstall.am
Generating ./src/lib/libbsp/epiphany/epiphany_sim/preinstall.am
Generating ./src/lib/libbsp/sparc64/niagara/preinstall.am
Generating ./src/lib/libbsp/sparc64/usiii/preinstall.am
Generating ./src/lib/libbsp/m32c/m32cbasp/preinstall.am
Generating ./src/lib/libbsp/i386/pc386/preinstall.am
Generating ./src/lib/libbsp/mips/rbtx4938/preinstall.am
Generating ./src/lib/libbsp/mips/rbtx4925/preinstall.am
Generating ./src/lib/libbsp/mips/hurricane/preinstall.am
Generating ./src/lib/libbsp/mips/jmr3904/preinstall.am
Generating ./src/lib/libbsp/mips/malta/preinstall.am
Generating ./src/lib/libbsp/mips/csb350/preinstall.am
Generating ./src/lib/libbsp/v850/preinstall.am
Generating ./src/lib/libbsp/v850/gdbv850sim/preinstall.am
Generating ./src/lib/libbsp/or1k/preinstall.am
Generating ./src/lib/libbsp/or1k/generic_or1k/preinstall.am
Generating ./src/lib/libbsp/bfin/TL6527M/preinstall.am
Generating ./src/lib/libbsp/bfin/bf537Stamp/preinstall.am
Generating ./src/lib/libbsp/bfin/eZKit533/preinstall.am
Generating ./src/lib/libbsp/sh/gensh2/preinstall.am
Generating ./src/lib/libbsp/sh/gensh1/preinstall.am
Generating ./src/lib/libbsp/sh/gensh4/preinstall.am
Generating ./src/lib/libbsp/sh/shsim/preinstall.am
Generating ./src/lib/libbsp/m68k/mcf5235/preinstall.am
Generating ./src/lib/libbsp/m68k/genmcf548x/preinstall.am
Generating ./src/lib/libbsp/m68k/preinstall.am
Generating ./src/lib/libbsp/m68k/mcf5329/preinstall.am
Generating ./src/lib/libbsp/m68k/csb360/preinstall.am
Generating ./src/lib/libbsp/m68k/av5282/preinstall.am
Generating ./src/lib/libbsp/m68k/mcf5225x/preinstall.am
Generating ./src/lib/libbsp/m68k/mvme147s/preinstall.am
Generating ./src/lib/libbsp/m68k/mvme162/preinstall.am
Generating ./src/lib/libbsp/m68k/gen68360/preinstall.am
Generating ./src/lib/libbsp/m68k/mrm332/preinstall.am
Generating ./src/lib/libbsp/m68k/gen68340/preinstall.am
Generating ./src/lib/libbsp/m68k/mcf52235/preinstall.am
Generating ./src/lib/libbsp/m68k/mvme167/preinstall.am
Generating ./src/lib/libbsp/m68k/uC5282/preinstall.am
Generating ./src/lib/libbsp/m68k/mvme147/preinstall.am
Generating ./src/lib/libbsp/m68k/mcf5206elite/preinstall.am
Generating ./src/lib/libbsp/powerpc/motorola_powerpc/preinstall.am
Generating ./src/lib/libbsp/powerpc/virtex5/preinstall.am
Generating ./src/lib/libbsp/powerpc/haleakala/preinstall.am
Generating ./src/lib/libbsp/powerpc/ss555/preinstall.am
Generating ./src/lib/libbsp/powerpc/qemuppc/preinstall.am
Generating ./src/lib/libbsp/powerpc/gen83xx/preinstall.am
Generating ./src/lib/libbsp/powerpc/gen5200/preinstall.am
Generating ./src/lib/libbsp/powerpc/virtex/preinstall.am
Generating ./src/lib/libbsp/powerpc/mpc55xxevb/preinstall.am
Generating ./src/lib/libbsp/powerpc/t32mpcc/preinstall.am
Generating ./src/lib/libbsp/powerpc/virtex4/preinstall.am
Generating ./src/lib/libbsp/powerpc/mvme3100/preinstall.am
Generating ./src/lib/libbsp/powerpc/beatnik/preinstall.am
Generating ./src/lib/libbsp/powerpc/qorig/preinstall.am
Generating ./src/lib/libbsp/powerpc/tqm8xx/preinstall.am
Generating ./src/lib/libbsp/powerpc/mvme5500/preinstall.am
Generating ./src/lib/libbsp/powerpc/mpc8260ads/preinstall.am
Generating ./src/lib/libbsp/powerpc/psim/preinstall.am
Generating ./src/lib/libbsp/moxie/moxiesim/preinstall.am
Generating ./src/lib/libbsp/sparc/erc32/preinstall.am
Generating ./src/lib/libbsp/sparc/leon3/preinstall.am
Generating ./src/lib/libbsp/sparc/leon2/preinstall.am
Generating ./src/lib/libcpu/arm/preinstall.am
Generating ./src/lib/libcpu/Im32/preinstall.am
Generating ./src/lib/libcpu/nios2/preinstall.am
Generating ./src/lib/libcpu/sparc64/preinstall.am
Generating ./src/lib/libcpu/i386/preinstall.am
Generating ./src/lib/libcpu/mips/preinstall.am
Generating ./src/lib/libcpu/or1k/preinstall.am
Generating ./src/lib/libcpu/bfin/preinstall.am
Generating ./src/lib/libcpu/sh/preinstall.am
Generating ./src/lib/libcpu/m68k/preinstall.am
Generating ./src/lib/libcpu/powerpc/preinstall.am
Generating ./src/lib/libcpu/sparc/preinstall.am
Generating ./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/rtems$ 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
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
Generating ./cpukit/score/cpu/Im32/preinstall.am
Generating ./cpukit/score/cpu/nios2/preinstall.am
Generating ./cpukit/score/cpu/epiphany/preinstall.am
Generating ./cpukit/score/cpu/sparc64/preinstall.am
Generating ./cpukit/score/cpu/m32c/preinstall.am
Generating ./cpukit/score/cpu/i386/preinstall.am
Generating ./cpukit/score/cpu/mips/preinstall.am
Generating ./cpukit/score/cpu/v850/preinstall.am
Generating ./cpukit/score/cpu/or1k/preinstall.am
Generating ./cpukit/score/cpu/bfin/preinstall.am
Generating ./cpukit/score/cpu/sh/preinstall.am
Generating ./cpukit/score/cpu/m68k/preinstall.am
Generating ./cpukit/score/cpu/powerpc/preinstall.am
Generating ./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  
Generating ./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  
Generating ./cpukit/librpc/preinstall.am  
Generating ./cpukit/telnetd/preinstall.am  
Generating ./cpukit/libdebugger/preinstall.am  
Generating ./cpukit/rtems/preinstall.am  
Generating ./cpukit/libmd/preinstall.am  
Generating ./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  
Generating ./c/src/lib/libbsp/arm/csb336/preinstall.am  
Generating ./c/src/lib/libbsp/arm/smdk2410/preinstall.am  
Generating ./c/src/lib/libbsp/arm/realview-pbx-a9/preinstall.am  
Generating ./c/src/lib/libbsp/arm/preinstall.am  
Generating ./c/src/lib/libbsp/arm/stm32f4/preinstall.am  
Generating ./c/src/lib/libbsp/arm/atsam/preinstall.am  
Generating ./c/src/lib/libbsp/arm/rt22xx/preinstall.am  
Generating ./c/src/lib/libbsp/arm/csb337/preinstall.am  
Generating ./c/src/lib/libbsp/arm/beagle/preinstall.am  
Generating ./c/src/lib/libbsp/arm/edb7312/preinstall.am  
Generating ./c/src/lib/libbsp/arm/lm3s69xx/preinstall.am  
Generating ./c/src/lib/libbsp/arm/lpc176x/preinstall.am  
Generating ./c/src/lib/libbsp/arm/lpc24xx/preinstall.am  
Generating ./c/src/lib/libbsp/arm/gumstix/preinstall.am  
Generating ./c/src/lib/libbsp/arm/xilinx-zynq/preinstall.am  
Generating ./c/src/lib/libbsp/arm/gdbarmsim/preinstall.am  
Generating ./c/src/lib/libbsp/arm/lpc32xx/preinstall.am  
Generating ./c/src/lib/libbsp/arm/tms570/preinstall.am  
Generating ./c/src/lib/libbsp/arm/raspberrypi/preinstall.am  
Generating ./c/src/lib/libbsp/arm/altera-cyclone-v/preinstall.am  
Generating ./c/src/lib/libbsp/lm32/milkymist/preinstall.am  
Generating ./c/src/lib/libbsp/lm32/lm32\_evr/preinstall.am  
Generating ./c/src/lib/libbsp/nios2/nios2\_iss/preinstall.am  
Generating ./c/src/lib/libbsp/epiphany/preinstall.am  
Generating ./c/src/lib/libbsp/epiphany/epiphany\_sim/preinstall.am  
Generating ./c/src/lib/libbsp/sparc64/niagara/preinstall.am  
Generating ./c/src/lib/libbsp/sparc64/usiii/preinstall.am  
Generating ./c/src/lib/libbsp/m32c/m32cbsp/preinstall.am  
Generating ./c/src/lib/libbsp/i386/pc386/preinstall.am  
Generating ./c/src/lib/libbsp/mips/rbt4938/preinstall.am  
Generating ./c/src/lib/libbsp/mips/rbt4925/preinstall.am  
Generating ./c/src/lib/libbsp/mips/hurricane/preinstall.am  
Generating ./c/src/lib/libbsp/mips/jmr3904/preinstall.am  
Generating ./c/src/lib/libbsp/mips/malta/preinstall.am  
Generating ./c/src/lib/libbsp/mips/psb350/preinstall.am  
Generating ./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 ./c/src/lib/libbsp/or1k/generic\_or1k/preinstall.am  
Generating ./c/src/lib/libbsp/bfin/TLLE6527M/preinstall.am  
Generating ./c/src/lib/libbsp/bfin/bf537Stamp/preinstall.am  
Generating ./c/src/lib/libbsp/bfin/eZKit533/preinstall.am  
Generating ./c/src/lib/libbsp/sh/gensh2/preinstall.am  
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 ./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 ./c/src/lib/libbsp/m68k/mcf5329/preinstall.am  
Generating ./c/src/lib/libbsp/m68k/psb360/preinstall.am  
Generating ./c/src/lib/libbsp/m68k/av5282/preinstall.am  
Generating ./c/src/lib/libbsp/m68k/mcf5225x/preinstall.am  
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 ./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 ./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 ./c/src/lib/libbsp/m68k/mcf5206elite/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/motorola\_powerpc/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/virtex5/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/haleakala/preinstall.am  
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 ./c/src/lib/libbsp/powerpc/gen5200/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/virtex/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/mpc55xxevb/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/t32mppc/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/virtex4/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/mvme3100/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/beatnik/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/qoriq/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/tqm8xx/preinstall.am  
Generating ./c/src/lib/libbsp/powerpc/mvme5500/preinstall.am  
Generating ./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  
Generating ./c/src/lib/libcpu/lm32/preinstall.am  
Generating ./c/src/lib/libcpu/nios2/preinstall.am



```

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
root@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel/rtems#

```

**Comment 1**

1. **Gedare Bloom**, Fri, 17 Mar 2017 19:37:30 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2943 - rtems building error**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2943">https://devel.rtems.org/ticket/2943</a> ( <a href="https://devel.rtems.org/ticket/2943">https://devel.rtems.org/ticket/2943</a> )
<b>Id</b>	2943
<b>Reporter</b>	DHANPAL SINGH
<b>Created</b>	18 March 2017 07:07:28
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

i am attaching the screenshot of file system

**Attachments:**

1. **DHANPAL SINGH**, Sat, 18 Mar 2017 07:07:57 GMT  
**attach**: set to [Screenshot from 2017-03-18 09:51:42.png](https://devel.rtems.org/ticket/2943/Screenshot%20from%202017-03-18%2009:51:42.png) (<https://devel.rtems.org/ticket/2943/Screenshot%20from%202017-03-18%2009:51:42.png>)

**Comment 1**

1. **Chris Johns**, Mon, 20 Mar 2017 04:06:56 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone:** changed from 4.12 to 4.12.0

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from 4.12.0 to 5.1

Milestone renamed

---

## **2945 - Many failures on LEON3 with SMP disabled**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2945">https://devel.rtems.org/ticket/2945</a> ( <a href="https://devel.rtems.org/ticket/2945">https://devel.rtems.org/ticket/2945</a> )
<b>Id</b>	2945
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	20 March 2017 22:54:12
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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
sptimerserver01.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
cpuuse.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
psxualarm.exe
spfifo03.exe
psxtimer01.exe
monitor.exe
```

Invalid:

```
cxx_iostream.exe
spinternalerror01.exe
spimecounter01.exe
```

#### **Comment 1**

1. **Joel Sherrill**, Mon, 20 Mar 2017 22:54:56 GMT
2. **owner:** changed from **daniel h** to **Daniel Hellstrom**

#### **Comment 2**

1. **Chris Johns**, Tue, 21 Mar 2017 00:07:52 GMT

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?

### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 4

1. **Daniel Hellstrom**, Fri, 12 May 2017 09:42:39 GMT

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/jfs2_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] # SUMMARY [usr1] # Tests failing: 9 [usr1] # Tests successful: 534 [usr1] # [usr1]
#####
```

### Comment 5

1. **Daniel Hellstrom**, Fri, 12 May 2017 09:46:03 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **worksforme**

### Comment 6

1. **Sebastian Huber**, Fri, 12 May 2017 09:53:58 GMT

Which tool chain did you use?

Why are there fsscandir01 failures?

### Comment 7

1. **Daniel Hellstrom**, Fri, 12 May 2017 10:03:05 GMT

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/jfs2_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
```

### Comment 8

1. **Sebastian Huber**, Fri, 12 May 2017 10:08:13 GMT

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.

### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2946 - Add a top level global testsuite configuration file (.tcfg) and a 'user-input' test state.

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2946">https://devel.rtems.org/ticket/2946</a> ( <a href="https://devel.rtems.org/ticket/2946">https://devel.rtems.org/ticket/2946</a> )
<b>Id</b>	2946
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 March 2017 00:24:03
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 2

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component**: changed from **testing** to **unspecified**

#### Comment 3

1. **Joel Sherrill**, Wed, 11 Oct 2017 23:47:54 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Chris says he fixed this.

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 2949 - Questionable patch organization in RTEMS tools and RSB

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2949">https://devel.rtems.org/ticket/2949</a> ( <a href="https://devel.rtems.org/ticket/2949">https://devel.rtems.org/ticket/2949</a> )
<b>Id</b>	2949
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 March 2017 14:19:11
<b>Modified</b>	13 November 2017 07:39:52
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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#### Description

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.

#### Comment 1

1. **Amar Takhar**, Wed, 22 Mar 2017 12:25:02 GMT

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.

#### Comment 2

1. **Chris Johns**, Wed, 22 Mar 2017 23:42:36 GMT

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.

#### Comment 3

1. **Gedare Bloom**, Thu, 23 Mar 2017 15:53:24 GMT

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.

#### Comment 4

1. **Chris Johns**, Fri, 24 Mar 2017 01:28:52 GMT

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?

#### Comment 5

1. **Chris Johns**, Fri, 24 Mar 2017 04:29:59 GMT

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.

#### Comment 6

1. **Sebastian Huber**, Fri, 24 Mar 2017 10:27:31 GMT

I think we should stop to use subdirectories in the RTEMS tools for the patches.

#### Comment 7

1. **Chris Johns**, Fri, 24 Mar 2017 22:27:34 GMT

Sebastian, I did not understand your last comment.

#### Comment 8

1. **Chris Johns**, Mon, 27 Mar 2017 04:37:32 GMT

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.

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

**Comment 9**

1. **Sebastian Huber**, Mon, 27 Mar 2017 05:18:29 GMT

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.

**Comment 10**

1. **Sebastian Huber**, Mon, 27 Mar 2017 05:20:21 GMT

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.

**Comment 11**

1. **Chris Johns**, Mon, 27 Mar 2017 05:42:35 GMT

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.

**Comment 12**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 13**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:54:08 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **wontfix**

The consensus seems to be that rtems-tools should no longer be used for patches.

**Comment 14**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:26:07 GMT

2. **component**: changed from **unspecified** to **tool/rsb**

**Comment 15**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 16**

1. **Sebastian Huber**, Mon, 13 Nov 2017 07:39:52 GMT

In 3a32d15/rtems-tools:

## 2951 - Error path in rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2951">https://devel.rtems.org/ticket/2951</a> ( <a href="https://devel.rtems.org/ticket/2951">https://devel.rtems.org/ticket/2951</a> )
<b>Id</b>	2951
<b>Reporter</b>	alexgerbor
<b>Created</b>	24 March 2017 14:54:37
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	newlib, 4.12, build, path
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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: no ssl context
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
```

### Comment 1

1. **Chris Johns**, Sun, 26 Mar 2017 03:49:43 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In b47a811/rtems-source-builder:

```
4.11/arm: Fix the path to the sqrt patch.
Use the upstream patch sent to the newlib mailing list.
Closes #2951.
```

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

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## 2954 - ARM: Optimize context switch



---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2954">https://devel.rtems.org/ticket/2954</a> ( <a href="https://devel.rtems.org/ticket/2954">https://devel.rtems.org/ticket/2954</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2017 07:36:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 28 Mar 2017 08:34:46 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In cd3d747/rtems:

```
arm: Optimize context switch
```

```
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.
```

```
Close #2954.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:21:19 GMT
2. **component**: changed from **score** to **arch/arm**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2957 - Shared memory support internal locking is broken**


---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2957">https://devel.rtems.org/ticket/2957</a> ( <a href="https://devel.rtems.org/ticket/2957">https://devel.rtems.org/ticket/2957</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 March 2017 05:50:01
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

```
#0 Terminate (the source=INTERNAL_ERROR_CORE, the error=31) at ../../../../../../rtems/c/src/../../../../cpukit/score/src/interr.c:35
#1 0x00111654 in Internal_error (Core error=INTERNAL_ERROR_BAD_THREAD_DISPATCH_ENVIRONMENT) at
../../../../../../../../rtems/c/src/../../../../cpukit/score/src/interr.c:52
#2 0x00117010 in Thread_Do_dispatch (cpu_self=0x2035c0 <Per CPU Information>, level=1611071955) at
../../../../../../../../rtems/c/src/../../../../cpukit/score/src/threaddispatch.c:190
#3 0x0011a568 in Thread_Dispatch_enable (cpu_self=0x2035c0 <Per CPU Information>) at
../../../../../../../../rtems/c/src/../../../../cpukit/score/src/threaddispatch.h:227
#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
#5 0x0011b6ea in Thread_Set_life_protection (state=THREAD_LIFE_PROTECTED) at
../../../../../../../../rtems/c/src/../../../../cpukit/score/src/threadrestart.c:691
#6 0x0010f3dc in API_Mutex_Lock (the_mutex=0x2037d8) at ../../../../../../rtems/c/src/../../../../cpukit/score/src/apimutexlock.c:31
#7 0x001050a0 in RTEMS_Lock_allocator () at ../../../../../../cpukit/../../../../realview_pbx_a9_gemu/lib/include/rtems/score/apimutex.h:120
#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
#9 0x001055a6 in malloc (size=10004) at ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/malloc.c:39
#10 0x0011e820 in realloc (ptr=0x0, size=10004) at ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/realloc.c:62
#11 0x0010b1a2 in POSIX_Shmem_Object_resize_from_heap (shm_obj=0x204870, size=10004) at
../../../../../../../../rtems/c/src/../../../../cpukit/posix/src/shmheap.c:59
#12 0x0010b6ac in shm_ftruncate (iop=0x202cf8, length=10004) at ../../../../../../rtems/c/src/../../../../cpukit/posix/src/shmopen.c:83
#13 0x00104cfc in ftruncate (fd=3, length=10004) at ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/ftruncate.c:37
#14 0x001008e0 in POSIX_Init (argument=0x0) at ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxshm02/init.c:54
#15 0x001201ee in Thread_Entry_adaptor_pointer (executing=0x2041a8) at
../../../../../../../../rtems/c/src/../../../../cpukit/score/src/threadentryadaptorpointer.c:25
#16 0x00120302 in Thread_Handler () at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadhandler.c:88
```

### Comment 1

1. **Gedare Bloom**, Tue, 28 Mar 2017 19:39:49 GMT

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\_Shmem\_Control Object. I think this one is fine.

### Comment 2

1. **Sebastian Huber**, Wed, 29 Mar 2017 05:34:52 GMT

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\_Shmem\_Control Object. I think this one is fine.

Yes.

### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 4

1. **Gedare Bloom**, Fri, 30 Jun 2017 13:21:04 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
- fixed in bd9d5ebc33c35d91b5ca0746b6b78a365eeb726d

### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2958 - Add some popular benchmark programs to the testsuite

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2958">https://devel.rtems.org/ticket/2958</a> ( <a href="https://devel.rtems.org/ticket/2958">https://devel.rtems.org/ticket/2958</a> )
<b>Id</b>	2958
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 March 2017 13:10:52
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Add dhrystone, whetstone and linpack benchmark programs to the testsuite. This may help to evaluate compiler settings, compiler versions and processors.

#### Comment 1

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:12:40 GMT

In 0027682/rtems:

```
benchmarks: Add benchmark templates
Update #2958.
```

#### Comment 2

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:12:53 GMT

In 317c1f4/rtems:

```
benchmarks/dhrystone: Import
Import dhrystone sources from:
http://www.netlib.org/benchmark/dhry-c
Update #2958.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:13:05 GMT

In 954ca41/rtems:

```
benchmarks/dhrystone: Port to RTEMS
Update #2958.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:13:17 GMT

In 8783660/rtems:

```
benchmarks/linpack: Import
Import linpack sources from:
http://www.netlib.org/benchmark/linpack-pc.c
Update #2958.
```

#### Comment 5

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:13:28 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In 0a16d5f/rtems:

benchmarks/linpack: Port to RTEMS

Close #2958.

#### Comment 6

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:13:40 GMT

In 3785f937/rtems:

```
benchmarks/whetstone: Import
Import whetstone sources from:
http://www.netlib.org/benchmark/whetstone.c
Update #2958.
```

#### Comment 7

1. **Sebastian Huber**, Wed, 29 Mar 2017 06:13:52 GMT

In a1c60b56/rtems:

```
benchmarks/whetstone: Port to RTEMS
Update #2958.
```

#### Comment 8

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component**: changed from **testing** to **unspecified**

#### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2959 - arm/libdl: C++ exception index tables may not be ordered correctly

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2959">https://devel.rtems.org/ticket/2959</a> ( <a href="https://devel.rtems.org/ticket/2959">https://devel.rtems.org/ticket/2959</a> )
<b>Id</b>	2959
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 March 2017 06:32:17
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	libdl
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Chris Johns**, Fri, 31 Mar 2017 02:57:18 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In bba48d9/rtems:

```
libdl: Support link ordered loading of ELF sections.
```

The ARM C++ exception ABI uses an address ordered index table to locate the correct frame data and this requires the EXIDX sections are loaded in the order the order the matching text is loaded.

The EXIDX sections set the SHF\_LINK\_ORDER flag and link field. This patch adds support to load those flagged sections in the linked-to section order.

Updates #2955. Closes #2959

### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2962 - Set test configurations to reflect test results.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2962">https://devel.rtems.org/ticket/2962</a> ( <a href="https://devel.rtems.org/ticket/2962">https://devel.rtems.org/ticket/2962</a> )
<b>Id</b>	2962
<b>Reporter</b>	Chris Johns
<b>Created</b>	31 March 2017 04:43:37
<b>Modified</b>	5 June 2020 04:32:03
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	test
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	testsuite testing GCI
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component**: changed from **testing** to **unspecified**

### Comment 2

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:47:16 GMT
2. **owner**: changed from **joel.sherrill@...** to **Chris Johns**
3. **status**: changed from **new** to **assigned**

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 4

1. **Joel Sherrill**, Sun, 14 Oct 2018 01:10:08 GMT
2. **keywords**: **GCI** added

Get Chris to write GCI instructions.

### Comment 5

1. **Chris Johns**, Sun, 14 Oct 2018 22:11:26 GMT

Run the test suite for a bsp. Get the list of failures. Update or create a bsp//config/-testsuite.tcfg adding a line for each failure we `__expect__` to get with:

expected: \_\_\_\_\_

**Comment 6**

1. **Chris Johns**, Fri, 19 Oct 2018 00:26:06 GMT
2. **owner: Chris Johns** deleted

**Comment 7**

1. **Chris Johns**, Thu, 15 Nov 2018 22:58:12 GMT
2. **severity:** changed from **normal** to **blocker**

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.

**Comment 8**

1. **Chris Johns**, Thu, 22 Nov 2018 02:09:42 GMT

The loopback test needs to be set to USER-INPUT to avoid a timeout when testing the samples with a network build.

**Comment 9**

1. **Chris Johns**, Tue, 28 Apr 2020 05:33:14 GMT

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>

**Comment 10**

1. **Sebastian Huber**, Wed, 29 Apr 2020 04:58:33 GMT

In a8f0d94/rtems:

```
libtests/heapwalk: Fix for RTEMS_DEBUG
Update #2962.
```

**Comment 11**

1. **Chris Johns**, Tue, 05 May 2020 23:56:58 GMT
2. **component:** changed from **unspecified** to **test**

**Comment 12**

1. **Chris Johns**, Wed, 06 May 2020 21:00:33 GMT

In 89f57a66/rtems:

```
testsuite: Add the BSP architecture to the include path
Updates #2962
```

**Comment 13**

1. **Chris Johns**, Wed, 06 May 2020 21:00:37 GMT

In 7d00247/rtems:

```
testsuite: Add expected-fail to erc32, leon2, and leon3 BSPs
Updates #2962
```

**Comment 14**

1. **Chris Johns**, Wed, 06 May 2020 21:00:44 GMT

In 1b1755d9/rtems:

```
testsuite: Add expected-fail to psim
Updates #2962
```

**Comment 15**

1. **Chris Johns**, Wed, 06 May 2020 21:00:48 GMT

In 7e3af67/rtems:

```
testsuite: Add expected-fail to xilinx's zedboard, a9_qemu, zc702 and zc706
Updates #2962
```

#### **Comment 16**

1. **Chris Johns**, Wed, 06 May 2020 21:00:51 GMT

In 084ea83/rtems:

```
testsuite: Add expected-fail to beagleboneblack
Updates #2962
```

#### **Comment 17**

1. **Sebastian Huber**, Fri, 05 Jun 2020 04:32:03 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

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.

### **2963 - Add a testsuite top level configuration file that is common to all tests.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2963">https://devel.rtems.org/ticket/2963</a> ( <a href="https://devel.rtems.org/ticket/2963">https://devel.rtems.org/ticket/2963</a> )
<b>Id</b>	2963
<b>Reporter</b>	Chris Johns
<b>Created</b>	31 March 2017 04:49:26
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	testing
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### **Comment 1**

1. **Sebastian Huber**, Fri, 31 Mar 2017 04:59:42 GMT

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?

```
/* { dg-options "-mthumb -Os" } */
/* { dg-require-effective-target arm_thumb2_ok } */
/* { dg-final { scan-assembler "ands" } } */
```

#### **Comment 2**

1. **Chris Johns**, Fri, 31 Mar 2017 06:26:42 GMT

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:

```

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_fserror.exe
  dhrystone.exe
  fsdosfsformat01.exe
  imfs_fsrdrw.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.

### Comment 3

1. **Sebastian Huber**, Fri, 31 Mar 2017 06:32:12 GMT

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:

```

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 @@
`#include `
`#include `
+/* FANCY TEST COMMENT: user-input */
const char rtems_test_name[] = "FILE I/O";
#if FILEIO_BUILD

```

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_fserror.exe
  dhrystone.exe
  fsdosfsformat01.exe
  imfs_fsrdrw.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.

### Comment 4

1. **Chris Johns**, Fri, 31 Mar 2017 07:05:39 GMT

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 @@
`#include `
`#include `
+/* FANCY TEST COMMENT: user-input */
`const char rtems_test_name[] = "FILE I/O";
`#if FILEIO BUILD`
```

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_fserror.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?

#### Comment 5

1. **Chris Johns**, Mon, 03 Apr 2017 22:11:13 GMT
2. **owner:** changed from **joel.sherrill@...** to **Chris Johns**

#### Comment 6

1. **Chris Johns**, Mon, 03 Apr 2017 23:52:54 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 258bda3/rtems:

```
testsuite: Add a common test configuration. Fix configure.ac and Makefile.am errors.
  Add a top level test configuration file for test states that are common
to all BSPs. This saves adding a test configuration (tcfg) file for
every BSP. Add the test states 'user-input' and 'benchmark'. This
lets 'rtems-test' stop the test rather than waiting for a timeout or
letting a benchmark run without the user asking for it to run. Implement rtems-test-check in Python to make it faster. The shell script
had grown to a point it was noticeably slowing the build down. Fix the configure.ac and Makefile.am files for a number of the
test directories. The files are difficult to keep in sync with the
number of tests and mistakes can happen such as tests being left
out of the build. The test fsrofs01 is an example. Also a there was
a mix of SUBDIRS and _SUBDIRS being used and only _SUBDIRS should be
used. Fix the test fsrofs01 so it compiles.
  Closes #2963.
```

#### Comment 7

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component:** changed from **testing** to **unspecified**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2965 - bootstrap sort inconsistent with sb-bootstrap for acinclude**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2965">https://devel.rtems.org/ticket/2965</a> ( <a href="https://devel.rtems.org/ticket/2965">https://devel.rtems.org/ticket/2965</a> )
<b>Id</b>	2965
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	31 March 2017 19:48:58
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom <gedare@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Gedare Bloom**, Thu, 13 Apr 2017 17:01:12 GMT
2. **owner**: set to **Gedare Bloom** <gedare@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 3be28ee6/rtems:

```
bootstrap: make sort use C locale consistently
Closes #2965.
```

**Comment 2**

1. **Gedare Bloom**, Thu, 13 Apr 2017 17:19:04 GMT

In 1731757c/rtems:

```
bootstrap: regenerate files after sort order fix
Updates #2965.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2967 - ARM: Change ABI to not use short enums**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2967">https://devel.rtems.org/ticket/2967</a> ( <a href="https://devel.rtems.org/ticket/2967">https://devel.rtems.org/ticket/2967</a> )
<b>Id</b>	2967
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 April 2017 06:07:23
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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>

**Comment 1**

1. **Sebastian Huber**, Mon, 03 Apr 2017 06:07:37 GMT
2. **owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status:** changed from **new** to **accepted**

**Comment 2**

1. **Sebastian Huber**, Fri, 07 Apr 2017 07:07:15 GMT
- 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>

**Comment 3**

1. **Sebastian Huber**, Fri, 07 Apr 2017 07:19:04 GMT
- 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>

**Comment 4**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:30:12 GMT
  2. **status:** changed from **accepted** to **closed**
  3. **resolution:** set to **fixed**
- Fixed due to change to GCC 7.1.

**Comment 5**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT
2. **component:** changed from **GCC** to **tool/gcc**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
  2. **milestone:** changed from **4.12.0** to **5.1**
- Milestone renamed
- 

**2968 - newlib inttypes.h is missing some methods**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2968">https://devel.rtems.org/ticket/2968</a> ( <a href="https://devel.rtems.org/ticket/2968">https://devel.rtems.org/ticket/2968</a> )
<b>Id</b>	2968
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 April 2017 14:06:21
<b>Modified</b>	26 March 2018 17:18:20
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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 strtoumax(const char *restrict, char **restrict, int);
uintmax_t strtoumax(const char *restrict, char **restrict, int);
intmax_t wcstoumax(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

### Comment 1

1. **Joel Sherrill**, Mon, 03 Apr 2017 23:20:55 GMT
2. **keywords**: **POSIX-Compliance** added

### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:51:50 GMT
2. **milestone**: changed from **4.12.0** to **Indefinite**

### Comment 4

1. **Joel Sherrill**, Mon, 26 Mar 2018 17:18:01 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

All of these methods are now present.

### Comment 5

1. **Joel Sherrill**, Mon, 26 Mar 2018 17:18:20 GMT
  2. **milestone**: changed from **Indefinite** to **5.1**
- 

## 2969 - qoriq BSPs depend on mkimage which is not always available

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2969">https://devel.rtems.org/ticket/2969</a> ( <a href="https://devel.rtems.org/ticket/2969">https://devel.rtems.org/ticket/2969</a> )
<b>Id</b>	2969
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 April 2017 19:15:56
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

**Comment 1**

1. **Joel Sherrill**, Mon, 03 Apr 2017 19:16:05 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Tue, 04 Apr 2017 05:09:35 GMT

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.

**Comment 3**

1. **Chris Johns**, Tue, 04 Apr 2017 06:04:04 GMT

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.

**Comment 4**

1. **Sebastian Huber**, Tue, 04 Apr 2017 06:08:25 GMT

I am not sure if its easily possible to adjust anything in `make/custom/*` via the configure script.

**Comment 5**

1. **Chris Johns**, Tue, 04 Apr 2017 06:12:15 GMT

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 ;)

**Comment 6**

1. **Sebastian Huber**, Wed, 05 Apr 2017 05:10:15 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In `a7dc1550/rtems`:

bsp/qoriq: Comment out post-link hook  
 The U-Boot mkimage is not available in general.  
 Close #2969.

**Comment 7**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2976 - warnings in rtems-debugger-server.c**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2976">https://devel.rtems.org/ticket/2976</a> ( <a href="https://devel.rtems.org/ticket/2976">https://devel.rtems.org/ticket/2976</a> )
<b>Id</b>	2976
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	4 April 2017 19:58:37
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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]

**Comment 1**

1. **Joel Sherrill**, Tue, 04 Apr 2017 19:58:47 GMT
2. **owner**: changed from **joel.sherrill@...** to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Wed, 19 Apr 2017 04:34:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 7f95cc0/rtems:

```
libdebugger: Fix the mode on task create. Clean up warnings.
Closes #2976.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:35:44 GMT
2. **component**: changed from **misc** to **unspecified**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2977 - warnings in Dhrystone Benchmark**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2977">https://devel.rtems.org/ticket/2977</a> ( <a href="https://devel.rtems.org/ticket/2977">https://devel.rtems.org/ticket/2977</a> )
<b>Id</b>	2977
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	4 April 2017 20:00:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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/benchmarks/dhrystone/dhry_1.c:286:1: 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]
```

**Comment 1**

1. **Joel Sherrill**, Tue, 04 Apr 2017 20:01:22 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Wed, 05 Apr 2017 05:23:53 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 662b301/rtems:

```
dhrystone: Fix warnings
```

```
Close #2977.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2980 - pc586-sse does not compile fsjffs2gc01**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2980">https://devel.rtems.org/ticket/2980</a> ( <a href="https://devel.rtems.org/ticket/2980">https://devel.rtems.org/ticket/2980</a> )
<b>Id</b>	2980
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	5 April 2017 22:09:12
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.../rtems/c/src/.../testsuites/fstests/fsjffs2gc01 -l... -
.../rtems/c/src/.../testsuites/fstests/support -l.../rtems/c/src/.../testsuites/fstests/jffs2_support -
.../rtems/c/src/.../testsuites/fstests/./support/include -l.../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'
```

**Comment 1**

1. **Joel Sherrill**, Wed, 05 Apr 2017 22:09:23 GMT
2. **owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Thu, 06 Apr 2017 08:07:25 GMT
- Works for me. Maybe a configure problem?

**Comment 3**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 11 May 2017 07:45:09 GMT
- What is the status here?

**Comment 5**

1. **Sebastian Huber**, Thu, 08 Jun 2017 08:13:46 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **worksforme**

**Comment 6**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component:** changed from **testing** to **unspecified**



**Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2981 - testdata excludes on included tcfg files does not work**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2981">https://devel.rtems.org/ticket/2981</a> ( <a href="https://devel.rtems.org/ticket/2981">https://devel.rtems.org/ticket/2981</a> )
<b>Id</b>	2981
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	5 April 2017 22:28:03
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Wed, 05 Apr 2017 22:28:14 GMT
2. **owner**: changed from **joel.sherrill@...** to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Fri, 07 Apr 2017 17:02:42 GMT

Still happens on my overnight build from master.

**Comment 3**

1. **Chris Johns**, Sat, 15 Apr 2017 02:00:30 GMT

On OSX MIPS still have a sed issue:

```
Mode = sf\|df
xgcc: error: addsf3: No such file or directory
make[4]: *** [addsf3.o] Error 1
make[4]: *** Waiting for unfinished jobs....
Suffix = si\|2\|3
```

**Comment 4**

1. **Chris Johns**, Tue, 18 Apr 2017 02:28:52 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 18f63c0/rtems:

```
testsuite: Fix rtems-test-check not excluding tests.
The include file handling was broken.
Add a test configuration data README.
Closes #2981.
```

**Comment 5**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Chris Johns**, Wed, 19 Apr 2017 03:02:29 GMT

In 3d803af/rtems:

testsuite: Fix rtems-test-check-py when a BSP has no tcfg file.  
Updates #2981.

#### Comment 6

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 7

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component**: changed from **testing** to **unspecified**

#### Comment 8

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 2982 - LibBSD broken with GCC+RTEMS changes

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2982">https://devel.rtems.org/ticket/2982</a> ( <a href="https://devel.rtems.org/ticket/2982">https://devel.rtems.org/ticket/2982</a> )
<b>Id</b>	2982
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 April 2017 00:21:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The RTEMS Header test is libbsd is broken. I assume including and no other is still a requirement. Maybe we need a test for this.

The example code is:

```

$ cat t.c
/*
/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 -mcpu=neon -mfloat-abi=hard -mtune=cortex-a9 -ffunction-
sections -fdata-sections -DHAVE RTEMS_SCORE_CPUOPTS H=1 t.c -c -o t.o
*/
#include
int main(int argc, char **argv) {
    (void)argc; (void)argv;
    return 0;
}
$ /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 -mcpu=neon -mfloat-abi=hard -mtune=cortex-a9 -ffunction-
sections -fdata-sections -DHAVE RTEMS_SCORE_CPUOPTS H=1 t.c -c -o t.o
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/signal.h:6:0,
from /opt/work/rtems/4.12/arm-rtems4.12/include/time.h:178,
from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/time.h:268,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/timestamp.h:43,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/thread.h:36,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/heap.h:22,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/types.h:26,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:31,
from t.c:7:
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:53:3: error: unknown type name 'pthread_attr_t'
pthread_attr_t *sigev_notify_attributes; /* Notification Attributes */
^~~~~~
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/string.h:10:0,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/defs.h:49,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/types.h:23,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/cpu.h:32,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/system.h:23,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:29,
from t.c:7:
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: unknown type name 'pthread_t'
int _EXFUN(pthread_kill, (pthread_t thread, int sig));
^
In file included from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/config.h:25:0,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/config.h:57,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:33,
from t.c:7:
/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'
cpu_set_t *cpuset
^~~~~~
/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/tasks.h:458:9: error: unknown type name 'cpu_set_t'
const cpu_set_t *cpuset
^~~~~~
/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'
cpu_set_t *cpuset
^~~~~~
$ cat t.cpp
/*
/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 -mcpu=neon -mfloat-abi=hard -mtune=cortex-a9 -ffunction-
sections -fdata-sections -DHAVE RTEMS_SCORE_CPUOPTS H=1 t.cpp -c -o t.o
*/
#include
int main(int argc, char **argv) {
    (void)argc; (void)argv;
    return 0;
}
$ /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 -mcpu=neon -mfloat-abi=hard -mtune=cortex-a9 -ffunction-
sections -fdata-sections -DHAVE RTEMS_SCORE_CPUOPTS H=1 t.cpp -c -o t.o
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/signal.h:6:0,
from /opt/work/rtems/4.12/arm-rtems4.12/include/time.h:178,
from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/time.h:268,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/timestamp.h:43,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/thread.h:36,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/heap.h:22,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/types.h:26,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:31,
from t.cpp:7:
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:53:3: error: 'pthread_attr_t' does not name a type
pthread_attr_t *sigev_notify_attributes; /* Notification Attributes */
^~~~~~
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/string.h:10:0,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/defs.h:49,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/types.h:23,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/cpu.h:32,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/system.h:23,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:29,
from t.cpp:7:
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: 'pthread_t' was not declared in this scope
int _EXFUN(pthread_kill, (pthread_t thread, int sig));
^
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: expected primary-expression before 'int'
int _EXFUN(pthread_kill, (pthread_t thread, int sig));
^
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: expression list treated as compound expression in initializer [-
fpermissive]
int _EXFUN(pthread_kill, (pthread_t thread, int sig));
^
In file included from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/config.h:25:0,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/config.h:57,
from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.h:33,
from t.cpp:7:
/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
cpu_set_t
^~~~~~
/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
const cpu_set_t *cpuset
^~~~~~
/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
cpu_set_t *cpuset
^~~~~~

```

Note: The header test in libbsd is currently using C++ and I am not sure why.

#### Comment 1

1. **Chris Johns**, Thu, 06 Apr 2017 00:29:07 GMT
2. **owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

#### Comment 2

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Chris Johns**, Thu, 06 Apr 2017 02:17:54 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **invalid**

I cleaned the install paths and rebuilt and I see no error.

### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT
2. **component**: changed from **GCC** to **tool/gcc**

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2983 - Create <rtems/inttypes.h> to consolidate extensions to <inttypes.h>

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2983">https://devel.rtems.org/ticket/2983</a> ( <a href="https://devel.rtems.org/ticket/2983">https://devel.rtems.org/ticket/2983</a> )
<b>Id</b>	2983
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	6 April 2017 22:45:08
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	printf, inttypes.h
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Per discussion at <https://lists.rtems.org/pipermail/devel/2017-April/017483.html>, create to consolidate extensions to the C99 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 PRIdtime_t PRId64
./cpukit/libmisc/shell/main_time.c:#define PRIdtime_t PRId32
./cpukit/libmisc/uuid/gen_uuid.c:#define PRIuetime_t PRIu64
./cpukit/libmisc/uuid/gen_uuid.c:#define PRIuetime_t PRIu32
./cpukit/libddl/rtl-shell.c:#define PRIdoff_t PRIo32
./cpukit/libddl/rtl-shell.c:#define PRIdoff_t PRIo64
./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIdmode_t PRIo64
./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIdmode_t PRIo32
./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIdoff_t PRIo64
./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIdoff_t PRIo32
./cpukit/libfs/src/rfs/rtems-rfs-dir.c:#define PRIdoff_t PRIo64
./cpukit/libfs/src/rfs/rtems-rfs-dir.c:#define PRIdoff_t PRIo32
./cpukit/libfs/src/rfs/rtems-rfs-rtems-file.c:#define PRIdoff_t PRId64
./cpukit/libfs/src/rfs/rtems-rfs-rtems-file.c:#define PRIdoff_t PRId32
./cpukit/libfs/src/rfs/rtems-rfs-rtems.c:#define PRIdmode_t PRIo64
./cpukit/libfs/src/rfs/rtems-rfs-rtems.c:#define PRIdmode_t PRIo32
./testsuites/psxtests/include/pmacros.h:#define PRIdoff_t PRIo64
./testsuites/psxtests/include/pmacros.h:#define PRIdoff_t PRIo32
./testsuites/psxtests/include/pmacros.h:#define PRIdblksize_t PRIx64
./testsuites/psxtests/include/pmacros.h:#define PRIdblksize_t PRIx32
./testsuites/psxtests/include/pmacros.h:#define PRIdblksize_t "lx"
./testsuites/psxtests/include/pmacros.h:#define PRIdblkcnt_t PRIx64
./testsuites/psxtests/include/pmacros.h:#define PRIdblkcnt_t PRIx32
./testsuites/psxtests/include/pmacros.h:#define PRIdblkcnt_t "lx"
./testsuites/libtests/termios01/init.c:#define PRIdrtems_termios_baud_t PRId32
./testsuites/support/include/prtime.h:#define PRIdtime_t PRId64
./testsuites/support/include/prtime.h:#define PRIdtime_t PRId32
./testsuites/support/include/tmacros.h:#define PRIdrtems_id PRIx16
./testsuites/support/include/tmacros.h:#define PRIdrtems_id PRIx32
./testsuites/support/include/tmacros.h:#define PRIdPriority_Control PRU64
./testsuites/support/include/tmacros.h:#define PRIdPriority_Control PRU64
./testsuites/support/include/tmacros.h:#define PRIdrtems_task_priority PRU32
./testsuites/support/include/tmacros.h:#define PRIdrtems_task_priority PRU32
./testsuites/support/include/tmacros.h:#define PRIdWatchdog_Interval PRU32
./testsuites/support/include/tmacros.h:#define PRIdrtems_interval PRIdWatchdog_Interval
./testsuites/support/include/tmacros.h:#define PRIdThread_Entry_numeric_type PRU64
./testsuites/support/include/tmacros.h:#define PRIdrtems_task_argument PRIdThread_Entry_numeric_type
./testsuites/support/include/tmacros.h:#define PRIdrtems_event_set PRU32
./testsuites/support/include/tmacros.h:#define PRIdpthread_t PRU32
./testsuites/support/include/tmacros.h:#define PRIdrtems_signal_set PRU32
./testsuites/support/include/tmacros.h:#define PRIdrtems_signal_set PRU32
./testsuites/support/include/tmacros.h:#define PRIdrtems_signal_set "lx"
./testsuites/support/include/primode.h:#define PRIdmode_t PRIo64
./testsuites/support/include/primode.h:#define PRIdmode_t PRIo32
./testsuites/sptests/sp21/init.c:#define PRIdrtems_device_major_number PRU32
./testsuites/sptests/sp08/init.c:#define PRIdrtems_device_control PRU32
```

```
./testsuites/sptests/sp08/init.c:#define PRlXrtems_mode PRlXModes_Control
./testsuites/sptests/sp47/init.c:#define PRlXModes_Control PRlX32
./testsuites/sptests/sp47/init.c:#define PRlXrtems_mode PRlXModes_Control
```

**Comment 1**

1. **Joel Sherrill**, Tue, 18 Apr 2017 16:25:09 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In d420b67/rtems:

```
Merge tmacros.h PRlXxx constants from testsuites/ into
```

```
This completes the initial creation of rtems/inttypes.h based on all existing PRlXxx definitions contained in RTEMS Project owned code.
```

```
closes #2983.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**2984 - Changing Trac milestone page fails.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2984">https://devel.rtems.org/ticket/2984</a> ( <a href="https://devel.rtems.org/ticket/2984">https://devel.rtems.org/ticket/2984</a> )
<b>Id</b>	2984
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 April 2017 23:23:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Changing the default milestone is timing out. It has worked before. The error is:

```
Gateway Timeout
```

The gateway did not receive a timely response from the upstream server or application.

**Comment 1**

1. **Amar Takhar**, Fri, 07 Apr 2017 00:06:17 GMT
2. **owner:** set to **Amar Takhar**
3. **status:** changed from **new** to **accepted**

Er, that is very weird I will look into this tonight.

**Comment 2**

1. **Amar Takhar**, Fri, 07 Apr 2017 00:16:23 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

Actually this was set in trac.ini I don't think you were able to change it before. I updated trac\_version as per our chat.

**Comment 3**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**2990 - RTEMS Source Builder Fails on Windows Builds**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2990">https://devel.rtems.org/ticket/2990</a> ( <a href="https://devel.rtems.org/ticket/2990">https://devel.rtems.org/ticket/2990</a> )
<b>Id</b>	2990
<b>Reporter</b>	Worth Burruss
<b>Created</b>	11 April 2017 13:45:49
<b>Modified</b>	14 October 2018 00:25:12
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	windows, MSYS2, gcc
<b>Cc</b>	chrisj@...
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:**

- 1 **Worth Burruss, Tue, 11 Apr 2017 13:46:55 GMT**  
**attach**: set to [gcc-4.9.3-20170404-1.patch](https://devel.rtems.org/ticket/2990/gcc-4.9.3-20170404-1.patch) (<https://devel.rtems.org/ticket/2990/gcc-4.9.3-20170404-1.patch>)
- 

**Comment 1**

1. **Chris Johns**, Wed, 12 Apr 2017 01:09:21 GMT
2. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Wed, 12 Apr 2017 10:27:08 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In e85c673/rtems-source-builder:

```
MSYS2: Patch to support newer packages.
The patch is contributed by Worth Burruss.
Closes #2990.
```

**Comment 3**

1. **Chris Johns**, Thu, 13 Apr 2017 07:48:24 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

Building 4.11.2-rc4 on Windows with a new MSYS2 install has an error on rtems-arm:

```
In file included from ../../gcc-4.9.3/gcc/cp/except.c:1013:0:
cfns.gperf: In function 'const char* libc_name_p(const char*, unsigned int)':
cfns.gperf:101:1: error: 'const char* libc_name_p(const char*, unsigned int)' redeclared inline with 'gnu_inline' attribute
cfns.gperf:26:14: note: 'const char* libc_name_p(const char*, unsigned int)' previously declared here
cfns.gperf: At global scope:
cfns.gperf:26:14: warning: inline function 'const char* libc_name_p(const char*, unsigned int)' used but never defined
make[2]: *** [Makefile:1059: cp/except.o] Error 1
```

I am not sure the patch is ok so I am reopening this ticket.

#### Comment 4

1. **Chris Johns**, Fri, 26 May 2017 03:07:34 GMT

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.

#### Comment 5

1. **Chris Johns**, Thu, 15 Jun 2017 02:50:23 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

Fixed with patch 2433c4b/rtems-source-builder.

#### Comment 6

1. **Chris Johns**, Mon, 07 Aug 2017 01:33:45 GMT
2. **status**: changed from **closed** to **reopened**
3. **version**: changed from **4.11** to **4.12**
4. **resolution**: **fixed** deleted
5. **milestone**: changed from **4.11.2** to **4.12.0**

This bug effects m32c on the 4.12 (master) branch.

#### Comment 7

1. **Chris Johns**, Mon, 07 Aug 2017 23:41:35 GMT

Windows (10 64bit) failures:

dtc-1.4.1 epiphany gdb-7.8.1 lm32 gdb-7.12 microblaze gdb-7.12 nios2 gcc-7.1.0, newlib-2.5.0.20170623 powerpc gdb-7.12 sparc gdb-7.12

We need all these issues resolved to branch 4.12.

#### Comment 8

1. **Chris Johns**, Mon, 07 Aug 2017 23:42:56 GMT

dtc-1.4.1:

```
convert-dtsv0-lexer.lex.c:398:0: error: "yywrap" redefined [-Werror]
convert-dtsv0-lexer.lex.c:74:0: note: this is the location of the previous definition
convert-dtsv0-lexer.l:41:21: fatal error: fnmatch.h: No such file or directory
#include `
^
```

#### Comment 9

1. **Joel Sherrill**, Mon, 07 Aug 2017 23:51:44 GMT

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.

#### Comment 10

1. **Chris Johns**, Mon, 07 Aug 2017 23:54:56 GMT

lm32 gdb-7.12:

```
../../../../gdb-7.12/sim/lm32/dv-lm32uart.c: In function 'lm32uart_io_read_buffer':
../../../../gdb-7.12/sim/lm32/dv-lm32uart.c:207:3: error: unknown type name 'fd_set'
    fd_set fd;
    ^~~~~~
```

#### Comment 11

1. **Chris Johns**, Mon, 07 Aug 2017 23:55:49 GMT

microblaze gdb-7.12:

```

../../../../gdb-7.12/sim/microblaze/interp.c: In function 'microblaze_extract_unsigned_integer':
../../../../gdb-7.12/sim/microblaze/interp.c:34:57: error: 'BIG_ENDIAN' undeclared (first use in this function)
`#define target_big_endian (CURRENT_TARGET_BYTE_ORDER == ^BIG_ENDIAN)`
^
../../../../gdb-7.12/sim/microblaze/interp.c:52:8: note: in expansion of macro 'target_big_endian'
if (!target_big_endian)
^~~~~~
../../../../gdb-7.12/sim/microblaze/interp.c:34:57: note: each undeclared identifier is reported only once for each function it appears in
`#define target_big_endian (CURRENT_TARGET_BYTE_ORDER == ^BIG_ENDIAN)`
^
../../../../gdb-7.12/sim/microblaze/interp.c:52:8: note: in expansion of macro 'target_big_endian'
if (!target_big_endian)
^~~~~~
../../../../gdb-7.12/sim/microblaze/interp.c: In function 'microblaze_store_unsigned_integer':
../../../../gdb-7.12/sim/microblaze/interp.c:34:57: error: 'BIG_ENDIAN' undeclared (first use in this function)
`#define target_big_endian (CURRENT_TARGET_BYTE_ORDER == ^BIG_ENDIAN)`
^
../../../../gdb-7.12/sim/microblaze/interp.c:74:8: note: in expansion of macro 'target_big_endian'
if (!target_big_endian)
^~~~~~

```

**Comment 12**

1. Chris Johns, Mon, 07 Aug 2017 23:59:07 GMT

nios2 gcc-7.1.0, newlib-2.5.0.20170623:

```

../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c: At top level:
../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:56:1: error: variable 'object_mutex' has initializer but incomplete
type
static __pthread_mutex_t object_mutex = __GTHREAD_MUTEX_INIT;
^~~~~~
make[4]: *** [../../../../gcc-7.1.0/libgcc/static-object.mk:17: unwind-sjlj.o] Error 1
In file included from ../../../../gcc-7.1.0/libgcc/gthr.h:148:0,
from ../../../../gcc-7.1.0/libgcc/emutls.c:31:
./gthr-default.h:51:30: error: 'MUTEX_INITIALIZER' undeclared here (not in a function); did you mean 'PTHREAD_MUTEX_INITIALIZER'?
`#define __GTHREAD_MUTEX_INIT ^MUTEX_INITIALIZER`
^
../../../../gcc-7.1.0/libgcc/emutls.c:58:41: note: in expansion of macro '__GTHREAD_MUTEX_INIT'
static __pthread_mutex_t emutls_mutex = __GTHREAD_MUTEX_INIT;
^~~~~~
../../../../gcc-7.1.0/libgcc/emutls.c: In function '_emutls_get_address':
../../../../gcc-7.1.0/libgcc/emutls.c:159:13: warning: implicit declaration of function 'calloc' [-Wimplicit-
function-declaration]
arr = calloc (size + 1, sizeof (void *));
^~~~~~
../../../../gcc-7.1.0/libgcc/emutls.c:159:13: warning: incompatible implicit declaration of built-in function
'calloc'
../../../../gcc-7.1.0/libgcc/emutls.c:159:13: note: include ' ' or provide a declaration of 'calloc'
../../../../gcc-7.1.0/libgcc/emutls.c:171:13: warning: implicit declaration of function 'realloc' [-Wimplicit-
function-declaration]
arr = realloc (arr, (size + 1) * sizeof (void *));
^~~~~~
../../../../gcc-7.1.0/libgcc/emutls.c:171:13: warning: incompatible implicit declaration of built-in function
'realloc'
../../../../gcc-7.1.0/libgcc/emutls.c:171:13: note: include ' ' or provide a declaration of 'realloc'
../../../../gcc-7.1.0/libgcc/emutls.c: At top level:
../../../../gcc-7.1.0/libgcc/emutls.c:58:26: error: storage size of 'emutls_mutex' isn't known
static __pthread_mutex_t emutls_mutex = __GTHREAD_MUTEX_INIT;
^~~~~~
In file included from ../../../../gcc-7.1.0/libgcc/gthr.h:148:0,
from ../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:37:
./gthr-default.h:51:30: error: 'MUTEX_INITIALIZER' undeclared here (not in a function); did you mean 'PTHREAD_MUTEX_INITIALIZER'?
`#define __GTHREAD_MUTEX_INIT ^MUTEX_INITIALIZER`
^
../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:56:41: note: in expansion of macro '__GTHREAD_MUTEX_INIT'
static __pthread_mutex_t object_mutex = __GTHREAD_MUTEX_INIT;
^~~~~~
make[4]: *** [../../../../gcc-7.1.0/libgcc/static-object.mk:17: emutls.o] Error 1
../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:56:26: error: storage size of 'object_mutex' isn't known
static __pthread_mutex_t object_mutex = __GTHREAD_MUTEX_INIT;
^~~~~~

```

**Comment 13**

1. Chris Johns, Tue, 08 Aug 2017 00:01:55 GMT

powerpc gdb-7.12:

```

./sim/ppc/libsim.a(sim_calls.o): In function `sim_io_read_stdin':
D:\opt\rtms\rsb.git\rtms\build\prg7xwml\build\sim\ppc\../../../../gdb-7.12/sim/ppc/sim_calls.c:302: undefined reference to `error'
./sim/ppc/libsim.a(sim_calls.o): In function `sim_io_write_stdout':
D:\opt\rtms\rsb.git\rtms\build\prg7xwml\build\sim\ppc\../../../../gdb-7.12/sim/ppc/sim_calls.c:320: undefined reference to `error'
./sim/ppc/libsim.a(sim_calls.o): In function `sim_io_write_stder':
D:\opt\rtms\rsb.git\rtms\build\prg7xwml\build\sim\ppc\../../../../gdb-7.12/sim/ppc/sim_calls.c:339: undefined reference to `error'
./sim/ppc/libsim.a(sim_calls.o): In function `sim_io_printf_filtered':
D:\opt\rtms\rsb.git\rtms\build\prg7xwml\build\sim\ppc\../../../../gdb-7.12/sim/ppc/sim_calls.c:358: undefined reference to `error'
./sim/ppc/libsim.a(sim_calls.o): In function `sim_load':
D:\opt\rtms\rsb.git\rtms\build\prg7xwml\build\sim\ppc\../../../../gdb-7.12/sim/ppc/sim_calls.c:105: undefined reference to `error'
./sim/ppc/libsim.a(sim_calls.o):D:\opt\rtms\rsb.git\rtms\build\prg7xwml\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](https://sourceware.org/bugzilla/show_bug.cgi?id=20863)**Comment 14**

1. Chris Johns, Tue, 08 Aug 2017 00:02:59 GMT

sparc gdb-7.12:

```

../../../../gdb-7.12/sim/erc32/sis.c: In function 'main':
../../../../gdb-7.12/sim/erc32/sis.c:245:16: warning: implicit declaration of function 'fcntl' [-Wimplicit-function-declaration]
termsave = fcntl(0, F_GETFL, 0);
^~~~~~
../../../../gdb-7.12/sim/erc32/sis.c:245:25: error: 'F_GETFL' undeclared (first use in this function)
termsave = fcntl(0, F_GETFL, 0);
^~~~~~
../../../../gdb-7.12/sim/erc32/sis.c:245:25: note: each undeclared identifier is reported only once for each function it appears in

```



**Comment 15**

1. **Chris Johns**, Wed, 09 Aug 2017 23:36:23 GMT

epiphany gdb or binutils:

```
syslex_wrap.o: In function `yylex':
D:\opt\rtms\rsb.git\rtms\build\erg7xwml\build\binutils\syslex.c:1097: undefined reference to `yywrap'
collect2.exe: error: ld returned 1 exit status
```

**Comment 16**

1. **Chris Johns**, Fri, 25 Aug 2017 01:25:41 GMT

Windows (10 64bit) failures with the gcc-7.2.0 changes to the RSB:

dtc-1.4.1 epiphany gdb-7.8.1 microblaze gdb-7.12 nios2 gcc-7.1.0, newlib-2.5.0.20170623 powerpc gdb-7.12 sparc gdb-7.12

**Comment 17**

1. **Chris Johns**, Fri, 25 Aug 2017 03:04:42 GMT

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:

Fix the DTC tool. Commit a DTB to the moxie project for the DTS and remove the dependency.

**Comment 18**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 19**

1. **Chris Johns**, Sun, 14 Oct 2018 00:25:12 GMT

2. **status**: changed from **reopened** to **closed**

3. **resolution**: set to **fixed**

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:

Fix the DTC tool. 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.

**2992 - Long path crashes the RSB when listing a directory.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2992">https://devel.rtems.org/ticket/2992</a> ( <a href="https://devel.rtems.org/ticket/2992">https://devel.rtems.org/ticket/2992</a> )
<b>Id</b>	2992
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 April 2017 01:15:44
<b>Modified</b>	14 October 2018 20:45:22
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	RSB
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

```

building: lm32-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86_64-w64-mingw32-1
Build Set: Time 0:29:19.809228
Build Set: Time 3:47:43.385503
Traceback (most recent call last):
  File "../source-builder/sb-set-builder", line 29, in
    setbuilder.run()
  File "../source-builder/sb/setbuilder.py", line 502, in run
    b.build(deps)
  File "../source-builder/sb/setbuilder.py", line 340, in build
    bs.build(deps, nesting count)
  File "../source-builder/sb/setbuilder.py", line 354, in build
    self.build_package(configs[s], b)
  File "../source-builder/sb/setbuilder.py", line 194, in build_package
    build.config.expand('%{ tmproot}')
  File "../source-builder/sb/setbuilder.py", line 155, in root_copy
    self.copy(src, dst)
  File "../source-builder/sb/setbuilder.py", line 95, in copy
    path.copy_tree(src, dst)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 191, in copy_tree
    names = os.listdir(hsrc)
TypeError: encoded string too long (269, maximum length 259)

```

### Comment 1

1. **Chris Johns**, Tue, 18 Apr 2017 00:34:38 GMT

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. There is also Python Issue 27731 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.

### Comment 2

1. **Chris Johns**, Thu, 15 Jun 2017 02:46:32 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed with the patch 78c1524/rtems-source-builder.

### Comment 3

1. **Chris Johns**, Mon, 07 Aug 2017 02:16:18 GMT
2. **status:** changed from **closed** to **reopened**
3. **version:** changed from **4.11** to **4.12**
4. **resolution:** **fixed** deleted
5. **milestone:** changed from **4.11.2** to **4.12.0**

This 4.11 fix needs to be ported to 4.12.

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 5

1. **Chris Johns**, Sun, 14 Oct 2018 20:45:22 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

The patch in this ticket is applied to master.

## 2993 - SMP assert in \_Thread\_Executing in libdebugger

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/2993">https://devel.rtems.org/ticket/2993</a> ( <a href="https://devel.rtems.org/ticket/2993">https://devel.rtems.org/ticket/2993</a> )
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 April 2017 06:02:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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:

```
*** LIBBSD DEBUGGER 1 TEST ***
[144/1950]
shell:cannot set terminal attributes(/dev/console)
RTEMS Shell on /devn/ecxounss0o:1 e<.R TUEsMeS 'Nheexlups' dteov ilcies>t
|ccogmemma0n:d s<.C
adence CGEM Gigabit Ethernet Interface> on nexus0
miibus0: on cgem0
[!] # e1000phy0: PHY 0 on miibus0
e1000phy0: none, 10baseT, 10baseT-FDX, 100baseTX, 100baseTX-FDX, 1000baseT-FDX, 1000baseT-FDX-master, auto
cgem0: Ethernet address: fa:69:35:9e:04:2f
zy7_slcr0: on nexus0
[zone: udpcb] kern.ipc.maxsockets limit reached
notice: cgem0: link state changed to DOWN
add host 10.10.5.1: gateway cgem0
add net default: gateway 10.10.5.1
rtems-db: remote running
rtems-db: tcp remote: listing on port: 1122
notice: cgem0: link state changed to UP
rtems-db: tcp remote: connect host: 10.10.5.2
rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5 watchpoints:3
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:

```
rtems-db: tcp remote: connect host: 10.10.5.2
rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5 watchpoints:3
[ ] frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
[ ] R0 = 00000158 R1 = 00000004 R2 = 00000001 R3 = 0041AB64
[ ] R4 = 00000158 R5 = 00000004 R6 = 00000000 R7 = 005606A4
[ ] R8 = 00000016 R9 = 00000001 R10 = 00000006 R11 = 0041AB64
[ ] R12 = 00560658 SP = 00566540 LR = 00000FFD PC = 00241736
[ ] CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
[ ] target exception: 0 0 0
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`

```
rtems-db: tcp remote: connect host: 10.10.5.2
rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5 watchpoints:3
[ ] frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
[ ] R0 = 00000158 R1 = 00000004 R2 = 00000001 R3 = 0041AB64
[ ] R4 = 00000158 R5 = 00000004 R6 = 00000000 R7 = 005606A4
[ ] R8 = 00000016 R9 = 00000001 R10 = 00000006 R11 = 0041AB64
[ ] R12 = 00560658 SP = 00566540 LR = 00000FFD PC = 00241736
[ ] CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
[ ] target exception: 0 0 0
[ ] tid:0A01000A: thread:0041F5B0 frame:005664EC
[ ] server access fault
[ ] frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
[ ] R0 = 00000158 R1 = 00000004 R2 = 00000001 R3 = 0041AB64
[ ] R4 = 00000158 R5 = 00000004 R6 = 00000000 R7 = 005606A4
[ ] R8 = 00000016 R9 = 00000001 R10 = 00000006 R11 = 0041AB64
[ ] R12 = 00560658 SP = 00566540 LR = 00000FFD PC = 00241736
[ ] CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
[ ] target exception: 0 0 0
[ ] tid:0A01000A: thread:0041F5B0 frame:005664EC
[ ] 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:

```
[ ] target exception: 0 0 0
```

### Attachments:

- Chris Johns, Fri, 14 Apr 2017 06:02:48 GMT  
attach: set to [die-on-assert.patch](https://devel.rtems.org/ticket/2993/die-on-assert.patch) (<https://devel.rtems.org/ticket/2993/die-on-assert.patch>)

**Comment 1**

1. **Chris Johns**, Sat, 15 Apr 2017 00:44:35 GMT

In b53ad46/rtems:

```
libdebugger: Work around assert when using _Thread_Executing.
Using _Thread_Executing with RTEMS_DEBUG results in an assert if the server accesses invalid memory.
Updates #2993.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 02 May 2017 05:27:20 GMT

What prevents a thread dispatch in this context?

**Comment 3**

1. **Chris Johns**, Tue, 02 May 2017 06:27:02 GMT

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.

**Comment 4**

1. **Joel Sherrill**, Tue, 02 May 2017 14:17:14 GMT

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.

**Comment 5**

1. **Sebastian Huber**, Thu, 24 Aug 2017 07:30:17 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

[b2353ed92435c3f9301b795bf20bce14f0ddb01b/rtems]

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2994 - tar01 XZ error**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2994">https://devel.rtems.org/ticket/2994</a> ( <a href="https://devel.rtems.org/ticket/2994">https://devel.rtems.org/ticket/2994</a> )
<b>Id</b>	2994
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 April 2017 13:06:30
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 == UNTAR\_SUCCESSFUL

#### Comment 1

1. **Joel Sherrill**, Sat, 15 Apr 2017 13:06:43 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Tue, 13 Jun 2017 09:45:57 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c7377381/rtems:

```
xz: Use CRC32
```

```
This reverts c475924d6d2ea7d5cba160a8a28e88642d6b46d8.
```

```
Update #2909. Close #2994.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 2995 - Missing bsets

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2995">https://devel.rtems.org/ticket/2995</a> ( <a href="https://devel.rtems.org/ticket/2995">https://devel.rtems.org/ticket/2995</a> )
<b>Id</b>	2995
<b>Reporter</b>	Hassan Karim
<b>Created</b>	16 April 2017 23:04:21
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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

**Comment 1**

1. **Joel Sherrill**, Mon, 17 Apr 2017 03:29:20 GMT

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.

**Comment 2**

1. **Hassan Karim**, Mon, 17 Apr 2017 03:44:58 GMT

What could I look for specifically by hand in the git repository?

**Comment 3**

1. **Joel Sherrill**, Mon, 17 Apr 2017 14:32:04 GMT

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 Examining: 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
```

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.

**Comment 4**

1. **Hassan Karim**, Sat, 29 Apr 2017 11:57:37 GMT

Thanks. It worked.

**Comment 5**

1. **Joel Sherrill**, Sat, 29 Apr 2017 17:24:34 GMT

Good news. Please close if it is resolved n

**Comment 6**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 7**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:57:05 GMT

2. **component**: changed from **bsps** to **tool/rsb**

**Comment 8**

1. **Joel Sherrill**, Thu, 12 Oct 2017 01:07:54 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**2997 - Monitor config command does not handle unlimited objects.**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2997">https://devel.rtems.org/ticket/2997</a> ( <a href="https://devel.rtems.org/ticket/2997">https://devel.rtems.org/ticket/2997</a> )
<b>Id</b>	2997
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 April 2017 02:43:56
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Running the console's config command with unlimited objects gives:

```
[/] # config
INITIAL (startup) Configuration Info
-----
WORKSPACE      start: 0x800f0173;  size: 0x374c8
TIME           usec/tick: 10000;  tick/timeslice: 50;  tick/sec: 100
MAXIMUMS      tasks: -2147483614;  timers: -2147483616;  sems: -2147483609;  que's: -2147483616;  ext's: 1
               partitions: -2147483616;  regions: -2147483616;  ports: -2147483616;  periods: -2147483616
```

**Comment 1**

1. **Joel Sherrill**, Tue, 18 Apr 2017 14:34:46 GMT

Why do I own this? I added neither the monitor nor unlimited objects? I think you wrote both of them. :)

**Comment 2**

1. **Chris Johns**, Tue, 18 Apr 2017 23:44:32 GMT
2. **owner:** changed from **joel.sherrill@...** to **Chris Johns**

Sorry, I just missed you are the default. I have posted a patch to the list.

**Comment 3**

1. **Sebastian Huber**, Thu, 24 Aug 2017 06:05:36 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

[4fd25c4340f30f61360d4ab2eb126b095eab82e7/rtems]

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**2998 - RTEMS User Manual Quick Start does not cover releases.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2998">https://devel.rtems.org/ticket/2998</a> ( <a href="https://devel.rtems.org/ticket/2998">https://devel.rtems.org/ticket/2998</a> )
<b>Id</b>	2998
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 April 2017 04:27:24
<b>Modified</b>	12 March 2020 21:23:43
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

#### Comment 1

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

#### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 3

1. **Chris Johns**, Thu, 12 Mar 2020 21:23:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In f672026/rtems-docs:

```
user: Update Quick Start Guide
Add support for release source archives Add building the BSP using the RSB Add building packages using the RSB Add an application
Closes #2998
```

#### Comment 4

1. **Chris Johns**, Thu, 12 Mar 2020 21:23:43 GMT

In 5bd9f4d/rtems-docs:

```
sphinx: Add a custom highlight colour
Update #2998
```

## 2999 - sb-check on Cygwin

<b>Link</b>	<a href="https://devel.rtems.org/ticket/2999">https://devel.rtems.org/ticket/2999</a> ( <a href="https://devel.rtems.org/ticket/2999">https://devel.rtems.org/ticket/2999</a> )
<b>Id</b>	2999
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 April 2017 14:41:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Chris Johns**, Tue, 18 Apr 2017 23:43:22 GMT

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.

#### Comment 2

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 3

1. **Joel Sherrill**, Thu, 12 Oct 2017 00:16:16 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

Some patches for Cygwin support were merged. Other issues were solved by installing more tools.

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 3000 - Setting interrupt level in the mode arg on SMP returns RTEMS\_UNSATISFIED

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3000">https://devel.rtems.org/ticket/3000</a> ( <a href="https://devel.rtems.org/ticket/3000">https://devel.rtems.org/ticket/3000</a> )
<b>Id</b>	3000
<b>Reporter</b>	Chris Johns
<b>Created</b>	19 April 2017 02:11:59
<b>Modified</b>	9 January 2019 09:37:17
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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`.

#### Comment 1

1. **Joel Sherrill**, Wed, 19 Apr 2017 03:28:50 GMT

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.

#### Comment 2

1. **Chris Johns**, Wed, 19 Apr 2017 04:42:23 GMT

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()` 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.

### Comment 3

1. **Sebastian Huber**, Tue, 02 May 2017 05:34:57 GMT

See `smpunsupported01` test.

### Comment 4

1. **Chris Johns**, Tue, 02 May 2017 06:28:22 GMT

Replying to Sebastian Huber:

See `smpunsupported01` test.

What what? Could you please elaborate a little more?

Thanks

### Comment 5

1. **Sebastian Huber**, Tue, 02 May 2017 06:54:04 GMT

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.

### Comment 6

1. **Chris Johns**, Thu, 12 Oct 2017 17:46:04 GMT
2. **description:** modified (diff)

### Comment 7

1. **Joel Sherrill**, Thu, 12 Oct 2017 18:46:16 GMT

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 `smpunsupported01` (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.

#### **Comment 8**

1. **Joel Sherrill**, Thu, 12 Oct 2017 18:51:18 GMT
2. **owner:** changed from **Chris Johns** to **Joel Sherrill**

#### **Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 10**

1. **Joel Sherrill**, Wed, 06 Dec 2017 18:49:12 GMT

In `e9e0f1d4/rtems:`

```
smpunsupported01: Add missing error check for rtems_task_mode
Update test documentation to include more cases.
Updates #3000.
```

#### **Comment 11**

1. **Joel Sherrill**, Wed, 06 Dec 2017 18:49:57 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In `3079455/rtems-docs:`

```
Account for non-preemption and interrupt level not supported on SMP
Closes #3000.
```

#### **Comment 12**

1. **Sebastian Huber**, Thu, 07 Dec 2017 08:22:31 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

Tests `tm04` and `tm20` fail now with `--enable-smp`.

#### **Comment 13**

1. **Joel Sherrill**, Fri, 08 Dec 2017 18:16:34 GMT

In `1307e75/rtems:`

```
tm08: Do not use RTEMS_INTERRUPT_MASK for no reschedule case
Updates #3000.
```

#### **Comment 14**

1. **Sebastian Huber**, Fri, 19 Jan 2018 06:46:33 GMT

In `a5b4db4b/rtems:`

```
rtems: Fix rtems_task_mode()
A rtems_configuration_is_smp_enabled() inside a !defined( RTEMS_SMP) block makes no sense.
Remove !defined( RTEMS_SMP ) conditions.
Test tm04 works now again.
Update #3000.
```

#### **Comment 15**

1. **Chris Johns**, Fri, 13 Apr 2018 01:46:14 GMT

Can this ticket be closed? If it cannot be closed what is outstanding to be done?

#### **Comment 16**

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:29:16 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

#### **Comment 17**

1. **Sebastian Huber**, Wed, 09 Jan 2019 09:37:11 GMT

In 38cb59e/rtems:

```
Separate task mode checks
Update #3000.
```

#### **Comment 18**

1. **Sebastian Huber**, Wed, 09 Jan 2019 09:37:14 GMT

In 1f285186/rtems:

```
rtems: Allow to set ISR level 0 in SMP config
Update #3000.
```

#### **Comment 19**

1. **Sebastian Huber**, Wed, 09 Jan 2019 09:37:17 GMT

In 3bd39999/rtems:

```
Adjust interrupt mode tests for some CPU ports
In case the robust thread dispatch is enabled by the CPU port, then the interrupt level must not be changed through the task mode.
Update #3000.
```

---

## **3001 - SMP build of RTEMS Testsuite does not set CONFIGURE\_MAXIMUM\_PROCESSORS**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3001">https://devel.rtems.org/ticket/3001</a> ( <a href="https://devel.rtems.org/ticket/3001">https://devel.rtems.org/ticket/3001</a> )
<b>Id</b>	3001
<b>Reporter</b>	Chris Johns
<b>Created</b>	20 April 2017 07:48:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Chris Johns**, Thu, 20 Apr 2017 07:48:52 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Sebastian Huber**, Thu, 11 May 2017 09:59:06 GMT
2. **owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status:** changed from **new** to **accepted**

**Comment 3**

1. **Sebastian Huber**, Fri, 12 May 2017 06:01:25 GMT

In 1309718/rtems:

```
confdefs.h: CONFIGURE_DISABLE_SMP_CONFIGURATION

Enable the SMP configuration by default in case SMP is enabled. Add configuration option CONFIGURE_DISABLE_SMP_CONFIGURATION to disable it explicitly.

Add CONFIGURE_DISABLE_SMP_CONFIGURATION to all test which would fail otherwise.

Update #3001.
```

**Comment 4**

1. **Sebastian Huber**, Fri, 12 May 2017 06:36:26 GMT

In f778b7f3/rtems:

```
confdefs.h: Use SMP scheduler only if necessary

Update #3001.
```

**Comment 5**

1. **Sebastian Huber**, Tue, 16 May 2017 07:48:56 GMT

In 6bc63df1/rtems:

```
confdefs.h: Add SMP enabled field to configuration

Do not use the processor count to determine if SMP is enabled. Instead use a dedicated configuration option. Enable SMP by default in SMP configurations.

Add CONFIGURE_DISABLE_SMP_CONFIGURATION to all test which would fail otherwise.

Update #3001.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 08 Jun 2017 08:11:59 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

By default, in case SMP is enabled the SMP mode will be used.

**Comment 7**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT
2. **component:** changed from **SMP** to **score**

**Comment 8**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT
2. **component:** changed from **score** to **cpukit**

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

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**3003 - FAT does not support clusters bigger than 32K**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3003">https://devel.rtems.org/ticket/3003</a> ( <a href="https://devel.rtems.org/ticket/3003">https://devel.rtems.org/ticket/3003</a> )
<b>Id</b>	3003
<b>Reporter</b>	munster
<b>Created</b>	20 April 2017 12:23:11
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	fs/fat
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	FAT, cluster
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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>

**Attachments:**

- 
- 1 **munster, Fri, 21 Apr 2017 09:41:56 GMT**  
**attach:** set to [fat.diff](https://devel.rtems.org/ticket/3003/fat.diff) (<https://devel.rtems.org/ticket/3003/fat.diff>)
- 

**Comment 1**

- 1. **Gedare Bloom**, Thu, 20 Apr 2017 15:15:38 GMT  
Do you have a test case?  
Do you have a proposed solution? is it just to increase bpc type size?

**Comment 2**

- 1. **munster**, Fri, 21 Apr 2017 09:43:32 GMT  
I have attached a solution which increases bpc size and removes the limit.

**Comment 3**

- 1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
- 2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 4**

- 1. **Sebastian Huber**, Thu, 24 Aug 2017 09:56:36 GMT
- 2. **owner:** changed from **chrisj@...** to **Sebastian Huber**
- 3. **status:** changed from **new** to **assigned**

**Comment 5**

- 1. **Sebastian Huber**, Wed, 06 Sep 2017 08:21:32 GMT
- 2. **status:** changed from **assigned** to **closed**
- 3. **resolution:** set to **fixed**

In fae59c9/rtems:

```
dosfs: Support a cluster size of 64KiB
Close #3003.
```

**Comment 6**

- 1. **Sebastian Huber**, Tue, 10 Oct 2017 06:50:58 GMT
- 2. **component:** changed from **fs** to **fs/fat**

**Comment 7**

- 1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
- 2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3006 - SPARC LEON3 BSP SMP build is broken.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3006">https://devel.rtems.org/ticket/3006</a> ( <a href="https://devel.rtems.org/ticket/3006">https://devel.rtems.org/ticket/3006</a> )
<b>Id</b>	3006
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 April 2017 05:57:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	tier-1
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The rtems-bsp-builder failure output is:

```
2 smp-debug sparc/leon3 build:
  configure: /opt/work/chris/rtems/kernel/rtems.git/configure --target\
  =sparc-rtems4.12 --enable-rtemsbbsp=leon3 --prefix=/opt/rtems/4.12\
  --enable-debug --enable-smp --enable-tests
  error: c/src/lib/libbsp/sparc/shared/spw/grspw_pkt.c:61:2 error:
  #error SMP mode not compatible with these interrupt lock primitives
```

The BSP builder command line is:

```
RTEMS Tools Project - RTEMS Kernel BSP Builder, 4.12.not_released
command: /opt/work/rtems/4.12/bin/rtems-bsp-builder --rtems-\
  tools=/build/rtems/tools/4.12\
  --rtems=/opt/work/chris/rtems/kernel/rtems.git --build=smp-debug\
  --log=x
```

**Comment 1**

1. **Chris Johns**, Thu, 27 Apr 2017 07:20:30 GMT
2. **owner:** changed from **joel.sherrill@...** to **Daniel Hellstrom**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Daniel Hellstrom**, Fri, 12 May 2017 09:32:46 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

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"
```

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component:** changed from **bsps** to **arch/sparc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3007 - ARM caching issues**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3007">https://devel.rtems.org/ticket/3007</a> ( <a href="https://devel.rtems.org/ticket/3007">https://devel.rtems.org/ticket/3007</a> )
<b>Reporter</b>	munster
<b>Created</b>	27 April 2017 14:23:57
<b>Modified</b>	16 April 2020 23:48:10
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	ARM,cache,L2C 310
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Attachments:**

- 
- 1 **munster, Thu, 27 Apr 2017 14:24:20 GMT**  
attach: set to [cache.diff](https://devel.rtems.org/ticket/3007/cache.diff) (<https://devel.rtems.org/ticket/3007/cache.diff>)
  - 2 **munster, Mon, 08 May 2017 09:58:29 GMT**  
attach: set to [cache\\_invalidate.diff](https://devel.rtems.org/ticket/3007/cache_invalidate.diff) ([https://devel.rtems.org/ticket/3007/cache\\_invalidate.diff](https://devel.rtems.org/ticket/3007/cache_invalidate.diff))
  - 3 **munster, Mon, 08 May 2017 09:58:44 GMT**  
attach: set to [cache\\_locking.diff](https://devel.rtems.org/ticket/3007/cache_locking.diff) ([https://devel.rtems.org/ticket/3007/cache\\_locking.diff](https://devel.rtems.org/ticket/3007/cache_locking.diff))
  - 4 **munster, Thu, 11 May 2017 14:25:40 GMT**  
attach: set to [0001-Remove-excessive-locking-from-cache-operations.patch](https://devel.rtems.org/ticket/3007/0001-Remove-excessive-locking-from-cache-operations.patch) (<https://devel.rtems.org/ticket/3007/0001-Remove-excessive-locking-from-cache-operations.patch>)
  - 5 **munster, Thu, 11 May 2017 14:25:54 GMT**  
attach: set to [0002-Fix-cache-invalidate-behavior.patch](https://devel.rtems.org/ticket/3007/0002-Fix-cache-invalidate-behavior.patch) (<https://devel.rtems.org/ticket/3007/0002-Fix-cache-invalidate-behavior.patch>)
  - 6 **munster, Wed, 14 Jun 2017 11:43:59 GMT**  
attach: set to [v2-0001-Remove-excessive-locking-from-cache-operations.patch](https://devel.rtems.org/ticket/3007/v2-0001-Remove-excessive-locking-from-cache-operations.patch) (<https://devel.rtems.org/ticket/3007/v2-0001-Remove-excessive-locking-from-cache-operations.patch>)
  - 7 **munster, Wed, 14 Jun 2017 11:44:10 GMT**  
attach: set to [v2-0002-Fix-cache-invalidate-behavior.patch](https://devel.rtems.org/ticket/3007/v2-0002-Fix-cache-invalidate-behavior.patch) (<https://devel.rtems.org/ticket/3007/v2-0002-Fix-cache-invalidate-behavior.patch>)
- 

**Comment 1**

1. **Chris Johns**, Thu, 27 Apr 2017 23:44:36 GMT

Why have you changed the signature of some of the functions to be `uint32_t, uint32_t` from `const void* , const size_t` ?

**Comment 2**

1. **munster**, Fri, 28 Apr 2017 15:13:35 GMT

Well, I was just following the Linux driver example. If you don't like it, I can use the previous function signature.

**Comment 3**

1. **Chris Johns**, Sun, 30 Apr 2017 22:09:35 GMT

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.

**Comment 4**

1. **Sebastian Huber**, Tue, 02 May 2017 05:30:52 GMT

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.

**Comment 5**

1. **munster**, Mon, 08 May 2017 10:02:40 GMT

Replying to Sebastian Huber:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html



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.

#### **Comment 6**

1. **Sebastian Huber**, Tue, 09 May 2017 07:58:16 GMT

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

```
/**
 * @brief Invalidates multiple data cache lines.
 *
 * The cache lines covering the area are marked as invalid. A later read
 * access in the area will load the data from memory.
 *
 * In case the area is not aligned on cache line boundaries, then this
 * operation may destroy unrelated data.
 *
 * @param[in] addr The start address of the area to invalidate.
 * @param[in] size The size in bytes of the area to invalidate.
 */
void rtems_cache_invalidate_multiple_data_lines(
  const void *addr,
  size_t size
);
```

The cache manager documentation probably needs to move into the user manual. Maybe some examples help to show what can go wrong.

#### **Comment 7**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT

2. **milestone**: changed from **4.12** to **4.12.0**

#### **Comment 8**

1. **munster**, Thu, 11 May 2017 14:27:34 GMT

Replying to Sebastian Huber:

Could you please format the patches via "git format-patch":

I have attached the patches.

#### **Comment 9**

1. **Sebastian Huber**, Fri, 12 May 2017 05:23:15 GMT

See

<https://devel.rtems.org/wiki/Developer/Git/Users#CreatingAPatch>

Please use your real name for the patch with a valid e-mail address.

#### **Comment 10**

1. **Sebastian Huber**, Thu, 08 Jun 2017 07:46:40 GMT

2. **milestone**: changed from **4.12.0** to **4.12.1**

#### **Comment 11**

1. **Sebastian Huber**, Mon, 12 Jun 2017 07:34:17 GMT

Without a real name I cannot apply this patch.

#### Comment 12

1. **munster**, Wed, 14 Jun 2017 11:45:18 GMT

Replying to Sebastian Huber:

Without a real name I cannot apply this patch.

Re-attached with real name.

#### Comment 13

1. **Alexei Pososin**, Wed, 14 Jun 2017 13:41:30 GMT

In fd10817/rtems:

Remove excessive locking from cache operations.

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.

Update #3007.

#### Comment 14

1. **Sebastian Huber**, Wed, 14 Jun 2017 13:46:21 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

It is up to the user to ensure that its safe to invalidate a certain data area.

#### Comment 15

1. **Sebastian Huber**, Wed, 14 Jun 2017 13:46:35 GMT
2. **version**: changed from **4.12** to **4.11**

#### Comment 16

1. **Chris Johns**, Wed, 12 Jul 2017 22:32:43 GMT
2. **milestone**: changed from **4.12.1** to **4.12.0**

#### Comment 17

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT
2. **component**: changed from **bsps** to **arch/arm**

#### Comment 18

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 3008 - missing pax causes install failures

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3008">https://devel.rtems.org/ticket/3008</a> ( <a href="https://devel.rtems.org/ticket/3008">https://devel.rtems.org/ticket/3008</a> )
<b>Id</b>	3008
<b>Reporter</b>	Hassan Karim
<b>Created</b>	6 May 2017 19:47:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	pax; testsuites
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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### Description

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
```

### Comment 1

1. **Chris Johns**, Sun, 07 May 2017 22:54:11 GMT

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.

### Comment 2

1. **Chris Johns**, Sun, 07 May 2017 22:58:24 GMT

Also the latest RSB documentation is <https://docs.rtems.org/branches/master/rsb/index.html>

### Comment 3

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

### Comment 4

1. **Chris Johns**, Mon, 04 Sep 2017 03:33:35 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 2cc9e2a/rtems-docs:

```
Add PAX to the Ubuntu packages to install.
Closes #3008.
```

### Comment 5

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

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**3009 - Provide invalid link handler for docs.rtems.org so old docs can be removed.**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/3009">https://devel.rtems.org/ticket/3009</a> ( <a href="https://devel.rtems.org/ticket/3009">https://devel.rtems.org/ticket/3009</a> )
<b>Id</b>	3009
<b>Reporter</b>	Chris Johns
<b>Created</b>	7 May 2017 22:57:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	infra
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

The docs.rtems.org website has lots of old docs which need to be removed.

See #3008 for a reference to old documentation.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Wed, 11 Oct 2017 23:08:49 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3010 - src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/3010">https://devel.rtems.org/ticket/3010</a> ( <a href="https://devel.rtems.org/ticket/3010">https://devel.rtems.org/ticket/3010</a> )
<b>Id</b>	3010
<b>Reporter</b>	David Binderman
<b>Created</b>	8 May 2017 19:33:43
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom <gedare@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 ) {
```

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Gedare Bloom**, Tue, 16 May 2017 15:38:07 GMT
2. **owner**: set to **Gedare Bloom** <gedare@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In a330c5d/rtems:

```
posix: clarify expression with parentheses
Close #3010.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3011 - Error compiling xilinx\_zynq\_zedboard.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3011">https://devel.rtems.org/ticket/3011</a> ( <a href="https://devel.rtems.org/ticket/3011">https://devel.rtems.org/ticket/3011</a> )
<b>Id</b>	3011
<b>Reporter</b>	Arturo Pérez
<b>Created</b>	9 May 2017 08:28:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	zedboard RSB build
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 build 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 build 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. ___
```

**Comment 1**

1. **Gedare Bloom**, Tue, 09 May 2017 14:24:45 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

You need to re-build your toolchain with a new git-pull of the RSB.

**Comment 2**

1. **Arturo Pérez**, Wed, 10 May 2017 08:50:57 GMT

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.

**Comment 3**

1. **Gedare Bloom**, Wed, 10 May 2017 12:46:23 GMT
2. **status**: changed from **closed** to **reopened**

3. **resolution:** **invalid** deleted

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?

#### Comment 4

1. **Gedare Bloom**, Wed, 10 May 2017 12:46:43 GMT
2. **owner:** changed from **joel.sherrill@...** to **Gedare Bloom**
3. **status:** changed from **reopened** to **assigned**

#### Comment 5

1. **Joel Sherrill**, Wed, 10 May 2017 13:07:47 GMT

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.

#### Comment 6

1. **Gedare Bloom**, Wed, 10 May 2017 16:40:46 GMT

Yes, that makes sense. Arturo, please do bootstrap -c and then bootstrap, configure and make.

#### Comment 7

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

#### Comment 8

1. **Arturo Pérez**, Thu, 11 May 2017 08:25:39 GMT

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.

#### Comment 9

1. **Sebastian Huber**, Thu, 11 May 2017 11:08:58 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **worksforme**

#### Comment 10

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT
2. **component:** changed from **bsps** to **arch/arm**

#### Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

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## **3012 - Global C++ IO streams are broken (cout, cin, cerr)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3012">https://devel.rtems.org/ticket/3012</a> ( <a href="https://devel.rtems.org/ticket/3012">https://devel.rtems.org/ticket/3012</a> )
<b>Id</b>	3012
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 May 2017 08:57:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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

```
#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:

```
diff --git a/libstdc++-v3/src/c++98/ios_init.cc b/libstdc++-v3/src/c++98/ios_init.cc
index c5bcc83..7470c44 100644
--- a/libstdc++-v3/src/c++98/ios_init.cc
+++ b/libstdc++-v3/src/c++98/ios_init.cc
@@ -33,6 +33,15 @@
#include
#include
+#ifdef __rtems__
+#undef stdout
+#undef stdin
+#undef stderr
+#define stdout ( GLOBAL_REENT-> stdout)
+#define stdin ( GLOBAL_REENT-> stdout)
+#define stderr ( GLOBAL_REENT-> stdout)
+#endif
+ namespace __gnu_internal_GLIBCXX_VISIBILITY(hidden)
+ {
+   using namespace gnu_cxx;
```

```
diff --git a/newlib/libc/stdio/findfp.c b/newlib/libc/stdio/findfp.c
index 83d3dc5..7d50951 100644
--- a/newlib/libc/stdio/findfp.c
+++ b/newlib/libc/stdio/findfp.c
@@ -259,6 +259,12 @@ _DEFUN(__sinit, (s),
   __sinit_lock_release ();
 }
+static void __attribute__((__constructor__(0)))
+global_reent_init(void)
+{
+  __sinit (GLOBAL_REENT);
+}
+
+#ifndef SINGLE_THREAD
   LOCK_INIT RECURSIVE(static, sfp recursive mutex);
```

## Comment 1

### 1. Chris Johns, Wed, 10 May 2017 00:21:49 GMT

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:

```
#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.

## Comment 2

### 1. Sebastian Huber, Wed, 10 May 2017 05:08:39 GMT

Another option would be to use thread-local cout, etc. This would require that all RTEMS targets support thread-local storage.

## Comment 3

### 1. Chris Johns, Wed, 10 May 2017 05:59:36 GMT

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.

#### Comment 4

1. **Sebastian Huber**, Wed, 10 May 2017 06:05:58 GMT

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`.

#### Comment 5

1. **Sebastian Huber**, Tue, 23 May 2017 09:45:20 GMT

The Ada run-time support has the same problem (thread-local IO streams used like a global object).

#### Comment 6

1. **Sebastian Huber**, Thu, 22 Jun 2017 06:36:49 GMT

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.

#### Comment 7

1. **Sebastian Huber**, Fri, 30 Jun 2017 12:57:05 GMT

In `5ede1c7/rtems-source-builder`:

```
4.12: Enable global stdio streams
Update #3012.
```

#### Comment 8

1. **Sebastian Huber**, Fri, 30 Jun 2017 12:57:49 GMT

In `9b07f5e/rtems`:

```
newlib01: Use fopen() instead of freopen()
With global stdio streams, a freopen() would close the global stream object.
Update #3012.
```

#### Comment 9

1. **Chris Johns**, Thu, 06 Jul 2017 01:08:35 GMT

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.

#### Comment 10

1. **Sebastian Huber**, Thu, 06 Jul 2017 05:08:03 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

4. **component**: changed from **GCC** to **Newlib**

5. **milestone**: changed from **Indefinite** to **4.12.0**

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.



**Comment 11**

1. **Sebastian Huber**, Thu, 06 Jul 2017 05:08:25 GMT
2. **version: 4.12** deleted

**Comment 12**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### **3013 - ProgrammingError: (1064, "You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sid='nikolaykomashinskiy' AND authenticated=1 AND name='force\_change\_passwd'" at line 1")**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3013">https://devel.rtems.org/ticket/3013</a> ( <a href="https://devel.rtems.org/ticket/3013">https://devel.rtems.org/ticket/3013</a> )
<b>Id</b>	3013
<b>Reporter</b>	Nikolay Komashinskiy
<b>Created</b>	9 May 2017 14:25:42
<b>Modified</b>	20 October 2018 20:02:25
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Hello, during reset password I had an internal error. This card was automatically generated.

How to Reproduce

While doing a POST operation on /reset\_password, Trac issued an internal error.

\_\_(please provide additional details here)\_\_\_

Request parameters:

```
{u'_FORM_TOKEN': u'56888d70c5e5799302935f97',
 u'email': u'nikolay.komashinskiy@yandex.ru',
 u'register_phone': u'',
 u'rtems_user_phone': u'',
 u'username': u'nikolaykomashinskiy'}
```

User agent: Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/57.0.2987.98 Safari/537.36

System Information

\_\_System information not available\_\_

Enabled Plugins

\_\_Plugin information not available\_\_

Interface Customization

\_\_Interface customization information not available\_\_

Python Traceback

```
Traceback (most recent call last):
  File "/data/src/trac/trac/web/main.py", line 620, in _dispatch_request
    dispatcher.dispatch(req)
  File "/data/src/trac/trac/web/main.py", line 253, in dispatch
    resp = chosen_handler.process_request(req)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/web_ui.py", line 168, in process_request
    self._do_reset_password(req)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/web_ui.py", line 256, in _do_reset_password
    self.reset_password(req, username, email)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/web_ui.py", line 301, in _reset_password
    set_user_attribute(self.env, username, 'force_change_passwd', 1)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/model.py", line 509, in set_user_attribute
    (value, username, attribute))
  File "/data/src/trac/trac/db/util.py", line 128, in execute
    cursor.execute(query, params if params is not None else [])
  File "/data/src/trac/trac/db/util.py", line 72, in execute
    return self.cursor.execute(sql_escape_percent(sql), args)
  File "/usr/local/lib/python2.7/site-packages/MySQLdb/cursors.py", line 205, in execute
    self.errorhandler(self, exc, value)
  File "/usr/local/lib/python2.7/site-packages/MySQLdb/connections.py", line 36, in defaulterrorhandler
    raise errorclass, errorvalue
ProgrammingError: (1064, "You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sid='nikolaykomashinskiy' AND authenticated=1 AND name='force change passwd'" at line 1")
```

**Comment 1**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Gedare Bloom**, Tue, 09 May 2017 20:13:00 GMT
2. **owner**: changed from [joel.sherrill@...](#) to **Amar Takhar**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Amar Takhar**, Tue, 09 May 2017 20:37:15 GMT

Whoa very strange. I will look at this when I get home. Thank you for the report.

**Comment 3**

1. **Amar Takhar**, Sat, 20 Oct 2018 20:02:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **Indefinite** to **5.1**

This should have been fixed long ago if anyone runs into this issue again please open a new ticket.

**3014 - interrupt vector indexing is assuming BSP\_INTERRUPT\_VECTOR\_MIN = 0 for this code.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3014">https://devel.rtems.org/ticket/3014</a> ( <a href="https://devel.rtems.org/ticket/3014">https://devel.rtems.org/ticket/3014</a> )
<b>Id</b>	3014
<b>Reporter</b>	phongvanpham
<b>Created</b>	9 May 2017 21:36:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Someone implement `bsp_interrupt_handler_index()` forgot to update this delta in `rtems/c/src/lib/libbsp/shared/src/irq-generic.c:bsp_interrupt_allocate_handler_index()`. See attachment.

**Attachments:**

1. **phongvanpham**, Tue, 09 May 2017 21:37:53 GMT  
**attach**: set to [irq-generic.c](#) (<https://devel.rtems.org/ticket/3014/irq-generic.c>)
2. **phongvanpham**, Tue, 09 May 2017 21:38:50 GMT  
**attach**: set to [irq-generic.c.orig](#) (<https://devel.rtems.org/ticket/3014/irq-generic.c.orig>)
3. **phongvanpham**, Fri, 12 May 2017 18:40:56 GMT  
**attach**: set to [0001-interrupt-vector-indexing-is-assuming-BSP\\_INTERRUPT\\_patch](#) ([https://devel.rtems.org/ticket/3014/0001-interrupt-vector-indexing-is-assuming-BSP\\_INTERRUPT\\_patch](https://devel.rtems.org/ticket/3014/0001-interrupt-vector-indexing-is-assuming-BSP_INTERRUPT_patch))

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Fri, 12 May 2017 05:19:45 GMT

The change looks good, please use your real name and a valid e-mail address for the patch.

**Comment 3**

1. **Phong Pham**, Sun, 14 May 2017 04:11:01 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In a9859d1/rtems:

interrupt vector indexing is assuming BSP\_INTERRUPT\_VECTOR\_MIN = 0  
Closes #3014.

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 3015 - Add support for IBM PPC 750 chip

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3015">https://devel.rtems.org/ticket/3015</a> ( <a href="https://devel.rtems.org/ticket/3015">https://devel.rtems.org/ticket/3015</a> )
<b>Id</b>	3015
<b>Reporter</b>	phongvanpham
<b>Created</b>	9 May 2017 23:25:44
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	task
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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#### Description

Currently MPC750 chip is supported. However, PPC750 (from IBM) is very close to MPC750 except minor differences. Enclosed is the delta to support PPC750.

#### Attachments:

1. **phongvanpham, Tue, 09 May 2017 23:29:10 GMT**  
attach: set to [cpuldent.c](https://devel.rtems.org/ticket/3015/cpuldent.c) (<https://devel.rtems.org/ticket/3015/cpuldent.c>)
  2. **phongvanpham, Tue, 09 May 2017 23:29:39 GMT**  
attach: set to [cpuldent.c.orig](https://devel.rtems.org/ticket/3015/cpuldent.c.orig) (<https://devel.rtems.org/ticket/3015/cpuldent.c.orig>)
  3. **phongvanpham, Tue, 09 May 2017 23:29:58 GMT**  
attach: set to [cpuldent.h](https://devel.rtems.org/ticket/3015/cpuldent.h) (<https://devel.rtems.org/ticket/3015/cpuldent.h>)
  4. **phongvanpham, Tue, 09 May 2017 23:30:18 GMT**  
attach: set to [cpuldent.h.orig](https://devel.rtems.org/ticket/3015/cpuldent.h.orig) (<https://devel.rtems.org/ticket/3015/cpuldent.h.orig>)
  5. **phongvanpham, Tue, 09 May 2017 23:30:38 GMT**  
attach: set to [ppc\\_exc\\_categories.c](https://devel.rtems.org/ticket/3015/ppc_exc_categories.c) ([https://devel.rtems.org/ticket/3015/ppc\\_exc\\_categories.c](https://devel.rtems.org/ticket/3015/ppc_exc_categories.c))
  6. **phongvanpham, Tue, 09 May 2017 23:31:01 GMT**  
attach: set to [ppc\\_exc\\_categories.c.orig](https://devel.rtems.org/ticket/3015/ppc_exc_categories.c.orig) ([https://devel.rtems.org/ticket/3015/ppc\\_exc\\_categories.c.orig](https://devel.rtems.org/ticket/3015/ppc_exc_categories.c.orig))
  7. **phongvanpham, Fri, 12 May 2017 18:39:29 GMT**  
attach: set to [0001-Add-support-for-IBM-PowerPC-750-chip.patch](https://devel.rtems.org/ticket/3015/0001-Add-support-for-IBM-PowerPC-750-chip.patch) (<https://devel.rtems.org/ticket/3015/0001-Add-support-for-IBM-PowerPC-750-chip.patch>)
  8. **phongvanpham, Fri, 26 May 2017 00:05:14 GMT**  
attach: set to [0001-Reuse-mpc750-category-instead-of-creating-new-one-an.patch](https://devel.rtems.org/ticket/3015/0001-Reuse-mpc750-category-instead-of-creating-new-one-an.patch) (<https://devel.rtems.org/ticket/3015/0001-Reuse-mpc750-category-instead-of-creating-new-one-an.patch>)
- 

#### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 2

1. **Sebastian Huber**, Fri, 12 May 2017 05:16:56 GMT

Has the existing PPC 740 a performance monitor exception? Maybe use one category for both variants.

#### Comment 3

1. **phongvanpham**, Wed, 17 May 2017 16:12:53 GMT

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

#### Comment 4

1. **Joel Sherrill**, Wed, 17 May 2017 16:25:08 GMT

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.

#### Comment 5

1. **phongvanpham**, Wed, 17 May 2017 16:33:34 GMT

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".

#### Comment 6

1. **phongvanpham**, Mon, 22 May 2017 17:16:07 GMT

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.

#### Comment 7

1. **Sebastian Huber**, Tue, 23 May 2017 10:09:30 GMT

Its still not clear to me why you cannot use the `mpc_750_category_table` for the IBM PPC750.

#### Comment 8

1. **phongvanpham**, Tue, 23 May 2017 16:02:58 GMT

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.

**Comment 9**

1. **phongvanpham**, Tue, 23 May 2017 16:20:45 GMT

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.

**Comment 10**

1. **Sebastian Huber**, Wed, 24 May 2017 05:19:38 GMT

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.

**Comment 11**

1. **phongvanpham**, Fri, 26 May 2017 00:06:48 GMT

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.

**Comment 12**

1. **Phong Pham**, Mon, 29 May 2017 06:07:13 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 848007c/rtems:

Add support for IBM PowerPC 750 chip.

Closes #3015.

**Comment 13**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:32:53 GMT
2. **component**: changed from **libcpu** to **arch/powerpc**

**Comment 14**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3016 - missing a couple register names + a #ifndef \_\_ASM\_\_ around serial.h inclusion**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3016">https://devel.rtems.org/ticket/3016</a> ( <a href="https://devel.rtems.org/ticket/3016">https://devel.rtems.org/ticket/3016</a> )
<b>Id</b>	3016
<b>Reporter</b>	phongvanpham
<b>Created</b>	9 May 2017 23:38:34
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

In rtems\c\src\libchip\serial\ns16550\_p.h, need to add a couple register and #ifndef around serial.h

**Attachments:**

- 
- 1 phongvanpham, Tue, 09 May 2017 23:46:27 GMT**  
attach: set to [ns16550\\_p.h](https://devel.rtems.org/ticket/3016/ns16550_p.h) ([https://devel.rtems.org/ticket/3016/ns16550\\_p.h](https://devel.rtems.org/ticket/3016/ns16550_p.h))
  - 2 phongvanpham, Tue, 09 May 2017 23:46:47 GMT**  
attach: set to [ns16550\\_p.h.orig](https://devel.rtems.org/ticket/3016/ns16550_p.h.orig) ([https://devel.rtems.org/ticket/3016/ns16550\\_p.h.orig](https://devel.rtems.org/ticket/3016/ns16550_p.h.orig))
  - 3 phongvanpham, Fri, 12 May 2017 18:43:53 GMT**  
attach: set to [0001-missing-a-couple-register-names-a-ifndef\\_ASM\\_\\_-aroun.patch](https://devel.rtems.org/ticket/3016/0001-missing-a-couple-register-names-a-ifndef_ASM__-aroun.patch) ([https://devel.rtems.org/ticket/3016/0001-missing-a-couple-register-names-a-ifndef\\_ASM\\_\\_-aroun.patch](https://devel.rtems.org/ticket/3016/0001-missing-a-couple-register-names-a-ifndef_ASM__-aroun.patch))
- 

**Comment 1**

- 1 Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
- milestone:** changed from **4.12** to **4.12.0**

**Comment 2**

- 1 Sebastian Huber**, Fri, 12 May 2017 05:14:21 GMT

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?

**Comment 3**

- 1 Phong Pham**, Sun, 14 May 2017 03:50:58 GMT
- status:** changed from **new** to **closed**
- resolution:** set to **fixed**

In f219adc/rtems:

```
missing a couple register names + a #ifndef_ASM around serial.h inclusion
Closes #3016.
```

**Comment 4**

- 1 phongvanpham**, Wed, 17 May 2017 16:15:26 GMT

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.

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 3017 - improvement in pci.h

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3017">https://devel.rtems.org/ticket/3017</a> ( <a href="https://devel.rtems.org/ticket/3017">https://devel.rtems.org/ticket/3017</a> )
<b>Id</b>	3017
<b>Reporter</b>	phongvanpham
<b>Created</b>	9 May 2017 23:52:49
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	task
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone**: changed from **4.12** to **4.12.0**

#### Comment 2

1. **Joel Sherrill**, Thu, 13 Jul 2017 13:46:29 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **worksforme**

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.

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 3018 - RSB cannot compile tool chain in CentOS 7.

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3018">https://devel.rtems.org/ticket/3018</a> ( <a href="https://devel.rtems.org/ticket/3018">https://devel.rtems.org/ticket/3018</a> )
<b>Id</b>	3018
<b>Reporter</b>	phongvanpham
<b>Created</b>	10 May 2017 00:39:30
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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@... for review."

**Attachments:**


---

1 **phongvanpham**, Wed, 10 May 2017 00:40:43 GMT

**attach:** set to [rsb-report-autoconf-2.69-x86\\_64-linux-gnu-1.txt](https://devel.rtems.org/ticket/3018/rsb-report-autoconf-2.69-x86_64-linux-gnu-1.txt) ([https://devel.rtems.org/ticket/3018/rsb-report-autoconf-2.69-x86\\_64-linux-gnu-1.txt](https://devel.rtems.org/ticket/3018/rsb-report-autoconf-2.69-x86_64-linux-gnu-1.txt))

---

**Comment 1**

1. **Sebastian Huber**, Thu, 11 May 2017 07:31:02 GMT
2. **milestone:** changed from **4.12** to **4.12.0**

**Comment 2**

1. **Chris Johns**, Wed, 23 Aug 2017 22:55:10 GMT

Joel, is this still valid?

**Comment 3**

1. **Sebastian Huber**, Thu, 24 Aug 2017 08:18:25 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

I built all tools today on a CentOS 7 machine without errors.

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**3020 - Review tests using CONFIGURE\_DISABLE\_SMP\_CONFIGURATION**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3020">https://devel.rtems.org/ticket/3020</a> ( <a href="https://devel.rtems.org/ticket/3020">https://devel.rtems.org/ticket/3020</a> )
<b>Id</b>	3020
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 May 2017 08:43:27
<b>Modified</b>	17 July 2020 09:22:42
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Mon, 14 Aug 2017 00:55:55 GMT
2. **milestone**: changed from **5.0** to **4.12.0**

Please review and update the milestone. Thanks.

**Comment 2**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component**: changed from **testing** to **unspecified**

**Comment 3**

1. **Joel Sherrill**, Thu, 12 Oct 2017 00:28:30 GMT
2. **owner**: changed from **joel.sherrill@...** to **Sebastian Huber**
3. **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.

**Comment 4**

1. **Sebastian Huber**, Thu, 12 Oct 2017 11:15:27 GMT
2. **milestone**: changed from **4.12.0** to **Indefinite**

**Comment 5**

1. **Sebastian Huber**, Thu, 16 Nov 2017 14:29:34 GMT

In e24d64b/rtems:

```
psx05: Remove CONFIGURE_DISABLE_SMP_CONFIGURATION
Update #3020.
```

**Comment 6**

1. **Sebastian Huber**, Fri, 01 Dec 2017 13:23:07 GMT

In c589775a/rtems:

```
ada: Use CONFIGURE_DISABLE_SMP_CONFIGURATION
Most Ada tests fail otherwise.
Update #3020.
```

**Comment 7**

1. **Sebastian Huber**, Fri, 17 Jul 2020 09:22:42 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **invalid**
4. **milestone:** changed from **Indefinite** to **5.1**

This configuration options was removed in RTEMS 5.1.

---

### **3023 - Parameter of CPU\_COPY() are in wrong order**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3023">https://devel.rtems.org/ticket/3023</a> ( <a href="https://devel.rtems.org/ticket/3023">https://devel.rtems.org/ticket/3023</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 May 2017 12:02:29
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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>

```
CPU_COPY(cpuset t *from, cpuset t *to);
```

However, in Newlib we have:

```
static __inline void CPU_COPY( cpu_set_t *dest, const cpu_set_t *src )
{
    *dest = *src;
}
```

#### **Comment 1**

1. **Sebastian Huber**, Fri, 19 May 2017 12:02:39 GMT
2. **owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
3. **status:** changed from **new** to **accepted**

#### **Comment 2**

1. **Sebastian Huber**, Wed, 07 Jun 2017 13:29:45 GMT

In 836f454/rtems:

Fix CPU\_COPY() usage

The original CPU\_COPY() support of Newlib had the parameters in the wrong order. This is fixed in Newlib since 2017-05-22.

Update #3023.

#### **Comment 3**

1. **Sebastian Huber**, Wed, 07 Jun 2017 13:39:58 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

#### **Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:25:41 GMT
2. **component:** changed from **SMP** to **tool/newlib**

#### **Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**3025 - m32c/m32csim does not build linpack-pc.c**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3025">https://devel.rtems.org/ticket/3025</a> ( <a href="https://devel.rtems.org/ticket/3025">https://devel.rtems.org/ticket/3025</a> )
<b>Id</b>	3025
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 May 2017 00:04:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 constant
```

error: testsuites/benchmarks/linpack/linpack-pc.c:253:21: error:

```
storage size of 'aa' isn't constant
```

**Comment 1**

1. **Joel Sherrill**, Wed, 24 May 2017 14:29:26 GMT

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.

**Comment 2**

1. **Chris Johns**, Sun, 28 May 2017 21:58:39 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

The test has been disabled.

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT

2. **component**: changed from **testing** to **unspecified**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3027 - RTEMS source builder fails when building gcc documentation with newer versions of gcc**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3027">https://devel.rtems.org/ticket/3027</a> ( <a href="https://devel.rtems.org/ticket/3027">https://devel.rtems.org/ticket/3027</a> )
<b>Id</b>	3027
<b>Reporter</b>	Worth Burruss
<b>Created</b>	30 May 2017 17:25:21
<b>Modified</b>	10 April 2018 07:37:33
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	msys2, gcc
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:****1 Worth Burruss, Tue, 30 May 2017 17:26:17 GMT**

**attach:** set to gcc-MakeInfoFix-20170529-1.patch (<https://devel.rtems.org/ticket/3027/gcc-MakeInfoFix-20170529-1.patch>)

---

**Comment 1****1. Worth Burruss, Wed, 31 May 2017 00:52:01 GMT**

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.

**Comment 2****1. Chris Johns, Tue, 13 Jun 2017 00:32:49 GMT**

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:

```
%if %{_host_os} == win32
  export MAKEINFO=missing
%endif
```

**Comment 3****1. Chris Johns, Tue, 13 Jun 2017 05:45:21 GMT****2. milestone: set to 4.11.2****Comment 4****1. Worth Burruss, Tue, 13 Jun 2017 13:27:39 GMT****2. 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.

**Comment 5****1. Chris Johns, Wed, 14 Jun 2017 00:06:10 GMT**

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.

**Comment 6****1. Worth Burruss, Wed, 14 Jun 2017 18:25:56 GMT**

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](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

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

### Comment 7

1. **Chris Johns**, Thu, 15 Jun 2017 03:13:29 GMT

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](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.

### Comment 8

1. **Chris Johns**, Thu, 29 Jun 2017 04:52:36 GMT

I have a tried a both options and makeinfo is being run. I cannot make this work.

### Comment 9

1. **Chris Johns**, Thu, 29 Jun 2017 05:43:27 GMT

I was wrong MAKEINFO=missing is the solution. It seems like it is a configure thing.

### Comment 10

1. **Chris Johns**, Mon, 03 Jul 2017 03:38:22 GMT

In 0a916c3/rtems-source-builder:

```
gcc: Disable makenfo cause newer verisons do not build gcc-4.8 docs.
```

```
Newer makeinfo tools cannot build the existing texinfo in gcc so disable building it. This will not be fixed on the gcc branches.
```

```
Updates #3027.
```

### Comment 11

1. **Chris Johns**, Mon, 07 Aug 2017 01:51:09 GMT

2. **status**: changed from **new** to **assigned**

3. **version**: changed from **4.11** to **4.12**

4. **milestone**: set to **4.12.0**

Moving this to 4.12 as it has been fixed on 4.11.

### Comment 12

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 13

1. **Chris Johns**, Tue, 10 Apr 2018 07:37:33 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

---

## **3032 - CPU\_NAND\_S() implementation is not in line with FreeBSD**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3032">https://devel.rtems.org/ticket/3032</a> ( <a href="https://devel.rtems.org/ticket/3032">https://devel.rtems.org/ticket/3032</a> )
<b>Id</b>	3032
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 June 2017 06:47:21
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

```
static __inline void CPU_NAND_S(size_t setsize, cpu_set_t *destset,
    const cpu_set_t *srcset1, const cpu_set_t *srcset2)
{
    cpu_set_word_t *wdest = &destset->_bits[0];
    const cpu_set_word_t *wsrc1 = &srcset1->_bits[0];
    const cpu_set_word_t *wsrc2 = &srcset2->_bits[0];
    size_t n = setsize / sizeof(*wdest);
    size_t i;
    for (i = 0; i < n; ++i)
        wdest[i] = ~(wsrc1[i] & wsrc2[i]);
}
```

**Comment 1**

1. **Sebastian Huber**, Wed, 07 Jun 2017 13:30:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In b06dbb26/rtems:

```
sppcpuset01: Update due to CPU_NAND_S() changes
Close #3032.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:25:41 GMT
2. **component:** changed from **SMP** to **tool/newlib**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**3036 - CPU\_CMP() implementation is not in line with FreeBSD**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3036">https://devel.rtems.org/ticket/3036</a> ( <a href="https://devel.rtems.org/ticket/3036">https://devel.rtems.org/ticket/3036</a> )
<b>Id</b>	3036
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 June 2017 05:50:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

```
/* return 1 if the sets set1 and set2 are equal, otherwise return 0 */
static __inline int CPU_CMP( const cpu_set_t *set1, const cpu_set_t *set2 )
{
    return CPU_EQUAL(set1, set2);
}
```

**Comment 1**

1. **Sebastian Huber**, Fri, 09 Jun 2017 05:51:35 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In f7d0f5e/rtems:

```
spcpuset01: Update due to CPU_CMP() changes
Close #3036.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:25:41 GMT
2. **component**: changed from **SMP** to **tool/newlib**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3040 - Cannot use RTEMS mailing list archive for patches**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3040">https://devel.rtems.org/ticket/3040</a> ( <a href="https://devel.rtems.org/ticket/3040">https://devel.rtems.org/ticket/3040</a> )
<b>Id</b>	3040
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 June 2017 11:34:41
<b>Modified</b>	20 October 2018 22:44:28
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

The RTEMS mailing list archive has no option to get the raw e-mail via the web interface, e.g.

<https://lists.rtems.org/pipermail/devel/2017-June/018101.html>

For example the Newlib mailing list archive:

<https://sourceware.org/cgi-bin/get-raw-msg?listname=newlib&date=2017&msgid=20170612064218.11969-1-sebastian.huber%40embedded-brains.de>

#### Comment 1

1. **Amar Takhar**, Mon, 12 Jun 2017 11:51:56 GMT
2. **owner:** changed from **joel.sherrill@...** to **Amar Takhar**
3. **status:** changed from **new** to **accepted**

That's strange I will look into this shortly.

#### Comment 2

1. **Amar Takhar**, Mon, 12 Jun 2017 11:57:56 GMT

I don't know how easy this is going to be. I've always grabbed the entire raw mbox file and pulled it out that way. You can find them on the list archive pages in gzipped form.

I'll look into setting this up but I need to figure out the best and safest way to do it.

#### Comment 3

1. **Amar Takhar**, Sat, 20 Oct 2018 20:43:19 GMT
2. **status:** changed from **accepted** to **closed**
3. **type:** changed from **defect** to **infra**
4. **resolution:** set to **invalid**
5. **milestone:** changed from **Indefinite** to **5.1**

This isn't something we can support. It's a custom feature that I cannot find the source to.

If you can get a copy of 'get-raw-msg' from Sourceware I can look into installing it..

#### Comment 4

1. **Joel Sherrill**, Sat, 20 Oct 2018 21:55:12 GMT

What software package is get-raw-msg associated with? Is it part of Sourceware itself or something hosted on sourceware?

#### Comment 5

1. **Amar Takhar**, Sat, 20 Oct 2018 22:29:51 GMT

I think it's something they created custom. I can't find any information on it at all. A few other projects seem to use it but they're hosted by sourceware..

#### Comment 6

1. **Joel Sherrill**, Sat, 20 Oct 2018 22:34:12 GMT

This would be a mailman plugin?

#### Comment 7

1. **Amar Takhar**, Sat, 20 Oct 2018 22:44:28 GMT

It's probably a custom CGI they created.

The real fix for this is to move to Mailman v3. Here is an example setup:

```
https://mail.python.org/mm3/
```

The new frontend HyperKitty has a lot of functionality and also static email URLs. Which unlike v2 don't randomly change.

---

### **3043 - 4.11/rtems-nios2 does not build on Windows.**



<b>Link</b>	<a href="https://devel.rtems.org/ticket/3043">https://devel.rtems.org/ticket/3043</a> ( <a href="https://devel.rtems.org/ticket/3043">https://devel.rtems.org/ticket/3043</a> )
<b>Id</b>	3043
<b>Reporter</b>	Chris Johns
<b>Created</b>	12 June 2017 23:33:05
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Attachments:****1 Chris Johns, Mon, 12 Jun 2017 23:33:31 GMT**

**attach:** set to [rsb-report-nios2-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86\\_64-w64-mingw32-1.txt](https://devel.rtems.org/ticket/3043/rsb-report-nios2-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86_64-w64-mingw32-1.txt) ([https://devel.rtems.org/ticket/3043/rsb-report-nios2-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86\\_64-w64-mingw32-1.txt](https://devel.rtems.org/ticket/3043/rsb-report-nios2-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86_64-w64-mingw32-1.txt))

**Comment 1**

1. **Chris Johns**, Mon, 14 Aug 2017 01:00:40 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** set to **4.12.0**

Patch fixes for Windows have been merged.

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3046 - 4.12/rtems-moxie missing release number.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3046">https://devel.rtems.org/ticket/3046</a> ( <a href="https://devel.rtems.org/ticket/3046">https://devel.rtems.org/ticket/3046</a> )
<b>Id</b>	3046
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 June 2017 05:51:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

4.12/rtems-moxie is reporting

```
cleaning: dtc-1.4.1-x86_64-freebsd11.0-1
cleaning: expat-2.1.0-x86_64-freebsd11.0-1
cleaning: moxie-rtems4.12-binutils-2.28-x86_64-freebsd11.0-
cleaning: moxie-rtems4.12-gcc-7.1.0-newlib-2.5.0.20170519-x86_64-freebsd11.0-
cleaning: moxie-rtems4.12-gdb-7.12-x86_64-freebsd11.0-
cleaning: rtems-tools-HEAD-
```

There is no -1 or whatever at the end of the lines.

**Comment 1**

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:27:31 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Fixed but didn't automatically update.

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3047 - Remove docs directory from the RSB**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3047">https://devel.rtems.org/ticket/3047</a> ( <a href="https://devel.rtems.org/ticket/3047">https://devel.rtems.org/ticket/3047</a> )
<b>Id</b>	3047
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 June 2017 00:10:47
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The documentation has been moved to rtems-docs.git repo. Remove the docs directory and asciidocs from RTEMS.

**Comment 1**

1. **Chris Johns**, Thu, 03 Aug 2017 06:08:57 GMT

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?

**Comment 2**

1. **Gedare Bloom**, Thu, 03 Aug 2017 11:58:28 GMT

No issues from me. I think it is time.

**Comment 3**

1. **Chris Johns**, Mon, 07 Aug 2017 00:05:39 GMT
2. **component**: changed from **General** to **RSB**

**Comment 4**

1. **Chris Johns**, Mon, 07 Aug 2017 00:08:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 8b96e17/rtems-source-builder:

```
doc: Remove in source documentation and the asciidoc package
The RSB documentation is now in ReST format and part of the RTEMS Documentation project. See https://docs.rtems.org/.
Remove support for the GPL based asciidoc tool and remove the asciidoc package from the RSB.
Add the Python Markdown package and update the reporter to use Markdown for HTML generation. The resulting HTML report is a single self
contained file.
Closes #3047.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3049 - Warnings in libdebugger**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3049">https://devel.rtems.org/ticket/3049</a> ( <a href="https://devel.rtems.org/ticket/3049">https://devel.rtems.org/ticket/3049</a> )
<b>Id</b>	3049
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 June 2017 14:30:09
<b>Modified</b>	14 October 2018 00:48:28
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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]

```

**Comment 1**

1. **Joel Sherrill**, Wed, 14 Jun 2017 14:30:24 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 3**

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:48:28 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**3052 - RSB: powerpc GDB build broken on Apple Darwin**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3052">https://devel.rtems.org/ticket/3052</a> ( <a href="https://devel.rtems.org/ticket/3052">https://devel.rtems.org/ticket/3052</a> )
<b>Id</b>	3052
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 June 2017 12:37:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

```

RTEMS Tools Project - Source Builder Error Report
Build: error: building powerpc-rtems4.12-gdb-7.12-x86_64-apple-darwin14.5.0-1
Command Line: ./source-builder/sb-set-builder --prefix=/rtems/4.12 4.12/rtems-powerpc
Python: 2.7.10 (default, Jul 14 2015, 19:46:27) [GCC 4.2.1 Compatible Apple LLVM 6.0 (clang-600.0.39)]
git://git.rtems.org/rtems-source-builder.git/origin/cb3fac1ea71f50b1bf7dcfe032c639392915d32a-modified
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_ARM64_T8020
Tail of the build log:
.../gdb-7.12/gdb/common/vec.h:711:18: note: expanded from macro '\
DEF_VEC_FUNC_P'
static inline T *VEC_OP (T,address)
.../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
:151:1: note: expanded from here
VEC_tp_t_address
.../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC tp t_lower_bound' [-Wunused-function]
.../gdb-7.12/gdb/common/vec.h:428:20: note: expanded from macro 'DEF_VEC_P'
VEC_T(T);
.../gdb-7.12/gdb/common/vec.h:717:24: note: expanded from macro '\
DEF_VEC_FUNC_P'
static inline unsigned VEC_OP (T,lower_bound)
.../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
:155:1: note: expanded from here
VEC_tp_t_lower_bound
.../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC tp t_alloc' [-Wunused-function]
.../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)
.../gdb-7.12/gdb/common/vec.h:744:23: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline VEC(T) *VEC_OP (T,alloc)
.../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
:166:1: note: expanded from here
VEC_tp_t_alloc
.../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC tp t_free' [-Wunused-function]
.../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)
.../gdb-7.12/gdb/common/vec.h:751:20: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline void VEC_OP (T,free)
.../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
:170:1: note: expanded from here
VEC_tp_t_free
.../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC tp t_merge' [-Wunused-function]
.../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)
.../gdb-7.12/gdb/common/vec.h:784:23: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline VEC(T) *VEC_OP (T,merge) (VEC(T) *vec1_, VEC(T) *vec2_)
.../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
:187:1: note: expanded from here
VEC_tp_t_merge
.../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC tp t_safe_grow' [-Wunused-function]
.../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)
.../gdb-7.12/gdb/common/vec.h:817:20: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline void VEC_OP (T,safe_grow)
.../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
:205:1: note: expanded from here
VEC_tp_t_safe_grow
.../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC tp t_safe_insert' [-Wunused-function]
.../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)

```



```
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
/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-4.12/include -g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/gdb/config -DLOCALEDIR="" -I/rtems-source-builder/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-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-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
/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-4.12/include -g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/gdb/config -DLOCALEDIR="" -I/rtems-source-builder/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-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-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-run.o -MT compile-object-run.o -MMD -MP -MF .deps/compile-object-run.Tpo ../gdb-7.12/gdb/compile/compile-object-run.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
/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-4.12/include -g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/gdb/config -DLOCALEDIR="" -I/rtems-source-builder/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-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-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-loc2c.o -MT compile-loc2c.o -MMD -MP -MF .deps/compile-loc2c.Tpo ../gdb-7.12/gdb/compile/compile-loc2c.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
/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-4.12/include -g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/gdb/config -DLOCALEDIR="" -I/rtems-source-builder/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-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-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
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
2 warnings generated.
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
/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-4.12/include -g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/gdb/config -DLOCALEDIR="" -I/rtems-source-builder/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-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-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
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
2 warnings generated.
../gdb-7.12/gdb/compile/compile-loc2c.c:733:6: warning: variable 'uoffset' is uninitialized when used here [-Wuninitialized]
    uoffset += dwarf2_per_cu_text_offset (per_cu);
    ^~~~~~
../gdb-7.12/gdb/compile/compile-loc2c.c:671:23: note: initialize the variable 'uoffset' to silence this warning
    uint64_t uoffset, reg;
                ^
                = 0
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
2 warnings generated.
17 warnings generated.
2 warnings generated.
3 warnings generated.
2 warnings generated.
99 warnings generated.
Making init.c
/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-4.12/include -g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/gdb/config -DLOCALEDIR="" -I/rtems-source-builder/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-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-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
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
rm -f gdb
/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-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-4.12/lib \
-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.o tracepoint.o ax-general.o ax-gdb.o remote-fileio.o remote-notif.o ctf.o tracefile.o tracefile.o remote-sim.o cli-dump.o cli-decode.o cli-script.o cli-cmds.o cli-show.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 mi-command.o mi-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.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-methods.o py-event.o py-evtregistry.o py-evt.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-infnread.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 juv-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 psytab.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 obj-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 openc1-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-namespce.o d-namespce.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 gcov.o gdb_vecs.o jit.o progspc.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-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 \
  ../sim/ppc/libsim.a ../readline/libreadline.a ../opcodes/libopcodes.a ../bfd/libbfd.a -L../zlib -lz ../libliberty/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
Undefined symbols for architecture x86_64:
  "_error", referenced from:
    _sim_io_printf_filtered in libsim.a(sim_calls.o)
    _sim_load in libsim.a(sim_calls.o)
    _sim_create_inferior in libsim.a(sim_calls.o)
    _sim_io_read_stdin in libsim.a(sim_calls.o)
    _sim_io_write_stdout in libsim.a(sim_calls.o)
    _sim_io_write_stderr in libsim.a(sim_calls.o)
    _sim_io_flush_stdoutoutput in libsim.a(sim_calls.o)
    ...
(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_or_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_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)
ld: symbol(s) not found for architecture x86_64
clang: error: linker command failed with exit code 1 (use -v to see invocation)
make[2]: *** [gdb] Error 1
make[1]: *** [all-gdb] Error 2
make: *** [all] Error 2
shell cmd failed: /bin/sh -ex /rtems-source-builder/rtems/build/powerpc-rtems4.12-gdb-7.12-x86_64-apple-darwin14.5.0-1/doi
error: building powerpc-rtems4.12-gdb-7.12-x86_64-apple-darwin14.5.0-1

```

### Comment 1

1. **Sebastian Huber**, Fri, 23 Jun 2017 05:33:59 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 21a9010/rtems-source-builder:

```

Fix GDB 7.12 build on Darwin
Close #3052.

```

### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 3054 - gdb 7.12.1 on RSB 4.12 branch fail to build on Archlinux

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3054">https://devel.rtems.org/ticket/3054</a> ( <a href="https://devel.rtems.org/ticket/3054">https://devel.rtems.org/ticket/3054</a> )
<b>Id</b>	3054
<b>Reporter</b>	AndiK
<b>Created</b>	28 June 2017 07:44:58
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Andreas Kölbl <andreas.koelbl@...>
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

#### Attachments:

---

**1 AndiK, Wed, 28 Jun 2017 08:13:10 GMT**

**attach:** set to [rsb-report-arm-rtems4.12-gdb-7.12-x86\\_64-linux-gnu-1.txt](https://devel.rtems.org/ticket/3054/rsb-report-arm-rtems4.12-gdb-7.12-x86_64-linux-gnu-1.txt) ([https://devel.rtems.org/ticket/3054/rsb-report-arm-rtems4.12-gdb-7.12-x86\\_64-linux-gnu-1.txt](https://devel.rtems.org/ticket/3054/rsb-report-arm-rtems4.12-gdb-7.12-x86_64-linux-gnu-1.txt))

---

#### Comment 1

**1. Joel Sherrill, Wed, 28 Jun 2017 16:09:15 GMT**

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.

#### Comment 2

**1. Joel Sherrill, Wed, 28 Jun 2017 16:26:58 GMT**

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.

#### Comment 3

**1. Andreas Kölbl, Mon, 03 Jul 2017 21:59:59 GMT**

**2. owner:** set to **Andreas Kölbl** <[andreas.koelbl@...](mailto:andreas.koelbl@...)>

**3. status:** changed from **new** to **closed**

**4. resolution:** set to **fixed**

In [d413d7e/rtems-source-builder](https://github.com/rtems/rtems-source-builder):

```
Fix GDB build on ArchLinux?

Archlinux provides both, libguile v2.0 and v2.2. GDB states in configuration its compatibility with both versions of libguile which is false. The SCM_port interface of libguile was removed in v2.2 and therefore breaks GDB as a user.

RTEMS does not use libguile and therefore it can be compiled without support.

https://sourceware.org/bugzilla/show\_bug.cgi?id=21104

Close #3054.
```

#### Comment 4

**1. Chris Johns, Wed, 12 Jul 2017 22:33:32 GMT**

**2. milestone:** changed from **4.12.1** to **4.12.0**

#### Comment 5

**1. Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT**

**2. milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **3056 - Add EDF SMP scheduler**



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<b>Link</b>	<a href="https://devel.rtems.org/ticket/3056">https://devel.rtems.org/ticket/3056</a> ( <a href="https://devel.rtems.org/ticket/3056">https://devel.rtems.org/ticket/3056</a> )
<b>Id</b>	3056
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	29 June 2017 09:10:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The current SMP schedulers are all fixed-priority schedulers. Add a job-level fixed priority scheduler (EDF).

#### Comment 1

1. **Sebastian Huber**, Fri, 30 Jun 2017 06:00:40 GMT

In 1dbce41/rtems:

```
smptests: Split smpscheduler03
Split smpscheduler03 to run the tests with only one processor.
Update #3056.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 30 Jun 2017 06:00:53 GMT

In 15dbc71/rtems:

```
score: Add red-black tree node to Scheduler_Node
In SMP configurations, add a red-black tree node to Scheduler_Node to enable an EDF scheduler implementation.
Update #3056.
```

#### Comment 3

1. **Sebastian Huber**, Fri, 30 Jun 2017 06:01:05 GMT

In f3d9f228/rtems:

```
score: Add SMP EDF scheduler
Update #3056.
```

#### Comment 4

1. **Sebastian Huber**, Fri, 30 Jun 2017 06:01:16 GMT

In 74f9db8/rtems:

```
score: Add RTEMS_NO_INLINE
Update #3056.
```

#### Comment 5

1. **Sebastian Huber**, Fri, 30 Jun 2017 06:01:28 GMT

In 7f7a3e8f/rtems:

```
tests: Move busy loop to test support
Update #3056.
```

#### Comment 6

1. **Sebastian Huber**, Fri, 30 Jun 2017 06:01:41 GMT

In 7adf4941/rtems:

```
smptests/smpscheduledf01: New test
Update #3056.
```

#### Comment 7

1. **Sebastian Huber**, Mon, 03 Jul 2017 07:43:13 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 8cf3d75/rtems-docs:

```
c-user: Document EDF SMP
Close #3056.
```

#### Comment 8

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT
2. **component**: changed from **SMP** to **score**

#### Comment 9

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT
2. **component**: changed from **score** to **cpukit**

#### Comment 10

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 3057 - Add a workaround for the LEON3FT store-store errata

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3057">https://devel.rtems.org/ticket/3057</a> ( <a href="https://devel.rtems.org/ticket/3057">https://devel.rtems.org/ticket/3057</a> )
<b>Id</b>	3057
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 July 2017 05:25:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Attachments:

- 
1. **Sebastian Huber**, Mon, 17 Jul 2017 05:51:39 GMT  
**attach**: set to [0001-config-sparc-sparc.opt-mfix-ut700-New-option.patch](https://devel.rtems.org/ticket/3057/0001-config-sparc-sparc.opt-mfix-ut700-New-option.patch) (<https://devel.rtems.org/ticket/3057/0001-config-sparc-sparc.opt-mfix-ut700-New-option.patch>)
- 

#### Comment 1

1. **Sebastian Huber**, Wed, 12 Jul 2017 09:19:20 GMT

Something was added to GCC 7 branch:

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=250121>

Fix is incomplete.

#### Comment 2

1. **Daniel Cederman**, Mon, 17 Jul 2017 05:42:46 GMT

In 2f8704b6/rtems:

sparc: Add assembly workaround for LEON3FT B2BST errata

This patch adds NOP instructions to prevent instruction sequences that are sensitive to the LEON3FT B2BST errata. See GRLIB-TN-0009: "LEON3FT Stale Cache Entry After Store with Data Tag Parity Error" for more information.

The sequences are only modified if `FIX_LEON3FT_B2BST` is defined.

The patch works in conjunction with the `-mfix-ut700`, `-mfix-gr712rc`, and `-mfix-ut699` GCC flags that prevents the sensitive sequences from being generated.

Update #3057.

#### Comment 3

1. **Daniel Cederman**, Mon, 17 Jul 2017 05:45:23 GMT

In 4deba6/rtems:

bsps/sparc: Add leon3 BSP variants

Rename NGMP to GR740 and add configs for UT699, UT700, and GR712RC

The UT699 requires `-mcpu=leon` as it does not support the CAS instruction provided by `-mcpu=leon3`. It also requires `-mfix-ut699` for errata fixes.

UT700 and GR712RC requires the `-mfix-ut700` and `-mfix-gr712rc` flags that have been recently added to GCC's master and 7-branch.

Remove `-msoft-float` from the leon3 config to make the more common case of using the FPU the default.

Update #3057.

#### Comment 4

1. **Sebastian Huber**, Mon, 17 Jul 2017 06:31:35 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In e2952bb/rtems-source-builder:

4.12: Add LEON3FT store-store errata workaround

Close #3057.

#### Comment 5

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT

2. **component**: changed from **GCC** to **tool/gcc**

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 3059 - Add a simple processor affinity support to the EDF SMP scheduler

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/3059">https://devel.rtems.org/ticket/3059</a> ( <a href="https://devel.rtems.org/ticket/3059">https://devel.rtems.org/ticket/3059</a> )
<b>Id</b>	3059
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 July 2017 07:31:27
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:33:00 GMT

In fd03ba4/rtems-source-builder:

```
4.12: Fix and update bitset(9)
Update #3059.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:37:14 GMT

In 3dfe55ee/rtems:

```
score: Use  for Processor_mask

Implement the Processor_mask via . Provide _Processor_mask_To_uint32_t() to enable its use in device specific routines, e.g. interrupt
affinity register in an Interrupt controller.

Update #3059.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:37:27 GMT

In 7a5e4d94/rtems:

```
score: Add processor mask to/from cpu_set_t
Update #3059.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:37:38 GMT

In 6223097a/rtems:

```
score: Add some processor mask functions
Update #3059.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:37:51 GMT

In 7851555/rtems:

```
score: Move processor affinity to Thread_Control
Update #3059.
```

**Comment 6**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:38:03 GMT

In 6b1d8c7/rtems:

score: Add processor set to scheduler context

Replace the simple processor count with the processor set owned by the scheduler instance.

Update #3059.

**Comment 7**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:38:15 GMT

In 1ec9c86/rtems:

rtems: Fix rtems\_scheduler\_remove\_processor()

Account for the thread processor affinity and make sure that it is possible to allocate a processor to each thread dedicated to a scheduler instance.

Update #3059.

**Comment 8**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:38:28 GMT

In 0232b28/rtems:

score: Use processor mask for set affinity

Update #3059.

**Comment 9**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:38:41 GMT

In 76d1198/rtems:

score: Introduce \_SMP\_Get\_online\_processors()

Update #3059.

**Comment 10**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:38:53 GMT

In 16347a6/rtems:

score: Fix default set affinity

The set of online processors must be a subset of the thread processor affinity for the schedulers without arbitrary processor affinity support to avoid problems in case of processor addition and removal.

Update #3059.

**Comment 11**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:39:05 GMT

In 197a614/rtems:

score: Add scheduler node to set affinity op

Update #3059.

**Comment 12**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:39:17 GMT

In e745ec5/rtems:

smptests/smpstrongapa01: Simplify

Update #3059.

**Comment 13**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:39:29 GMT

In d19dc071/rtems:

```
score: Pass scheduler nodes to processor allocator
This allows scheduler implementations to easily access scheduler-specific data.
Update #3059.
```

**Comment 14**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:39:41 GMT

In 34487537/rtems:

```
score: Add simple affinity support to EDF SMP
Update #3059.
```

**Comment 15**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:39:54 GMT

In 4a1bdd30/rtems:

```
score: Fix set scheduler
Ensure that the thread processor affinity fits the new scheduler instance.
Update #3059.
```

**Comment 16**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:40:06 GMT

In 21389c06/rtems:

```
score: Make EDF the default SMP scheduler
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), maintenance of per-processor data (e.g. Universal Memory Allocator (UMA)), etc. use a one-to-one thread processor affinity for example.
Update #3063.
```

**Comment 17**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:49:06 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 9037998/rtems-docs:

```
c-user: Update scheduler/task chapter
Reflect EDF SMP scheduler changes.
Close #3059. Close #3063.
```

**Comment 18**

1. **Sebastian Huber**, Tue, 11 Jul 2017 11:51:47 GMT

In 3b14e7aa/rtems:

```
rtems: Fix warning
Update #3059.
```

**Comment 19**

1. **Sebastian Huber**, Tue, 11 Jul 2017 12:16:24 GMT

In c29eb085/rtems:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

```
bsps/sparc: Fix ambapp_int_set_affinity()  
Update #3059.
```

#### **Comment 20**

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:15:29 GMT

In 8397320/rtems-source-builder:

```
4.12: Fix bitset(9)  
Update #3059.
```

#### **Comment 21**

1. **Sebastian Huber**, Wed, 12 Jul 2017 08:57:27 GMT

In e2623038/rtems:

```
score: Fix typo  
Update #3059.
```

#### **Comment 22**

1. **Sebastian Huber**, Tue, 18 Jul 2017 12:38:53 GMT

In 852d7059/rtems:

```
score: Fix warning  
Update #3059.
```

#### **Comment 23**

1. **Sebastian Huber**, Wed, 19 Jul 2017 11:04:31 GMT

In 96ce1ec/rtems:

```
smptests/smpscheduler02: Remove invalid assert  
Update #3059.
```

#### **Comment 24**

1. **Sebastian Huber**, Fri, 22 Sep 2017 12:24:57 GMT

In 560acb62/rtems:

```
score: Include missing header file  
Update #3059.
```

#### **Comment 25**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:27:10 GMT
2. **component**: changed from **SMP** to **score**

#### **Comment 26**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:29:01 GMT
2. **component**: changed from **score** to **cpukit**

#### **Comment 27**

1. **Sebastian Huber**, Tue, 07 Nov 2017 06:09:28 GMT

In bceb9db6/rtems:

```
score: Remove superfluous include
```

**Comment 28**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3061 - including 'unistd.h' in C++ does not build.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3061">https://devel.rtems.org/ticket/3061</a> ( <a href="https://devel.rtems.org/ticket/3061">https://devel.rtems.org/ticket/3061</a> )
<b>Id</b>	3061
<b>Reporter</b>	Chris Johns
<b>Created</b>	5 July 2017 03:23:03
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Including unistd.h in a C++ program does not compile with the RSB for today:

```
$ /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
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_pthreadtypes.h:24:0,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,
                 from u.cpp:6:
/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*)':
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: error: 'BIT_AND2' was not declared in this scope
  BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: note: suggested alternative: 'BIT_AND'
  BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
  BIT_AND
/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*)':
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: error: 'BIT_OR2' was not declared in this scope
  BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: note: suggested alternative: 'BIT_OR'
  BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
  BIT_OR
/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*)':
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: error: 'BIT_XOR2' was not declared in this scope
  BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: note: suggested alternative: 'BIT_OR'
  BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
  BIT_OR
/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*)':
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: error: 'BIT_NAND2' was not declared in this scope
  BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: note: suggested alternative: 'BIT_NAND'
  BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
  ^~~~~~
  BIT_NAND
In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:46:0,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_pthreadtypes.h:24,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,
                 from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,
                 from u.cpp:6:
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'int CPU_COUNT_S(size_t, const cpu_set_t*)':
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: error: '__bitcount1' was not declared in this scope
  return BIT_COUNT(_cpu_set_bits(setsize), set);
         ^
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: note: suggested alternative: ' count'
```

**Attachments:**

- 1 **Chris Johns**, Wed, 05 Jul 2017 03:23:40 GMT  
attach: set to [u.cpp](https://devel.rtems.org/ticket/3061/u.cpp) (<https://devel.rtems.org/ticket/3061/u.cpp>)

**Comment 1**



1. **Chris Johns**, Wed, 05 Jul 2017 03:24:41 GMT
2. **description**: modified (diff)

**Comment 2**

1. **Chris Johns**, Wed, 05 Jul 2017 03:42:13 GMT

Maybe we need a test for C++ that just includes a number of standard headers.

**Comment 3**

1. **Sebastian Huber**, Wed, 05 Jul 2017 11:46:37 GMT

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).

**Comment 4**

1. **Joel Sherrill**, Wed, 05 Jul 2017 11:56:05 GMT

It may be worth it to duplicate psxhdr for C++

**Comment 5**

1. **Chris Johns**, Thu, 06 Jul 2017 00:08:21 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

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.

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3063 - Make the EDF scheduler the default SMP scheduler**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3063">https://devel.rtems.org/ticket/3063</a> ( <a href="https://devel.rtems.org/ticket/3063">https://devel.rtems.org/ticket/3063</a> )
<b>Id</b>	3063
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 July 2017 13:50:55
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:40:06 GMT

In 21389c06/rtems:

```
score: Make EDF the default SMP scheduler
```

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), maintenance of per-processor data (e.g. Universal Memory Allocator (UMA)), etc. use a one-to-one thread processor affinity for example.

Update #3063.

#### Comment 2

1. **Sebastian Huber**, Mon, 10 Jul 2017 07:49:06 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9037998/rtems-docs:

```
c-user: Update scheduler/task chapter
Reflect EDF SMP scheduler changes.
Close #3059. Close #3063.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 19 Jul 2017 10:59:42 GMT

In 7ad8239/rtems:

```
smptests/smpscheduler01: Use right scheduler
Update #3063.
```

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:25:58 GMT
2. **component:** changed from **SMP** to **config**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### **3069 - Add rtems\_scheduler\_ident\_by\_processor()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3069">https://devel.rtems.org/ticket/3069</a> ( <a href="https://devel.rtems.org/ticket/3069">https://devel.rtems.org/ticket/3069</a> )
<b>Id</b>	3069
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 July 2017 05:25:52
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

```
/**
 * @brief Identifies a scheduler by a processor index.
 *
 * @param[in] cpu_index The processor index.
 * @param[out] id The scheduler identifier associated with the processor index.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
 * @retval RTEMS_INVALID_NAME Invalid processor index.
 * @retval RTEMS_INCORRECT_STATE The processor index is valid, however, this
 * processor is not owned by a scheduler.
 */
```

#### Comment 1

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:01:44 GMT

In 548d65a/rtems:

```
rtems: Add rtems_scheduler_ident_by_processor()
Update #3069.
```

### Comment 2

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:29:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In a31dbcb/rtems-docs:

```
c-user: Document new scheduler ident routines
Close #3069. Close #3070.
```

### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:24:23 GMT
2. **component**: changed from **SMP** to **rtems**

### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 3070 - Add rtems\_scheduler\_ident\_by\_processor\_set()

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3070">https://devel.rtems.org/ticket/3070</a> ( <a href="https://devel.rtems.org/ticket/3070">https://devel.rtems.org/ticket/3070</a> )
<b>Id</b>	3070
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 July 2017 08:12:52
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

```
/**
 * @brief Identifies a scheduler by a processor set.
 *
 * The scheduler is selected according to the highest numbered online processor
 * in the specified processor set.
 *
 * @param[in] cpusetsize Size of the specified processor set buffer in
 * bytes. This value must be positive.
 * @param[out] cpuset The processor set to identify the scheduler.
 * @param[out] id The scheduler identifier associated with the processor set.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
 * @retval RTEMS_INVALID_SIZE Invalid processor set size.
 * @retval RTEMS_INVALID_NAME The processor set contains no online processor.
 * @retval RTEMS_INCORRECT_STATE The processor set is valid, however, the
 * highest numbered online processor in the specified processor set is not
 * owned by a scheduler.
 */
rtems_status_code rtems_scheduler_ident_by_processor_set(
  size_t cpusetsize,
  cpu_set_t *cpuset,
  rtems_id *id
);
```

### Comment 1

1. **Sebastian Huber**, Tue, 11 Jul 2017 08:21:56 GMT

2. **description:** modified (diff)

#### Comment 2

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:01:56 GMT

In ecabd384/rtems:

```
rtems: Add rtems_scheduler_ident_by_processor_set
Update #3070.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:29:10 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In a31dbcb/rtems-docs:

```
c-user: Document new scheduler ident routines
Close #3069. Close #3070.
```

#### Comment 4

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:24:23 GMT
2. **component:** changed from **SMP** to **rtems**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 3071 - Create an interrupt server for every processor in the system

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3071">https://devel.rtems.org/ticket/3071</a> ( <a href="https://devel.rtems.org/ticket/3071">https://devel.rtems.org/ticket/3071</a> )
<b>Id</b>	3071
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 July 2017 05:46:02
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:02:08 GMT

In e7ee719f/rtems:

```
Create one interrupt server per processor
This allows load balancing of interrupt processing in SMP configurations.
Update #3071.
```

#### Comment 2

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:02:20 GMT

In a961e198/rtems:

Add interrupt server suspend/resume

This mechanism can be used to safely move the interrupt server from one scheduler instance to another for example.

Update #3071.

### Comment 3

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:02:31 GMT

In d184140/rtems:

Add interrupt server set affinity

Update #3071.

### Comment 4

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:02:43 GMT

In ccc87c8b/rtems:

Add interrupt server move

Update #3071.

### Comment 5

1. **Sebastian Huber**, Wed, 12 Jul 2017 06:02:56 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In af207fa9/rtems:

Add interrupt vector set/get affinity

Close #3071.

### Comment 6

1. **Sebastian Huber**, Wed, 12 Jul 2017 08:57:38 GMT

In e19da87/rtems:

bsps: Include missing header file

Update #3071.

### Comment 7

1. **Sebastian Huber**, Wed, 19 Jul 2017 12:38:26 GMT

In dcc3ccc/rtems:

bsps: Fix warning

Update #3071.

### Comment 8

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:25:19 GMT
2. **component**: changed from **SMP** to **bsps**

### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3072 - Declaration of global functions in driver source files**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3072">https://devel.rtems.org/ticket/3072</a> ( <a href="https://devel.rtems.org/ticket/3072">https://devel.rtems.org/ticket/3072</a> )
<b>Id</b>	3072
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 July 2017 05:54:31
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Daniel Hellstrom
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

There are declarations of global functions in various driver source files, e.g.

```
c/src/lib/libbsp/sparc/shared/drvmgr/ambapp_bus_glib.c
c/src/lib/libbsp/sparc/shared/drvmgr/ambapp_bus.c
```

The declaration should move to a header file or a static function should be used.

**Comment 1**

1. **Daniel Hellstrom**, Wed, 30 Aug 2017 10:35:52 GMT

Fixed by 8570ad2216fe796390dbe0b0e5bbdf92f02bfad2

**Comment 2**

1. **Daniel Hellstrom**, Wed, 30 Aug 2017 10:36:03 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component**: changed from **bsps** to **arch/sparc**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3076 - Test suite failures due to floating point usage**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3076">https://devel.rtems.org/ticket/3076</a> ( <a href="https://devel.rtems.org/ticket/3076">https://devel.rtems.org/ticket/3076</a> )
<b>Id</b>	3076
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 July 2017 11:24:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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  
 FSBDPART 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  
 MGHITTPD 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  
 TERMIO3 3  
 TERMIO3 4  
 TERMIO3 5  
 TERMIO3 6  
 TERMIO3 7

**Comment 1**

1. **Sebastian Huber**, Tue, 18 Jul 2017 12:25:15 GMT

In 08586e5/rtems:

```

ftpd: Use floating point tasks
Update #3076.

```

**Comment 2**

1. **Sebastian Huber**, Tue, 18 Jul 2017 12:25:28 GMT

In 533ac112/rtems:

```

tests: Use more integer print functions
This avoids an unnecessary use of the floating point unit.
Update #3076.

```

**Comment 3**

1. **Sebastian Huber**, Tue, 18 Jul 2017 12:25:42 GMT

In b682f4cb/rtems:

```

dumpbuf: Simplify rtems_print_buffer()
This avoids an unnecessary use of the floating point unit.
Update #3076.

```

**Comment 4**

1. **Sebastian Huber**, Tue, 18 Jul 2017 12:25:56 GMT

In 07e1780/rtems:

```

tests: Use floating point task

```

These tests directly or indirectly use `fprintf()`, etc. which may use the floating point unit.  
Update #3076.

#### Comment 5

1. **Sebastian Huber**, Wed, 19 Jul 2017 09:57:31 GMT

In 6f46848/rtems:

```
tests: Use floating point task
These tests directly or indirectly use fprintf(), etc. which may use the floating point unit.
Update #3076.
```

#### Comment 6

1. **Joel Sherrill**, Wed, 19 Jul 2017 10:15:26 GMT

Newlib has integer only versions of the `printf()` family. Why aren't we using these in the test to avoid this problem?

#### Comment 7

1. **Sebastian Huber**, Wed, 19 Jul 2017 10:55:10 GMT

We use them in the tests, however, we don't use them in the rest of RTEMS.

#### Comment 8

1. **Sebastian Huber**, Wed, 19 Jul 2017 13:56:09 GMT

In a0271a7/rtems:

```
tests: Use floating point task
These tests directly or indirectly use fprintf(), etc. which may use the floating point unit.
Update #3076.
```

#### Comment 9

1. **Sebastian Huber**, Wed, 19 Jul 2017 13:56:21 GMT

In 0ea7ca9/rtems:

```
sptestests/spcache01: Use standard test IO
Update #3076.
```

#### Comment 10

1. **Sebastian Huber**, Wed, 19 Jul 2017 14:01:33 GMT

In 5f1ae90e/rtems:

```
sptestests/sptls02: Use standard test IO
Update #3076.
```

#### Comment 11

1. **Sebastian Huber**, Thu, 20 Jul 2017 06:28:07 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Test runs on GR740 and AT697F have no more failures due to non floating point tasks.

#### Comment 12

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT
2. **component**: changed from **testing** to **unspecified**

#### Comment 13



1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## **3077 - SPARC: Add lazy floating point context switching**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3077">https://devel.rtems.org/ticket/3077</a> ( <a href="https://devel.rtems.org/ticket/3077">https://devel.rtems.org/ticket/3077</a> )
<b>Id</b>	3077
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 July 2017 12:52:02
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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.

### **Comment 1**

1. **Sebastian Huber**, Tue, 25 Jul 2017 09:44:32 GMT

In b2e1bded/rtems:

```
score: Add optional _CPU_Context_Destroy()
Update #3077.
```

### **Comment 2**

1. **Sebastian Huber**, Tue, 25 Jul 2017 09:44:44 GMT

In a400d06f/rtems:

```
sparc: Rename SPARC_USE_SAFE_FP_SUPPORT
Rename SPARC_USE_SAFE_FP_SUPPORT in SPARC_USE_SYNCHRONOUS_FP_SWITCH. Update comment.
Update #3077.
```

### **Comment 3**

1. **Sebastian Huber**, Tue, 25 Jul 2017 09:44:55 GMT

In 600d88d/rtems:

```
INTERNAL_ERROR_ILLEGAL_USE_OF_FLOATING_POINT_UNIT
Add new fatal error INTERNAL_ERROR_ILLEGAL_USE_OF_FLOATING_POINT_UNIT.
Update #3077.
```

### **Comment 4**

1. **Sebastian Huber**, Tue, 25 Jul 2017 09:45:08 GMT

In 146adb1/rtems:

```
sparc: Add lazy floating point switch
```

The SPARC ABI is a bit special with respect to the floating point context. The complete floating point context is volatile. Thus, from an ABI point of view nothing needs to be saved and restored during a context switch. Instead the floating point context must be saved and restored during interrupt processing. Historically, the deferred floating point switch was used for SPARC and the complete floating point context is saved and restored during a context switch to the new floating point unit owner. This is a bit dangerous since post-switch actions (e.g. signal handlers) and context switch extensions may silently corrupt the floating point context.

The floating point unit is disabled for interrupt handlers. Thus, in case an interrupt handler uses the floating point unit then this will result in a trap (INTERNAL\_ERROR\_ILLEGAL\_USE\_OF\_FLOATING\_POINT\_UNIT).



**Comment 2**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:29:11 GMT
2. **owner**: changed from **Sebastian Huber** to **Chris Johns**
3. **milestone**: changed from **4.10.3** to **4.12.0**

This is a 4.12 problem and related to recent changes in the build system.

**Comment 3**

1. **Chris Johns**, Thu, 12 Oct 2017 05:39:24 GMT
2. **owner**: **Chris Johns** deleted
3. **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.

**Comment 4**

1. **Sebastian Huber**, Thu, 12 Oct 2017 08:52:56 GMT

Thanks, this \_SUBDIR hint was what I needed.

**Comment 5**

1. **Sebastian Huber**, Thu, 12 Oct 2017 08:55:52 GMT

In b3874e1/rtems:

```
ada-tests: Use _SUBDIRS instead of SUBDIRS
Update #3079.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 12 Oct 2017 08:56:07 GMT
2. **owner**: set to **Sebastian Huber <sebastian.huber@...>**
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In ee537ea/rtems:

```
ada-tests: Move to testsuites/ada
This solves a build dependency issue, e.g. building tests before librtmsbsp.a exists.
Close #3079.
```

**Comment 7**

1. **Chris Johns**, Thu, 12 Oct 2017 15:53:17 GMT

Replying to Sebastian Huber:

Thanks, this \_SUBDIR hint was what I needed.

Awesome change. Thank you.

**Comment 8**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3080 - Infinite loop in SPARC rtems\_invalidate\_multiple\_instruction\_lines()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3080">https://devel.rtems.org/ticket/3080</a> ( <a href="https://devel.rtems.org/ticket/3080">https://devel.rtems.org/ticket/3080</a> )
<b>Id</b>	3080
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 July 2017 13:54:07
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

A  
`#define CPU_INSTRUCTION_CACHE_ALIGNMENT 0`  
 is not a good idea in case the default range functions are used.

**Comment 1**

1. **Sebastian Huber**, Wed, 19 Jul 2017 13:56:33 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 7ed8ad0/rtems:

```
bsps/sparc: Fix cache support
Fix infinite loop in rtems_invalidate_multiple_instruction_lines(). Implement this function.
Close #3080.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:53:06 GMT
2. **component**: changed from **bsps** to **arch/sparc**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3082 - Add 64-bit support for PowerPC**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3082">https://devel.rtems.org/ticket/3082</a> ( <a href="https://devel.rtems.org/ticket/3082">https://devel.rtems.org/ticket/3082</a> )
<b>Id</b>	3082
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 July 2017 07:15:45
<b>Modified</b>	25 January 2019 14:40:29
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The QorIQ chips have more than 4GiB of memory available.

**Comment 1**

1. **Sebastian Huber**, Fri, 28 Jul 2017 08:25:37 GMT

GCC support will be available with GCC 7.2:

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=250654>

#### **Comment 2**

1. **Sebastian Huber**, Fri, 28 Jul 2017 08:49:28 GMT

In b615e9b/rtems:

bsp/qoriq: Simplify initialization

Do not flush/invalidate the caches. Instead enable the cache during the low-level initialization and perform an explicit cache flush for the read-only and fast-text sections.

Update #3082. Update #3085.

#### **Comment 3**

1. **Sebastian Huber**, Fri, 28 Jul 2017 08:49:42 GMT

In 0db7c55/rtems:

bsp/qoriq: New BSP names

Due to the FDT support we can now reduce the BSP variants. Use the processor core to define the BSP variants.

Update #3082. Update #3085.

#### **Comment 4**

1. **Sebastian Huber**, Fri, 28 Jul 2017 11:45:15 GMT

In 1ceafe5/rtems-source-builder:

4.12: Update to Binutils 2.29

Update #3082.

#### **Comment 5**

1. **Sebastian Huber**, Fri, 28 Jul 2017 13:40:58 GMT

In 8966e8a/rtems:

bsp/qoriq: Fix pre-processor expansion

Update #3082. Update #3085.

#### **Comment 6**

1. **Sebastian Huber**, Mon, 31 Jul 2017 12:46:02 GMT

In a597984/rtems:

powerpc: Add register defines

Update #3082. Update #3085.

#### **Comment 7**

1. **Sebastian Huber**, Mon, 31 Jul 2017 12:46:18 GMT

In 65ee42c/rtems:

bsp/qoriq: Simplify fatal exceptions

Avoid use of small-data area, since it is not supported in the ELFv2 ABI by GCC.

Update #3082.

#### **Comment 8**

1. **Sebastian Huber**, Mon, 31 Jul 2017 12:46:33 GMT

In b7be9439/rtems:

bsps/powerpc: Do not set output format and arch

There is no need to explicitly set the output format and architecture in the linker script. This enables the usage of this linker script with the ELFv2 ABI (64-bit).

Update #3082.

#### **Comment 9**

1. **Sebastian Huber**, Tue, 01 Aug 2017 09:45:58 GMT

In 23cb9af/rtems:

bsps/powerpc: Rename ppc\_exc\_wrap\_async\_normal

Rename ppc\_exc\_wrap\_async\_normal to ppc\_exc\_interrupt to avoid a bit of obfuscation.

Update #3082.

#### **Comment 10**

1. **Sebastian Huber**, Tue, 01 Aug 2017 09:46:11 GMT

In a8694035/rtems:

bsps/powerpc: Add PPC\_EXC\_INTERRUPT\_FRAME\_SIZE

Use a specific define for the interrupt exception frame size.

Update #3082.

#### **Comment 11**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:49:44 GMT

In 7e3ff84/rtems-source-builder:

4.12: Fix 64-bit PowerPC support of GCC 7.2

Update #3082.

#### **Comment 12**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:51:08 GMT

In 279c540/rtems:

score: Fix format specifier

Update #3082.

#### **Comment 13**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:51:20 GMT

In e062741d/rtems:

dev/i2c: Fix integer type

Update #3082.

#### **Comment 14**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:51:32 GMT

In 93934f88/rtems:

heap: Fix integer types

Update #3082.

#### **Comment 15**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:51:44 GMT

In a8f4fd2/rtems:

smptests: Fix format specifier  
Update #3082.

#### **Comment 16**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:51:57 GMT

In b98e407/rtems:

libchip/ata: Fix integer to/from pointer  
Update #3082.

#### **Comment 17**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:52:10 GMT

In 5e1a831/rtems:

libchip/serial: Fix integer types  
Update #3082.

#### **Comment 18**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:52:22 GMT

In caa12270/rtems:

powerpc: Add register defines  
Update #3082.

#### **Comment 19**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:52:35 GMT

In ea9084de/rtems:

powerpc: ppc\_interrupt\_get\_disable\_mask()  
Fix warning on 64-bit PowerPC.  
Update #3082.

#### **Comment 20**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:52:47 GMT

In 5a9372f/rtems:

powerpc: 64-bit support for CPU\_SIZEOF\_POINTER  
Update #3082.

#### **Comment 21**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:52:59 GMT

In 7837728b/rtems:

powerpc: 64-bit \_CPU\_Context\_Initialize() support  
Update #3082.

#### **Comment 22**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:53:11 GMT

In a6f84b27/rtems:

powerpc: Add 64-bit context/interrupt support

Update #3082.

**Comment 23**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:53:24 GMT

In ec25c6ef/rtems:

bsps: Fix integer to/from pointer

Update #3082.

**Comment 24**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:53:48 GMT

In 241d2f2/rtems:

bsps: Fix integer types in bsp\_fdt\_copy()

Update #3082.

**Comment 25**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:54:00 GMT

In 60d077f/rtems:

bsps/powerpc: Add 64-bit linker sections

Update #3082.

**Comment 26**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:54:12 GMT

In 50382788/rtems:

bsps/powerpc: Add 64-bit SET\_SELF\_CPU\_CONTROL

Update #3082.

**Comment 27**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:54:25 GMT

In d50124d/rtems:

bsps/powerpc: Rename ppc\_exc\_wrap\_async\_normal\_end

Rename ppc\_exc\_wrap\_async\_normal\_end to ppc\_exc\_interrupt\_end to avoid a bit of obfuscation.

Update #3082.

**Comment 28**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:54:37 GMT

In 0e26c19a/rtems:

bsps/powerpc: Add 64-bit CRT init/fini support

Update #3082.

**Comment 29**1. **Sebastian Huber**, Tue, 22 Aug 2017 14:54:50 GMT

In c6994af/rtems:

bsp/qoriq: Use LA to load an address

Add 64-bit support for LA.

Update #3082.



**Comment 30**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:55:03 GMT

In 43cc2b4/rtems:

```
bsp/qoriq: Add basic 64-bit support
Update #3082.
```

**Comment 31**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:55:15 GMT

In 0ae1916b/rtems:

```
bsp/qoriq: Copy FDT later
We need a ready to use TOC section before we can call bsp_fdt_copy().
Update #3082.
```

**Comment 32**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:55:27 GMT

In f14da45/rtems:

```
bsp/qoriq: 64-bit support for spin table
Update #3082.
```

**Comment 33**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:55:40 GMT

In 5f42a0e/rtems:

```
bsp/qoriq: Enable 64-bit mode for exceptions
Update #3082.
```

**Comment 34**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:55:52 GMT

In 77c81016/rtems:

```
bsp/qoriq: 64-bit support for interrupt controller
Update #3082.
```

**Comment 35**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:56:04 GMT

In c8aeb76/rtems:

```
bsp/qoriq: 64-bit MMU support
Update #3082.
```

**Comment 36**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:56:16 GMT

In c693a3a/rtems:

```
powerpc: PPC64_NOP_FOR_LINKER_TOC_POINTER_RESTORE
In 64-bit mode, the linker must have the ability to restore the TOC pointer after an external function call.
Update #3082.
```

**Comment 37**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:56:29 GMT

In 95a4b1f/rtems:

```
bsp/qoriq: Enable > 2GiB memory
Update #3082.
```

#### **Comment 38**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:56:41 GMT

In 695c9c50/rtems:

```
bsp/qoriq: Add qoriq_e6500_64 variant
Update #3082.
```

#### **Comment 39**

1. **Sebastian Huber**, Tue, 22 Aug 2017 14:59:45 GMT

In fd0bcc5/rtems-tools:

```
tester: Add qoriq_e6500_64
Update #3082.
```

#### **Comment 40**

1. **Sebastian Huber**, Tue, 22 Aug 2017 15:02:20 GMT
2. **status**: changed from **assigned** to **accepted**
3. **milestone**: changed from **Indefinite** to **4.12.0**

#### **Comment 41**

1. **Sebastian Huber**, Wed, 23 Aug 2017 07:26:19 GMT

In b6977f7/rtems-docs:

```
cpu-supplement/powerpc: Rewrite
Remove obsolete and duplicated information. Reference the ABI specifications. Add 64-bit caveats.
Update #3082.
```

#### **Comment 42**

1. **Sebastian Huber**, Wed, 23 Aug 2017 09:04:37 GMT

In 34ff390/rtems-libbsd:

```
BUS_SPACE(9): 64-bit support
Update #3082.
```

#### **Comment 43**

1. **Sebastian Huber**, Thu, 24 Aug 2017 06:11:40 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

Works on a T4240 with network stack.

#### **Comment 44**

1. **Sebastian Huber**, Thu, 24 Aug 2017 13:55:28 GMT

In 873ba80/rtems-docs:

```
cpu-supplement: Fix PowerPC TOC limitation
Update #3082.
```

**Comment 45**

1. **Sebastian Huber**, Fri, 25 Aug 2017 08:36:10 GMT

In 3fdea2d/rtems-docs:

```
cpu-supplement: Use literal instead of emphasis
Update #3082.
```

**Comment 46**

1. **Sebastian Huber**, Thu, 28 Sep 2017 11:22:22 GMT

In 910adc3/rtems:

```
bsps: Fix integer to/from pointer warnings
Update #3082.
```

**Comment 47**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:19:48 GMT
2. **component**: changed from **score** to **arch/powerpc**

**Comment 48**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 49**

1. **Sebastian Huber**, Fri, 24 Nov 2017 14:13:31 GMT

In 2e7c3f6/rtems:

```
sptestests/splinkersets01: Fix 64-bit targets
Update #3082.
```

**Comment 50**

1. **Sebastian Huber**, Fri, 24 Nov 2017 14:19:07 GMT

In 54e7b81/rtems:

```
libtests/stringto01: Fix 64-bit targets
Update #3082.
```

**Comment 51**

1. **Sebastian Huber**, Fri, 24 Nov 2017 14:27:25 GMT

In 57f96b9/rtems:

```
libtests/malloctest: Fix 64-bit targets
Update #3082.
```

**Comment 52**

1. **Sebastian Huber**, Mon, 22 Jan 2018 14:24:50 GMT

In 5fb838d/rtems:

```
rfs: Fix for 64-bit targets
The RTEMS_BLKIO_SETBLKSIZE IO control expects an uint32_t parameter and not a size_t which is 64-bits on 64-bit targets.
Update #3082.
```

**Comment 53**

1. **Sebastian Huber**, Tue, 23 Jan 2018 07:00:46 GMT

In 6bb9b3df/rtems:

```
rfs: Fix format warning
Update #3082.
```

**Comment 54**

1. **Sebastian Huber**, Mon, 29 Jan 2018 05:59:40 GMT

In bc96f3b4/rtems:

```
ada: Introduce RTEMS.Size type
Some time ago the Classic API object size related parameters were changed to use size_t. Reflect this in the Ada bindings.
Update #3082.
```

**Comment 55**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:20:01 GMT

In c1c71cd/rtems:

```
sp20: Fix print buffer size
There were two issues:
The buffer size must be divisible by 8 on 64-bit targets It must be large enough to service the begin of start message.
Update #3082.
```

**Comment 56**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:20:13 GMT

In d71d1da/rtems:

```
spsyslock01: Fix object compare
Due to structure internal padding the use of memcmp() may lead to sporadic test failures.
Update #3082.
```

**Comment 57**

1. **Sebastian Huber**, Fri, 25 Jan 2019 14:40:29 GMT

In 81aec18/rtems:

```
bsps/powerpc: Fix 64-bit issues in assembler files
We have to be careful with instructions which operate explicitly on words or doublewords.
Update #3082.
```

---

**3083 - parallel make not working**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3083">https://devel.rtems.org/ticket/3083</a> ( <a href="https://devel.rtems.org/ticket/3083">https://devel.rtems.org/ticket/3083</a> )
<b>Id</b>	3083
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	27 July 2017 23:08:33
<b>Modified</b>	9 April 2018 23:11:56
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

As reported on the mailing list, parallel make on the master is broken.

#### Attachments:

---

##### 1 **Chris Johns, Thu, 16 Nov 2017 22:02:27 GMT**

**attach:** set to [0001-build-Provide-system-level-locking-so-only-one-insta.patch](https://devel.rtems.org/ticket/3083/0001-build-Provide-system-level-locking-so-only-one-insta.patch) (<https://devel.rtems.org/ticket/3083/0001-build-Provide-system-level-locking-so-only-one-insta.patch>)

---

#### Comment 1

1. **Joel Sherrill**, Thu, 27 Jul 2017 23:08:43 GMT
2. **owner:** changed from **chrisj@...** to **Chris Johns**
3. **status:** changed from **new** to **assigned**

#### Comment 2

1. **Chris Johns**, Mon, 07 Aug 2017 23:35:51 GMT
2. **priority:** changed from **normal** to **highest**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Chris Johns**, Mon, 13 Nov 2017 23:40:38 GMT

The list email referenced is <https://lists.rtems.org/pipermail/devel/2017-July/018513.html>

#### Comment 5

1. **Chris Johns**, Tue, 14 Nov 2017 01:56:02 GMT

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.

#### Comment 6

1. **Chris Johns**, Thu, 16 Nov 2017 22:09:52 GMT

Note, make install is broken. I will look at that if this fixes the build issue.

#### Comment 7

1. **Chris Johns**, Mon, 09 Apr 2018 22:52:54 GMT

#### Comment 8

1. **Chris Johns**, Mon, 09 Apr 2018 23:11:56 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

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:

2afb22b7/rtems 900c4073/rtems

---

## 3084 - Makefile recipe override warning has returned

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3084">https://devel.rtems.org/ticket/3084</a> ( <a href="https://devel.rtems.org/ticket/3084">https://devel.rtems.org/ticket/3084</a> )
<b>Id</b>	3084
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	27 July 2017 23:14:42
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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'
```

### Comment 1

1. **Joel Sherrill**, Thu, 27 Jul 2017 23:14:53 GMT
2. **owner:** changed from **chrisj@...** to **Chris Johns**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Joel Sherrill**, Thu, 12 Oct 2017 01:19:16 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 871c23c/rtems:

```
Fix spprofilng01 overriding recipe warning
```

```
Closes #3084.
```

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 3085 - Add hypervisor support for QorIQ BSPs

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3085">https://devel.rtems.org/ticket/3085</a> ( <a href="https://devel.rtems.org/ticket/3085">https://devel.rtems.org/ticket/3085</a> )
<b>Id</b>	3085
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 July 2017 08:08:56
<b>Modified</b>	20 March 2018 06:42:19
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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>

#### Comment 1

1. **Sebastian Huber**, Fri, 28 Jul 2017 08:49:28 GMT

In b615e9b/rtems:

```
bsp/qoriq: Simplify initialization
```

Do not flush/invalidate the caches. Instead enable the cache during the low-level initialization and perform an explicit cache flush for the read-only and fast-text sections.

Update #3082. Update #3085.

#### Comment 2

1. **Sebastian Huber**, Fri, 28 Jul 2017 08:49:42 GMT

In 0db7c55/rtems:

```
bsp/qoriq: New BSP names
```

Due to the FDT support we can now reduce the BSP variants. Use the processor core to define the BSP variants.

Update #3082. Update #3085.

#### Comment 3

1. **Sebastian Huber**, Fri, 28 Jul 2017 13:40:58 GMT

In 8966e8a/rtems:

```
bsp/qoriq: Fix pre-processor expansion
```

Update #3082. Update #3085.

#### Comment 4

1. **Sebastian Huber**, Mon, 31 Jul 2017 12:46:02 GMT

In a597984/rtems:

```
powerpc: Add register defines
```

Update #3082. Update #3085.

#### Comment 5

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:01:28 GMT

In 458179f1/rtems:

```
bsp/qoriq: Remove console stuff from bsp_start()
```

Update #3085.

**Comment 6**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:01:41 GMT

In 20fc4f9/rtems:

```
bsp/qorIQ: Add QORIQ_IS_HYPERVISOR_GUEST
Update #3085.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:01:53 GMT

In 0ce5bfb/rtems:

```
bsp/qorIQ: Do not touch MMU as hypervisor guest
Update #3085.
```

**Comment 8**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:02:05 GMT

In b742de2/rtems:

```
bsp/qorIQ: Boot page translation
Do not mingle with the boot page translation as hypervisor guest.
Update #3085.
```

**Comment 9**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:02:17 GMT

In 0d51c05/rtems:

```
bsp/qorIQ: Import ePAPR hcalls from Linux 4.12
Update #3085.
```

**Comment 10**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:02:30 GMT

In 356b1b85/rtems:

```
bsp/qorIQ: Port ePAPR hcall interface to RTEMS
Update #3085.
```

**Comment 11**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:02:42 GMT

In 134fe56/rtems:

```
bsp/qorIQ: Add byte channel console driver
Update #3085.
```

**Comment 12**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:02:54 GMT

In df62e51/rtems:

```
bsp/qorIQ: Virtual interrupt controller support
Update #3085.
```

**Comment 13**



1. **Sebastian Huber**, Tue, 19 Sep 2017 12:36:04 GMT

In 599e6fbd/rtems:

```
bsps/powerpc: PPC_EXC_CONFIG_USE_FIXED_HANDLER
```

Make PPC\_EXC\_CONFIG\_USE\_FIXED\_HANDLER mandatory for BSPs using ppc\_exc\_interrupt(). Pass exception number to bsp\_interrupt\_dispatch() to allow processing of decremter and doorbell exceptions as hypervisor guest.

Update #3085.

#### **Comment 14**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:36:17 GMT

In fd70e206/rtems:

```
bsp/qoriq: Add early debug output initialization
```

Update #3085.

#### **Comment 15**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:36:29 GMT

In ec28f31/rtems:

```
bsp/qoriq: Add decremter clock driver
```

Update #3085.

#### **Comment 16**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:36:41 GMT

In 44c0114/rtems:

```
bsp/qoriq: Reduce static memory demands
```

Update #3085.

#### **Comment 17**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:36:52 GMT

In 6600882b/rtems:

```
bsp/qoriq: Avoid MAS8 access as hypervisor guest
```

Update #3085.

#### **Comment 18**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:37:04 GMT

In 2720fbf0/rtems:

```
bsp/qoriq: Avoid IVOR38..42 access as hv guest
```

Update #3085.

#### **Comment 19**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:37:15 GMT

In 31540bf/rtems:

```
bsp/qoriq: MMU configuration as hypervisor guest
```

Re-enable MMU configuration as hypervisor guest. Make sure the QORIQ\_TLB1\_ENTRY\_COUNT is set according to the hypervisor configuration.

Update #3085.

#### **Comment 20**

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:37:27 GMT

In f100a58/rtems:

bsp/qoriq: Add hypervisor guest SMP support  
Update #3085.

#### Comment 21

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:42:12 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4c1f442/rtems:

bsp/qoriq: Update README  
Close #3085.

#### Comment 22

1. **Sebastian Huber**, Tue, 19 Sep 2017 12:42:33 GMT
2. **version**: set to **4.12**
3. **milestone**: changed from **Indefinite** to **4.12.0**

#### Comment 23

1. **Sebastian Huber**, Wed, 20 Sep 2017 07:35:46 GMT

In d7ed684/rtems:

bsps/powerpc: Fix PPC\_EXC\_CONFIG\_USE\_FIXED\_HANDLER  
Fix link-time error on BSPs not using PPC\_EXC\_CONFIG\_USE\_FIXED\_HANDLER.  
Update #3085.

#### Comment 24

1. **Sebastian Huber**, Thu, 21 Sep 2017 11:33:28 GMT

In b800f88/rtems:

bsp/t32mppc: PPC\_EXC\_CONFIG\_USE\_FIXED\_HANDLER  
Fix link-time error.  
Update #3085.

#### Comment 25

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:56:19 GMT
2. **component**: changed from **bsps** to **arch/powerpc**

#### Comment 26

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 27

1. **Sebastian Huber**, Mon, 20 Nov 2017 07:51:01 GMT

In 5018894e/rtems:

bsps/powerpc: Fix PPC\_EXC\_CONFIG\_USE\_FIXED\_HANDLER  
For the SPE support we must store the upper half of r3 as well.  
Update #3085.

#### Comment 28

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:38:44 GMT

In 5ce2dfa/rtems:

```
powerpc: Add FSL_EIS_EPR
Update #3085.
```

#### **Comment 29**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:38:55 GMT

In 9ec5ff4e/rtems:

```
bsp/qoriq: Fix hypervisor guest MMU config
Account for DPAA resources defined in the device tree.
Prevent merging of areas with incompatible MAS2.
Update #3085.
```

#### **Comment 30**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:39:07 GMT

In 81eced53/rtems:

```
bsp/qoriq: Fix bsp_fdt_map_intr()
Update #3085.
```

#### **Comment 31**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:39:18 GMT

In 2f54488f/rtems:

```
bsp/qoriq: Fix hypervisor guest IRQ support
Update #3085.
```

#### **Comment 32**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:39:30 GMT

In 44ba969/rtems:

```
bsp/qoriq: Fix hypervisor guest polled console
Update #3085.
```

#### **Comment 33**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:39:42 GMT

In 0df59b7c/rtems:

```
bsp/qoriq: Optional multiprocessing support
Update #3085.
```

#### **Comment 34**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:39:53 GMT

In 2fd684e/rtems:

```
bsp/qoriq: Fix hypervisor guest irq vector max
Update #3085.
```

#### **Comment 35**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:40:05 GMT

In b391fbc6/rtems:

bsp/qoriq: Fix hypervisor guest interrupt init  
Update #3085.

#### **Comment 36**

1. **Sebastian Huber**, Tue, 23 Jan 2018 06:30:46 GMT

In 469fdeb/rtems:

bsp/qoriq: Fix define for optional intercom  
Update #3085.

#### **Comment 37**

1. **Sebastian Huber**, Tue, 20 Mar 2018 06:42:19 GMT

In 5d44981c/rtems:

bsp/qoriq: Fix bsp\_restart()  
Update #3085.

---

### **3087 - RSB rtems-gdb-7.12-1.cfg MD5 value is ERROR**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3087">https://devel.rtems.org/ticket/3087</a> ( <a href="https://devel.rtems.org/ticket/3087">https://devel.rtems.org/ticket/3087</a> )
<b>Id</b>	3087
<b>Reporter</b>	likangbei
<b>Created</b>	2 August 2017 01:41:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	rsb MD5
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

rtems-source-builder\rtems\config\tools\rtems-gdb-7.12-1.cfg  
line 16:%hash md5 gdb-7.12-sis-leon2-leon3.diff "fe29e7daaab3bf70c99cda6925d8c0c5" is error  
"40670e05b7fc3868a405fb43138f3262" is right

TEST on WIN7+MSYS2

My English is bad! Sorry

#### **Comment 1**

1. **Chris Johns**, Mon, 14 Aug 2017 00:59:54 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: set to **4.12.0**

#### **Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### **3088 - shell test in testsuites\samples\fileio many COMMANDs is Lost**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3088">https://devel.rtems.org/ticket/3088</a> ( <a href="https://devel.rtems.org/ticket/3088">https://devel.rtems.org/ticket/3088</a> )
<b>Id</b>	3088
<b>Reporter</b>	likangbei
<b>Created</b>	2 August 2017 02:01:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	shell COMMAND Lost
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```
testsuites\samples\fileio test on atsam BSP
init.c
#define CONFIGURE_SHELL_COMMANDS_INIT
#define CONFIGURE_SHELL_COMMANDS_ALL
```

but when press s -> start shell I only find three COMMANDs help alias time Other COMMANDs is Lost  
I remember that the previous version was normal

Sorry My English is bad

**Comment 1**

1. **Joel Sherrill**, Thu, 03 Aug 2017 03:19:22 GMT

The set of available commands depends on what user you login as. Try root for more commands.

**Comment 2**

1. **Chris Johns**, Mon, 14 Aug 2017 00:58:35 GMT

2. **milestone**: set to **4.12.0**

**Comment 3**

1. **Sebastian Huber**, Thu, 24 Aug 2017 06:44:47 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **fixed**

In 80a13ec4/rtems:

```
samples/fileio: Give command availability hint
Close #3088.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3089 - Inconsistent blocking addressing in RFS**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3089">https://devel.rtems.org/ticket/3089</a> ( <a href="https://devel.rtems.org/ticket/3089">https://devel.rtems.org/ticket/3089</a> )
<b>Id</b>	3089
<b>Reporter</b>	Fan Deng
<b>Created</b>	3 August 2017 04:22:04
<b>Modified</b>	11 April 2018 01:57:45
<b>Owner</b>	Fan Deng
<b>Type</b>	defect
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

Background There are two ways to address a block in RFS:

- Via a single 32bit block number (bno)
- 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

- In `rtems_rfs_group_bitmap_alloc` (`rtems-rfs-group.c`, line 172)

```
bno = gno * group blocks + bit
```

- In `rtems_rfs_group_bitmap_alloc` (`rtems-rfs-group.c`, line 228)

```
bno = gno * group blocks + bit + 1 (via rtems_rfs_group_block() function)
```

- In `rtems_rfs_group_bitmap_free` (`rtems-rfs-group.c`, line 283)

```
bno = gno * group blocks + bit + 1 (RTEMS_RFS_SUPERBLOCK_SIZE)
```

- In `rtems_rfs_group_bitmap_test` (`rtems-rfs-group.c`, line 332)

```
bno = gno * group blocks + bit
```

To summarize, the implementation contains two ways of converting a bno to a (gno, bit) pair:

Either:

```
bno = gno * group blocks + bit
```

Or:

```
bno = gno * group blocks + bit + 1
```

The Fix The RFS implementation should consistently convert a bno to a (gno, bit) pair with:

```
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:

- `rtems-rfs-group.c`: all references to the conversion must be updated to use `RTEMS_RFS_SUPERBLOCK_SIZE` explicitly.
- `rtems_rfs_group_block` converts the pair to bno via:

```
#define rtems_rfs_group_block(g, b) (((g)->base) + (b))
```

`(g)->base` is calculated via `rtems-rfs-format.c` from:

```
#define rtems_rfs_fs_block(fs, grp, blk) \
(((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:

```
/**
 * Number of blocks in the superblock. Yes I know it is a superblock and not
 * superblocks but if for any reason this needs to change it is handled.
 */
#define RTEMS_RFS_SUPERBLOCK_SIZE (1)
```

## Comment 1

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## Comment 2

1. **Chris Johns**, Wed, 11 Apr 2018 01:57:45 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In `9e8df1fe/rtems`:

fstest/fsrfsbitmap01: Update RFS bitmap tests to test fixes.  
Add tests to check the patches for this ticket exist and are fixed.  
Close #3089

---

## **3090 - Add BSP for i.MX 7**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3090">https://devel.rtems.org/ticket/3090</a> ( <a href="https://devel.rtems.org/ticket/3090">https://devel.rtems.org/ticket/3090</a> )
<b>Id</b>	3090
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 August 2017 11:49:50
<b>Modified</b>	8 February 2018 09:01:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

#### **Comment 1**

1. **Sebastian Huber**, Fri, 04 Aug 2017 12:25:39 GMT

In ef04443/rtems:

```
bsps/arm: Add ARMv7-AR Generic Timer support  
Update #3090.
```

#### **Comment 2**

1. **Sebastian Huber**, Fri, 04 Aug 2017 12:25:51 GMT

In ffe7c0e/rtems:

```
bsps/arm: Add ARMv7-AR Generic Timer clock driver  
Update #3090.
```

#### **Comment 3**

1. **Sebastian Huber**, Fri, 04 Aug 2017 12:26:04 GMT

In 694c31f9/rtems:

```
bsp/imx: New BSP  
Update #3090.
```

#### **Comment 4**

1. **Sebastian Huber**, Fri, 04 Aug 2017 12:47:03 GMT

In ca9490c/rtems:

```
bsp/imx: Fix UART interrupt  
Update #3090.
```

#### **Comment 5**

1. **Chris Johns**, Sat, 05 Aug 2017 23:55:35 GMT

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

#### **Comment 6**

1. **Sebastian Huber**, Fri, 22 Sep 2017 12:25:09 GMT

In 8e6a407a/rtems:

```
bsps/arm: Copy FDT only on boot processor
Update #3090.
```

#### **Comment 7**

1. **Sebastian Huber**, Fri, 22 Sep 2017 12:25:20 GMT

In 3ad3849a/rtems:

```
bsp/imx: Add register headers
Update #3090.
```

#### **Comment 8**

1. **Sebastian Huber**, Fri, 22 Sep 2017 12:25:32 GMT

In 29919242/rtems:

```
bsp/imx: Add SMP support
Update #3090.
```

#### **Comment 9**

1. **Sebastian Huber**, Fri, 22 Sep 2017 12:40:45 GMT

In 05f9858f/rtems:

```
bsps: Generalize bsp_fdt_map_intr()
Pass all interrupt cells to bsp_fdt_map_intr() since some platforms use an array to describe an interrupt.
Update #3090.
```

#### **Comment 10**

1. **Sebastian Huber**, Fri, 22 Sep 2017 12:43:09 GMT

In b469163/rtems-libbsd:

```
Generalize bsp_fdt_map_intr()
Update #3090.
```

#### **Comment 11**

1. **Sebastian Huber**, Tue, 26 Sep 2017 05:32:21 GMT

In 4bf2ce31/rtems:

```
bsp/imx: Add register headers
Update #3090.
```

#### **Comment 12**

1. **Sebastian Huber**, Tue, 26 Sep 2017 12:02:03 GMT

In 362e96ab/rtems:

```
bsp/imx: Provide a default console
Update #3090.
```



**Comment 13**

1. **Sebastian Huber**, Wed, 27 Sep 2017 08:59:47 GMT

In 5616983/rtems:

bsp/imx: Add nocache section  
Update #3090.

**Comment 14**

1. **Sebastian Huber**, Wed, 27 Sep 2017 12:56:17 GMT

In 87e1929/rtems-docs:

Mention i.MX 7 SMP support  
Update #3090.

**Comment 15**

1. **Sebastian Huber**, Mon, 02 Oct 2017 11:41:52 GMT

In 7e195e66/rtems:

bsp/imx: Add imx\_get\_irq\_of\_node()  
Update #3090.

**Comment 16**

1. **Sebastian Huber**, Mon, 02 Oct 2017 11:42:04 GMT

In ce28d601/rtems:

bsp/imx: Add imx\_get\_reg\_of\_node()  
Update #3090.

**Comment 17**

1. **Sebastian Huber**, Mon, 02 Oct 2017 11:42:16 GMT

In 9db9024/rtems:

bsp/imx: Fix I2C register header  
Update #3090.

**Comment 18**

1. **Sebastian Huber**, Mon, 02 Oct 2017 11:42:27 GMT

In f043b9b/rtems:

bsp/imx: Add I2C bus driver  
Update #3090.

**Comment 19**

1. **Sebastian Huber**, Fri, 06 Oct 2017 11:02:46 GMT

In b39cda6/rtems:

bsp/imx: Fix I2C registration with path  
Update #3090.

**Comment 20**

1. **Sebastian Huber**, Fri, 06 Oct 2017 11:02:57 GMT

In e316be7/rtems:

```
bsp/imx: Import iomux from FreeBSD
Update #3090.
```

#### **Comment 21**

1. **Sebastian Huber**, Fri, 06 Oct 2017 11:03:09 GMT

In 54380f42/rtems:

```
bsp/imx: Add imx_iomux_configure_pins()
Update #3090.
```

#### **Comment 22**

1. **Sebastian Huber**, Fri, 06 Oct 2017 11:03:20 GMT

In 170df3d/rtems:

```
bsp/imx: Add SPI bus driver
Update #3090.
```

#### **Comment 23**

1. **Sebastian Huber**, Wed, 25 Oct 2017 12:31:19 GMT

In a8a9cf1/rtems-libbsd:

```
ffec: Add checksum offload
Update #3090.
```

#### **Comment 24**

1. **Sebastian Huber**, Thu, 26 Oct 2017 06:44:46 GMT

In 936b597/rtems-libbsd:

```
ffec: Fix comment
Update #3090.
```

#### **Comment 25**

1. **Sebastian Huber**, Thu, 02 Nov 2017 10:26:12 GMT

In c52a968/rtems:

```
bsp/imx: Implement bsp_reset()
Update #3090.
```

#### **Comment 26**

1. **Sebastian Huber**, Thu, 02 Nov 2017 10:26:23 GMT

In 4b055e23/rtems:

```
bsp/imx: Drain console before reset
Update #3090.
```

#### **Comment 27**

1. **Sebastian Huber**, Thu, 02 Nov 2017 12:44:27 GMT

In 4438c4d8/rtems:

bsp/imx: More robust and faster bsp\_reset()  
Update #3090.

**Comment 28**

1. **Sebastian Huber**, Wed, 08 Nov 2017 07:44:56 GMT

In 336fe3b/rtems:

bsp/imx: Better utilize UART transmit FIFO  
Update #3090.

**Comment 29**

1. **Sebastian Huber**, Wed, 08 Nov 2017 07:45:08 GMT

In fdf0e55/rtems:

bsp/imx: Add UART baud change  
Update #3090.

**Comment 30**

1. **Sebastian Huber**, Thu, 09 Nov 2017 08:54:54 GMT

In 6f5cfad/rtems-tools:

Add tester imx7.ini  
Update #3090.

**Comment 31**

1. **Sebastian Huber**, Thu, 08 Feb 2018 09:01:00 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **Indefinite** to **5.1**

**3091 - Core Dump in powerpc-rtems4.12-ld**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3091">https://devel.rtems.org/ticket/3091</a> ( <a href="https://devel.rtems.org/ticket/3091">https://devel.rtems.org/ticket/3091</a> )
<b>Id</b>	3091
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	7 August 2017 23:55:46
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

This appears to have been introduced by the new binutils. Impacts qemuprep and qemuprep-altivec BSPs.

```
gmake[8]: Entering directory `/data/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuprep-rtems/powerpc-rtems4.12/c/qemuprep/lib/libbsp/powerpc/motorola_powerpc/qemu_fakerom'
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 ___
```

**Attachments:**

- 1 **Sebastian Huber**, **Thu, 10 Aug 2017 08:12:52 GMT**

**attach**: set to 0001-Fix-Binutils-2.29-PR21884.patch (<https://devel.rtems.org/ticket/3091/0001-Fix-Binutils-2.29-PR21884.patch>)

**Comment 1**

1. **Joel Sherrill**, Mon, 07 Aug 2017 23:55:58 GMT
2. **owner:** changed from **chrisj@...** to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Tue, 08 Aug 2017 11:44:01 GMT
- Yes, I will have a look at this once GCC 7.2 is out.

**Comment 3**

1. **Sebastian Huber**, Thu, 10 Aug 2017 08:18:26 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 7208ab6/rtems-source-builder:

```
4.12: Fix for Binutils PR21884
See https://sourceware.org/bugzilla/show_bug.cgi?id=21884.
Close #3091.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**3096 - Shell internal commands should be public.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3096">https://devel.rtems.org/ticket/3096</a> ( <a href="https://devel.rtems.org/ticket/3096">https://devel.rtems.org/ticket/3096</a> )
<b>Id</b>	3096
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 August 2017 06:00:41
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	shell
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Sun, 13 Aug 2017 15:45:14 GMT

Hard to argue against. The shell evolved and this is just an artifact. We now have a different opinion. Change it.

**Comment 2**

1. **Chris Johns**, Sun, 13 Aug 2017 23:23:14 GMT

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.

**Comment 3**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Chris Johns**, Tue, 15 Aug 2017 01:38:26 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 2465c01/rtems:

```
libmisc/shell: Make some internal shell functions public.
Add 'rtems_shell_init_environment()' so a user can create the
shell environment without needing to run a shell. Move 'rtems_shell_lookup_topic', 'rtems_shell_can_see_cmd',
and 'rtems_shell_execute_cmd' from the internal interface to
the public interface.
Closes #3096.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### **3098 - Add new RTEMS repos to github.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3098">https://devel.rtems.org/ticket/3098</a> ( <a href="https://devel.rtems.org/ticket/3098">https://devel.rtems.org/ticket/3098</a> )
<b>Id</b>	3098
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 August 2017 00:03:01
<b>Modified</b>	19 October 2018 16:31:13
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	github
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

Please add:

- rtems-docs.git
- rtems-release.git

to our github repos.

#### Comment 1

1. **Chris Johns**, Wed, 23 Aug 2017 22:56:04 GMT
2. **priority**: changed from **normal** to **highest**
3. **severity**: changed from **normal** to **blocker**

This is important for a release.

#### Comment 2

1. **Joel Sherrill**, Wed, 11 Oct 2017 22:41:04 GMT

This ticket is marked as a blocker for 4.12. Please update with a estimate of when this will be completed.

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Chris Johns**, Tue, 06 Feb 2018 00:42:07 GMT

Ping?

**Comment 5**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:33:40 GMT
2. **owner:** changed from **amar@...** to **Amar Takhar**
3. **status:** changed from **new** to **assigned**

**Comment 6**

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:39:58 GMT
- If someone knows how to do this (Gedare, Amar, etc), please address this. It is a blocker.

**Comment 7**

1. **Amar Takhar**, Sun, 14 Oct 2018 20:52:56 GMT
- Okay I can do this.

**Comment 8**

1. **Amar Takhar**, Fri, 19 Oct 2018 16:31:13 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

<https://github.com/RTEMS/rtems-docs> <https://github.com/RTEMS/rtems-release>

---

**3099 - Add RTEMS FDT wrapper and shell command to libmisc**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3099">https://devel.rtems.org/ticket/3099</a> ( <a href="https://devel.rtems.org/ticket/3099">https://devel.rtems.org/ticket/3099</a> )
<b>Id</b>	3099
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 August 2017 03:49:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	FDT FPGA zynq
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Wed, 16 Aug 2017 03:54:57 GMT
2. **status:** changed from **assigned** to **accepted**

**Comment 2**

1. **Chris Johns**, Sun, 20 Aug 2017 01:12:55 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 6b7efdb2/rtems:

```
libmisc/rtems-fdt: Add RTEMS FDT wrapper and shell command to libmisc.
Provide application support for handling FDT blobs in RTEMS. This
is useful when interfacing FPGA fabrics. Provide a shell command to list a blob as well as provide read
and write access to addresses in the FTB.
Closes #3099.
```

**Comment 3**

1. **Chris Johns**, Wed, 23 Aug 2017 23:40:39 GMT

In 602b184f/rtems:

libmisc/rtems-fdt: Add libmisc/rtems-fdt to the cpukit wrapup.

Updates #3099.

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:35:44 GMT
2. **component**: changed from **misc** to **unspecified**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3100 - Add Xilinx AXI I2C driver**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3100">https://devel.rtems.org/ticket/3100</a> ( <a href="https://devel.rtems.org/ticket/3100">https://devel.rtems.org/ticket/3100</a> )
<b>Id</b>	3100
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 August 2017 03:50:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	Xilinx zynq FPGA
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Add a Xilinx AXI I2C driver.

**Comment 1**

1. **Chris Johns**, Wed, 16 Aug 2017 03:55:09 GMT
2. **status**: changed from **assigned** to **accepted**

**Comment 2**

1. **Chris Johns**, Mon, 21 Aug 2017 23:22:15 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

**Comment 3**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:19:24 GMT
2. **component**: changed from **score** to **arch/arm**

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3101 - Add I2C Drivers for LM25066A, TMP112, ADS1113 and ADS1115**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3101">https://devel.rtems.org/ticket/3101</a> ( <a href="https://devel.rtems.org/ticket/3101">https://devel.rtems.org/ticket/3101</a> )
<b>Id</b>	3101
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 August 2017 03:53:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	I2C
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Add drivers for:

- LM25066A
- TMP112
- ADS1113
- ADS1115

#### Comment 1

1. **Chris Johns**, Wed, 16 Aug 2017 03:53:32 GMT
2. **owner**: set to [joel.sherrill@...](#)
3. **component**: changed from **General** to **cpukit**

#### Comment 2

1. **Chris Johns**, Wed, 16 Aug 2017 03:53:44 GMT
2. **owner**: changed from [joel.sherrill@...](#) to **Chris Johns**
3. **status**: changed from **new** to **assigned**

#### Comment 3

1. **Chris Johns**, Wed, 16 Aug 2017 03:55:21 GMT
2. **status**: changed from **assigned** to **accepted**

#### Comment 4

1. **Chris Johns**, Mon, 21 Aug 2017 23:21:46 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3102 - rtems-exeinfo does not decode ARM static constructors.**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3102">https://devel.rtems.org/ticket/3102</a> ( <a href="https://devel.rtems.org/ticket/3102">https://devel.rtems.org/ticket/3102</a> )
<b>Id</b>	3102
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 August 2017 08:09:40
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The sections for ARM are not the same as other architectures.

**Comment 1**

1. **Chris Johns**, Wed, 16 Aug 2017 08:09:52 GMT
2. **status:** changed from **assigned** to **accepted**

**Comment 2**

1. **Chris Johns**, Wed, 16 Aug 2017 08:18:49 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 78bbe4c/rtems-tools:

```
linkers/exe-info Support ARM static constructors.
Note, ARM destructors are registered at runtime and currently not easily found.
Update libiberty to get a newer demangler.
Closes #3102.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**3103 - rtems-tools on CentOS 7 Build Failure**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3103">https://devel.rtems.org/ticket/3103</a> ( <a href="https://devel.rtems.org/ticket/3103">https://devel.rtems.org/ticket/3103</a> )
<b>Id</b>	3103
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	19 August 2017 17:07:50
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 getusage : 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/libelf', '-I./rtemstoolkit/libiberty', '-I./rtemstoolkit/elftoolchain/libelf', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION=4.12', '-DRTEMS_RELEASE=4.12.78b4c1a31d', '-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 '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 '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 '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/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 (DragonFly) defined (HAVE_DECL_BASENAME)

```

```

extern char *basename (const char *) ATTRIBUTE_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

```

=====

The native CentOS 7 has this definition of basename:

```

#ifdef basename
/* Return the file name within directory of FILENAME. We don't

```

```

declare the function if the 'basename' macro is available (defined
in ) 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 ("basename") nonnull ((1));

```

```

#else
extern char *basename (const char *filename) THROW nonnull ((1));
#endif
#endif

```

=====

I think we are getting the C++ prototype from string.h and a conflicting C prototype from libiberty.h

### Comment 1

1. **Chris Johns**, Sun, 20 Aug 2017 07:22:34 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In f2bb439/rtems-tools:

```

rtemstoolkit/libiberty: Fix broken configure detection.

```

The file libiberty.h requires some configure macros to control some parts and these are not provided so the file did not match what was needed. Hard code the result and remove the need for the macros. The related calls are not provided in our libiberty usage and not needed.

```

Closes #3103.

```

### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 3109 - Add RISC-V support

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3109">https://devel.rtems.org/ticket/3109</a> ( <a href="https://devel.rtems.org/ticket/3109">https://devel.rtems.org/ticket/3109</a> )
<b>Id</b>	3109
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 August 2017 05:20:45
<b>Modified</b>	24 August 2018 05:13:10
<b>Owner</b>	Hesham Almatary
<b>Type</b>	enhancement
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Add RISC-V 32-bit tool chain to RSB consisting of Binutils, GCC, Newlib and GDB. Add CPU port and a basic simulator BSP.

#### Comment 1

1. **Sebastian Huber**, Wed, 23 Aug 2017 05:21:49 GMT

In e960835/rtems-source-builder:

```
4.12: Add riscv32 to all
Update #3109.
```

#### Comment 2

1. **Hesham Almatary**, Wed, 25 Oct 2017 23:20:39 GMT
2. **owner**: set to **Hesham Almatary**
3. **status**: changed from **new** to **accepted**

#### Comment 3

1. **Hesham Almatary**, Thu, 26 Oct 2017 05:21:42 GMT
2. **summary**: changed from **Add RISC-V 32-bit support** to **Add RISC-V support**

Account for 64-bit RISC-V

#### Comment 4

1. **Hesham Almatary**, Fri, 27 Oct 2017 05:45:00 GMT

In 5bd4aa6/rtems-source-builder:

```
RSB - Add support for RISC-V RV64 (64-bit) toolchain v2
Update #3109
```

#### Comment 5

1. **Hesham Almatary**, Sat, 28 Oct 2017 07:01:25 GMT

In e274bdf/rtems-source-builder:

```
RSB - RISC-V: Add scripts to build RISC-V's simulator
Update #3109
```

#### Comment 6

1. **Hesham Almatary**, Sat, 28 Oct 2017 07:11:34 GMT

In 35b9c0c/rtems-tools:

```
Tester - RISC-V: Add spike simulator and scripts/bsp for riscv ports
Update #3109
```

**Comment 7**

1. **Hesham Almatary**, Sat, 28 Oct 2017 07:42:52 GMT

In 6d85e05/rtems:

```
bsp: Add new riscv_generic bsp v3
Only runs/tested on simulator/spike. Ticker, hello, capture work proprely Tested via RTEMS Tester, Passed: 525/565 (92%)
Update #3109
```

**Comment 8**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:07:52 GMT

In cf614ec/rtems:

```
riscv32: Add missing preinstall.am
Update #3109.
```

**Comment 9**

1. **Hesham Almatary**, Tue, 31 Oct 2017 23:22:09 GMT

In 8fa827c/rtems:

```
bsp: Make riscv_generic work for both riscv32 and riscv64 - v2
Update #3109
```

**Comment 10**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:19:47 GMT

In 030ce68/rtems:

```
tests: Fix canonical-target-name.m4
Update #3109.
```

**Comment 11**

1. **Sebastian Huber**, Fri, 24 Aug 2018 05:13:10 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**
4. **version**: set to **5**
5. **component**: changed from **unspecified** to **arch/riscv**
6. **milestone**: changed from **Indefinite** to **5.1**

Superseded by #3433, #3452, and #3453.

**3111 - Newlib: Change time\_t and clock\_t integer types to 64-bit**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3111">https://devel.rtems.org/ticket/3111</a> ( <a href="https://devel.rtems.org/ticket/3111">https://devel.rtems.org/ticket/3111</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 06:57:06
<b>Modified</b>	29 January 2018 05:59:28
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

**Comment 1**

1. **Sebastian Huber**, Thu, 24 Aug 2017 07:26:05 GMT
2. **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**

**Comment 2**

1. **Sebastian Huber**, Fri, 25 Aug 2017 12:37:43 GMT

In 4f364ef/rtems-source-builder:

```
4.12: Change clock_t to 64-bit
Update #2135. Update #3111.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

```
4.12: Update to Newlib 2.5.0.20170922
The time_t is now a 64-bit signed integer.
This update includes a patch to introduce the self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

```
Enforce compatible Newlib version
This Newlib check ensures that we have a 64-bit time_t and self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

**Comment 5**

1. **Sebastian Huber**, Fri, 06 Oct 2017 07:43:41 GMT

In 900fda45/rtems:

```
rtems: Fix format warnings
Update #3111.
```

**Comment 6**

1. **Sebastian Huber**, Mon, 09 Oct 2017 05:24:27 GMT

In 6489bcb/rtems:

```
psxtests/psx05: Fix timeout calculation
Update #3111.
```

**Comment 7**

1. **Joel Sherrill**, Thu, 12 Oct 2017 00:17:33 GMT
2. **owner**: changed from **chrisj@...** to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

Sebastian .. is this ready to close or is there something left to do?

**Comment 8**

1. **Sebastian Huber**, Thu, 12 Oct 2017 11:19:49 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

4. **version:** set to **4.12**
5. **component:** changed from **tool** to **tool/newlib**

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 10**

1. **Sebastian Huber**, Mon, 29 Jan 2018 05:59:28 GMT

In d8de6b9/rtems:

```
ada: Fix RTEMS.Time_t
Update #3111.
```

**3112 - POSIX: Make pthread\_mutex\_t self-contained**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3112">https://devel.rtems.org/ticket/3112</a> ( <a href="https://devel.rtems.org/ticket/3112">https://devel.rtems.org/ticket/3112</a> )
<b>Id</b>	3112
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 09:33:35
<b>Modified</b>	22 November 2017 12:51:51
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Change the POSIX mutex into a self-contained object using , e.g.

```
typedef struct {
  struct _Mutex_recursive_Control  _mutex;
  unsigned int                     _flags;
  struct _Scheduler_Control        *_scheduler;
  _uint64_t                        _priority_ceiling;
} pthread_mutex_t;
```

**Comment 1**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:07:02 GMT
2. **status:** changed from **assigned** to **accepted**
3. **milestone:** changed from **Indefinite** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Wed, 27 Sep 2017 10:11:48 GMT

In e460cd00/rtems:

```
score: Rename to _Scheduler_Control
Rename struct Scheduler_Control to _Scheduler_Control to allow its use in standard header files, e.g. .
Update #3112.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 27 Sep 2017 12:57:42 GMT

In e2fe881a/rtems:

```
score: Simplify red-black tree debug support
```

Make the RBTtree\_Node layout independent of RTEMS\_DEBUG (and all other build configuration options). This allows the use of this structure in Newlib.

Update #3112.

#### Comment 4

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

4.12: Update to Newlib 2.5.0.20170922

The time\_t is now a 64-bit signed integer.

This update includes a patch to introduce the self-contained POSIX synchronization objects.

Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### Comment 5

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

Enforce compatible Newlib version

This Newlib check ensures that we have a 64-bit time\_t and self-contained POSIX synchronization objects.

Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### Comment 6

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:37:09 GMT

In de59c065/rtems:

posix: Implement self-contained POSIX mutex

POSIX mutexes are now available in all configurations and no longer depend on --enable-posix.

Update #2514. Update #3112.

#### Comment 7

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:05:48 GMT

In d8f7bdc/rtems-docs:

c-user: Add obsolete configuration options section

Update #2493. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### Comment 8

1. **Sebastian Huber**, Wed, 11 Oct 2017 12:34:32 GMT

2. **component**: changed from **score** to **posix**

#### Comment 9

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:16:16 GMT

2. **status**: changed from **accepted** to **closed**

3. **resolution**: set to **fixed**

In 9c0cefb/rtems:

confdefs: Add warnings for obsolete options

Update #2674. Close #3112. Close #3113. Close #3114. Close #3115. Close #3116.

#### Comment 10

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:53:08 GMT

In 6087f33e/rtems:

tmtests/tmfine01: Add test cases



Update #2674. Update #3112. Update #3113. Update #3114. Update #3115.

#### Comment 11

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 12

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:51:51 GMT

In 7188bd5/rtems-docs:

```
c-user: Remove RTEMS_SYSINIT_POSIX_MUTEX
```

Update #3112.

## 3113 - POSIX: Make pthread\_cond\_t self-contained

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3113">https://devel.rtems.org/ticket/3113</a> ( <a href="https://devel.rtems.org/ticket/3113">https://devel.rtems.org/ticket/3113</a> )
<b>Id</b>	3113
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 09:38:11
<b>Modified</b>	22 November 2017 12:51:42
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Change the POSIX condition variable into a self-contained object using , e.g.

```
typedef struct {
  struct _Condition_Control  _condition;
  pthread_mutex_t           *_mutex;
  clockid_t                 _clock;
} pthread_cond_t;
```

#### Comment 1

1. **Sebastian Huber**, Tue, 12 Sep 2017 06:12:16 GMT

In 62c912e/rtems:

```
posix: Use mutex object itself for condvar
```

We should only use the address used to initialize the mutex object according to POSIX, "2.9.9 Synchronization Object Copies and Alternative Mappings".

```
http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2_chap02.html#tag_15_09_09
```

Update #3113.

#### Comment 2

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:07:02 GMT
2. **status**: changed from **assigned** to **accepted**
3. **milestone**: changed from **Indefinite** to **4.12.0**

#### Comment 3

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

```
4.12: Update to Newlib 2.5.0.20170922
```

The `time_t` is now a 64-bit signed integer.

This update includes a patch to introduce the self-contained POSIX synchronization objects.

Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### Comment 4

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

Enforce compatible Newlib version

This Newlib check ensures that we have a 64-bit `time_t` and self-contained POSIX synchronization objects.

Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### Comment 5

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:36:56 GMT

In 5222488/rtems:

posix: Implement self-contained POSIX condvar

POSIX condition variables are now available in all configurations and no longer depend on `--enable-posix`.

Update #2514. Update #3113.

#### Comment 6

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:05:48 GMT

In d8f7bdc/rtems-docs:

c-user: Add obsolete configuration options section

Update #2493. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### Comment 7

1. **Sebastian Huber**, Wed, 11 Oct 2017 12:34:32 GMT
2. **component**: changed from **score** to **posix**

#### Comment 8

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:16:16 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 9c0cefb/rtems:

confdefs: Add warnings for obsolete options

Update #2674. Close #3112. Close #3113. Close #3114. Close #3115. Close #3116.

#### Comment 9

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:53:08 GMT

In 6087f33e/rtems:

tmtests/tmfine01: Add test cases

Update #2674. Update #3112. Update #3113. Update #3114. Update #3115.

#### Comment 10

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 11

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:51:42 GMT

In 5680ec5/rtems-docs:

```
c-user: RTEMS_SYSINIT_POSIX_CONDITION_VARIABLE
Update #3113.
```

## 3114 - POSIX: Make pthread\_barrier\_t self-contained

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3114">https://devel.rtems.org/ticket/3114</a> ( <a href="https://devel.rtems.org/ticket/3114">https://devel.rtems.org/ticket/3114</a> )
<b>Id</b>	3114
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 09:41:44
<b>Modified</b>	22 November 2017 12:51:59
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Change the POSIX barrier into a self-contained object using , e.g.

```
typedef struct {
  struct Thread_queue_Queue  _queue;
  unsigned int                _flags;
  unsigned int                _count;
} pthread_barrier_t;
```

### Comment 1

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:07:02 GMT
2. **status:** changed from **assigned** to **accepted**
3. **milestone:** changed from **Indefinite** to **4.12.0**

### Comment 2

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

```
4.12: Update to Newlib 2.5.0.20170922
The time_t is now a 64-bit signed integer.
This update includes a patch to introduce the self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

### Comment 3

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

```
Enforce compatible Newlib version
This Newlib check ensures that we have a 64-bit time_t and self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

### Comment 4

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:36:31 GMT

In e67929c/rtems:

```
posix: Implement self-contained POSIX barriers
POSIX barriers are now available in all configurations and no longer depend on --enable-posix.
```

Update #2514. Update #3114.

#### **Comment 5**

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:05:48 GMT

In d8f7bdc/rtems-docs:

c-user: Add obsolete configuration options section

Update #2493. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

#### **Comment 6**

1. **Sebastian Huber**, Wed, 11 Oct 2017 12:34:32 GMT
2. **component**: changed from **score** to **posix**

#### **Comment 7**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:16:16 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 9c0cefb/rtems:

confdefs: Add warnings for obsolete options

Update #2674. Close #3112. Close #3113. Close #3114. Close #3115. Close #3116.

#### **Comment 8**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:53:08 GMT

In 6087f33e/rtems:

tmtests/tmfine01: Add test cases

Update #2674. Update #3112. Update #3113. Update #3114. Update #3115.

#### **Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 10**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:51:59 GMT

In 6c1bf7e/rtems-docs:

c-user: Remove RTEMS\_SYSINIT\_POSIX\_BARRIER

Update #3114.

---

## **3115 - POSIX: Make pthread\_rwlock\_t self-contained**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3115">https://devel.rtems.org/ticket/3115</a> ( <a href="https://devel.rtems.org/ticket/3115">https://devel.rtems.org/ticket/3115</a> )
<b>Id</b>	3115
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 09:44:35
<b>Modified</b>	22 November 2017 12:52:07
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Change the POSIX read-write lock into a self-contained object using , e.g.

```
typedef struct {
  struct _Thread_queue_Queue _queue;
  unsigned int                _flags;
  unsigned int                _readers;
} pthread_rwlock_t;
```

**Comment 1**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:07:02 GMT
2. **status**: changed from **assigned** to **accepted**
3. **milestone**: changed from **Indefinite** to **4.12.0**

**Comment 2**

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

4.12: Update to Newlib 2.5.0.20170922

The time\_t is now a 64-bit signed integer.

This update includes a patch to introduce the self-contained POSIX synchronization objects.

Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

**Comment 3**

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

Enforce compatible Newlib version

This Newlib check ensures that we have a 64-bit time\_t and self-contained POSIX synchronization objects.

Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

**Comment 4**

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:36:43 GMT

In 89fc9345/rtems:

posix: Implement self-contained POSIX rwlocks

POSIX rwlocks are now available in all configurations and no longer depend on --enable-posix.

Update #2514. Update #3115.

**Comment 5**

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:05:48 GMT

In d8f7bdc/rtems-docs:

c-user: Add obsolete configuration options section

Update #2493. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.

**Comment 6**

1. **Sebastian Huber**, Wed, 11 Oct 2017 12:34:32 GMT
2. **component**: changed from **score** to **posix**

**Comment 7**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:16:16 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 9c0cefb/rtems:

```
confdefs: Add warnings for obsolete options
Update #2674. Close #3112. Close #3113. Close #3114. Close #3115. Close #3116.
```

**Comment 8**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:53:08 GMT

In 6087f33e/rtems:

```
tmtests/tmfine01: Add test cases
Update #2674. Update #3112. Update #3113. Update #3114. Update #3115.
```

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 10**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:52:07 GMT

In d1a824f/rtems-docs:

```
c-user: Remove RTEMS_SYSINIT_POSIX_RWLOCK
Update #3115.
```

**3116 - POSIX: Make sem\_t self-contained**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3116">https://devel.rtems.org/ticket/3116</a> ( <a href="https://devel.rtems.org/ticket/3116">https://devel.rtems.org/ticket/3116</a> )
<b>Id</b>	3116
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 09:46:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Change the POSIX semaphore into a self-contained object using , e.g.

```
typedef struct {
  struct _Semaphore_Control _sem;
} sem_t;
```

**Comment 1**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:07:02 GMT
2. **status**: changed from **assigned** to **accepted**
3. **milestone**: changed from **Indefinite** to **4.12.0**

#### Comment 2

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:34:58 GMT

In 76d9db3/rtems-source-builder:

```
4.12: Update to Newlib 2.5.0.20170922
The time_t is now a 64-bit signed integer.
This update includes a patch to introduce the self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

#### Comment 3

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:35:53 GMT

In e46a075/rtems:

```
Enforce compatible Newlib version
This Newlib check ensures that we have a 64-bit time_t and self-contained POSIX synchronization objects.
Update #2514. Update #3111. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:36:18 GMT

In c090db7/rtems:

```
posix: Implement self-contained POSIX semaphores
For semaphore object pointer and object validation see POSIX_SEMAPHORE_VALIDATE_OBJECT().
Destruction or close of a busy semaphore returns an error status. The object is not flushed.
POSIX semaphores are now available in all configurations and no longer depend on --enable-posix.
Update #2514. Update #3116.
```

#### Comment 5

1. **Sebastian Huber**, Mon, 09 Oct 2017 06:05:48 GMT

In d8f7bdc/rtems-docs:

```
c-user: Add obsolete configuration options section
Update #2493. Update #3112. Update #3113. Update #3114. Update #3115. Update #3116.
```

#### Comment 6

1. **Sebastian Huber**, Wed, 11 Oct 2017 12:34:32 GMT
2. **component**: changed from **score** to **posix**

#### Comment 7

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:15:28 GMT

In 64564df/rtems-docs:

```
c-user: CONFIGURE_MAXIMUM_POSIX_SEMAPHORES
This configuration is not obsolete since it is still used for named semaphores.
Update #3116.
```

#### Comment 8

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:16:16 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 9c0cefb/rtems:

```
confdefs: Add warnings for obsolete options
Update #2674. Close #3112. Close #3113. Close #3114. Close #3115. Close #3116.
```

### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

## 3117 - score: Optimize \_Thread\_queue\_Enqueue() timeout handling

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3117">https://devel.rtems.org/ticket/3117</a> ( <a href="https://devel.rtems.org/ticket/3117">https://devel.rtems.org/ticket/3117</a> )
<b>Id</b>	3117
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 August 2017 09:51:38
<b>Modified</b>	22 March 2018 08:06:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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().

### Comment 1

1. **Sebastian Huber**, Thu, 24 Aug 2017 09:52:09 GMT
2. **summary**: changed from `__score: Optimize _Thread_queue_Enqueue()` to `__score: Optimize _Thread_queue_Enqueue() timeout handling__`

### Comment 2

1. **Sebastian Huber**, Mon, 09 Oct 2017 12:18:01 GMT
2. **status**: changed from **assigned** to **accepted**
3. **milestone**: changed from **Indefinite** to **4.12.0**

### Comment 3

1. **Sebastian Huber**, Tue, 17 Oct 2017 06:31:01 GMT

In bf2a53d2/rtems:

```
score: Rename watchdog variants
Rename PER_CPU_WATCHDOG_RELATIVE in PER_CPU_WATCHDOG_MONOTONIC to highlight the corresponding POSIX CLOCK_MONOTONIC.
Rename PER_CPU_WATCHDOG_ABSOLUTE in PER_CPU_WATCHDOG_REALTIME to highlight the corresponding POSIX CLOCK_REALTIME.
Update #3117. Update #3182.
```

### Comment 4

1. **Sebastian Huber**, Tue, 17 Oct 2017 06:31:14 GMT

In 91ce012c/rtems:

```
score: Rename _Watchdog_Per_CPU_insert_monotonic()
Rename _Watchdog_Per_CPU_insert_monotonic() in _Watchdog_Per_CPU_insert_ticks().
Update #3117. Update #3182.
```



**Comment 5**

1. **Sebastian Huber**, Tue, 17 Oct 2017 11:57:07 GMT

In 9a583a9/rtems-libbsd:

```
SLEEPQUEUE(9): Update due to API changes
Update #3117. Update #3182.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:25 GMT

In 02878626/rtems:

```
score: Add _Thread_Add_timeout_ticks()
Replace _Thread_Timer_insert_monotonic() with _Thread_Add_timeout_ticks().
Update #3117. Update #3182.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:37 GMT

In 27cfe7c/rtems:

```
score: Add _Watchdog_Ticks_per_second
This value is frequently used. Avoid the function call overhead and the integer division at run-time.
Update #3117. Update #3182.
```

**Comment 8**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:49 GMT

In e0dc6ef/rtems:

```
rtems: Simplify RTEMS_MILLISECONDS_TO_MICROSECONDS
Remove the cast so that it can be used in C pre-processor directives.
Update #3117. Update #3182.
```

**Comment 9**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:01 GMT

In 381ef5c/rtems:

```
confdefs: Warn about problematic ticks per second
A non-integer clock ticks per second value may lead to inaccurate time format conversions.
Update #3117. Update #3182.
```

**Comment 10**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:13 GMT

In ecef3698/rtems:

```
score: Rename _Watchdog_Ticks_from_*()
Rename _Watchdog_Ticks_from_*() to _Watchdog_Realtime_from_*().
This highlights that these routines are used for the CLOCK_REALTIME watchdogs (in contrast to CLOCK_MONOTONIC).
Update #3117. Update #3182.
```

**Comment 11**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:25 GMT

In adaf5c23/rtems:

```
score: _Watchdog_Is_far_future_realtime_timespec()
```

Update #3117. Update #3182.

#### **Comment 12**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:36 GMT

In d16d07f/rtems:

```
score: Add _Watchdog_Is_valid_interval_timespec()
Update #3117. Update #3182.
```

#### **Comment 13**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:48 GMT

In 7ed377b/rtems:

```
score: _Watchdog_Is_far_future_monotonic_timespec
Update #3117. Update #3182.
```

#### **Comment 14**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:00 GMT

In cea5ff7/rtems:

```
score: Add _Watchdog_Nanoseconds_per_tick
Move it from the configuration to a separate variable.
Update #3117. Update #3182.
```

#### **Comment 15**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:12 GMT

In b13ec80/rtems:

```
score: Add _Watchdog_Monotonic_from_timespec()
Update #3117. Update #3182.
```

#### **Comment 16**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:24 GMT

In 5747962/rtems:

```
score: _Watchdog_Per_CPU_lazy_insert_monotonic()
Update #3117. Update #3182.
```

#### **Comment 17**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:36 GMT

In 6de1f92/rtems:

```
score: Add _Thread_Continue()
Update #3117. Update #3182.
```

#### **Comment 18**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:48 GMT

In 1666ffe5/rtems:

```
score: Rename function threadq support function
Rename _Thread_queue_Context_set_do_nothing_enqueue_callout() into _Thread_queue_Context_set_enqueue_do_nothing_extra(). More
_Thread_queue_Context_set_enqueue_*() functions will follow.
```

**Comment 19**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:23:00 GMT

In c3105894/rtems:

score: Move thread queue timeout handling

Update #3117. Update #3182.

**Comment 20**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:52:31 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

**Comment 21**

1. **Sebastian Huber**, Tue, 24 Oct 2017 10:20:24 GMT

In 2fcf5aa/rtems-libbsd:

rtems-bsd-mutex: Update due to API changes

Update #3117.

**Comment 22**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 23**

1. **Sebastian Huber**, Thu, 22 Mar 2018 07:43:06 GMT

In 3da2f471/rtems:

mpci: Update due to thread queue API changes

Update #3117. Update #3182.

**Comment 24**

1. **Sebastian Huber**, Thu, 22 Mar 2018 08:06:14 GMT

In 7353422f/rtems:

mpci: Fix \_MPCI\_Enqueue\_callout()

Update #3117. Update #3182.

---

**3121 - clock() implementation in Newlib is broken**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3121">https://devel.rtems.org/ticket/3121</a> ( <a href="https://devel.rtems.org/ticket/3121">https://devel.rtems.org/ticket/3121</a> )
<b>Id</b>	3121
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 September 2017 06:15:48
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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()`.

**Comment 1**

1. **Sebastian Huber**, Thu, 07 Sep 2017 05:40:56 GMT

In `bdbf1ffa/rtems`:

```
Implement clock()

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(). Since RTEMS has only one process, the implementation can be simplified.

Update #3121.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 07 Sep 2017 05:43:57 GMT
2. **owner**: changed from `joel.sherrill@...` to **Sebastian Huber**
3. **status**: changed from `new` to `accepted`
4. **milestone**: changed from `Indefinite` to `4.12.0`

**Comment 3**

1. **Sebastian Huber**, Fri, 15 Sep 2017 11:06:07 GMT
2. **status**: changed from `accepted` to `closed`
3. **resolution**: set to `fixed`

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from `4.12.0` to `5.1`

Milestone renamed

---

**3122 - Simplify and unify BSP\_output\_char**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3122">https://devel.rtems.org/ticket/3122</a> ( <a href="https://devel.rtems.org/ticket/3122">https://devel.rtems.org/ticket/3122</a> )
<b>Id</b>	3122
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 September 2017 08:37:58
<b>Modified</b>	12 April 2019 12:38:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The `BSP_output_char` should output a char and not mingle with high level processing, e.g. '\n' to '\r\n' translation. Move this translation to `rtems_putc()`. Remove it from all the `BSP_output_char` implementations.

**Comment 1**

1. **Sebastian Huber**, Fri, 08 Sep 2017 08:38:09 GMT
2. **status:** changed from **assigned** to **accepted**

**Comment 2**

1. **Chris Johns**, Sun, 10 Sep 2017 20:36:44 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Mon, 11 Sep 2017 08:44:16 GMT

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 "\r\n" moves from the lowest level one step up to `rtems_putc()`.

**Comment 4**

1. **Sebastian Huber**, Mon, 11 Sep 2017 08:45:15 GMT

See also:

<https://lists.rtems.org/pipermail/devel/2017-September/018948.html>

**Comment 5**

1. **Sebastian Huber**, Tue, 12 Sep 2017 08:01:16 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 1bc0ad2/rtems:

Simplify and unify `BSP_output_char`

The `BSP_output_char` should output a char and not mingle with high level processing, e.g. '\n' to '\r\n' translation. Move this translation to `rtems_putc()`. Remove it from all the `BSP_output_char` implementations.

Close #3122.

**Comment 6**

1. **Sebastian Huber**, Tue, 12 Sep 2017 09:50:58 GMT

In 2fc32460/rtems:

```
serdbg: Fix warning
Update #3122.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 19 Sep 2017 05:22:01 GMT

In a029230a/rtems:

```
Add "\n" to "\r\n" translation to rtems_putc()
Update #3122.
```

**Comment 8**

1. **Sebastian Huber**, Thu, 28 Sep 2017 11:22:08 GMT

In 610ffd7/rtems:

```
bsp/gen5200: Fix warning
Update #3122.
```

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 10**

1. **Sebastian Huber**, Fri, 12 Apr 2019 12:38:25 GMT

In be50969/rtems:

```
bsp/motorola_powerpc: Fix debug output
Update #3122.
```

**3123 - GDB 8.0.1 is broken on FreeBSD 11**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3123">https://devel.rtems.org/ticket/3123</a> ( <a href="https://devel.rtems.org/ticket/3123">https://devel.rtems.org/ticket/3123</a> )
<b>Id</b>	3123
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 September 2017 12:12:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

I tried to add the patches for 7.11, but this results in:

```

-----
|--- gdb/gnulib/import/stddef.in.h.orig 2016-10-07 23:33:10.529558000 -0700
|+++ gdb/gnulib/import/stddef.in.h      2016-10-07 23:33:23.824676000 -0700
-----
Patching file gdb/gnulib/import/stddef.in.h using Plan A...
Hunk #1 failed at 82.
1 out of 1 hunks failed--saving rejects to gdb/gnulib/import/stddef.in.h.rej

```

**Comment 1****1. Sebastian Huber, Fri, 08 Sep 2017 12:15:33 GMT**

The problem seems to be still in stddef.h:

```

/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
  -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
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/./
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/
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/
include -I/usr/local/include/python2.7 -I/usr/local/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-narrowing -Wformat-
nonliteral -c -o ser-u
nix.o -MT ser-unix.o -MMD -MP -MF .deps/ser-unix.Tpo ../gdb-8.0.1/gdb/ser-unix.c
c++: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
c++: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
c++: warningc++: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
c++: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
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
behavior is deprecated
c++
: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
In file included from ../gdb-8.0.1/gdb/rs6000-tdep.c:20:
In file included from ../gdb-8.0.1/gdb/defs.h:28:
In file included from ../gdb-8.0.1/gdb/common/common-defs.h:52:
In file included from build-gnulib/import/stdio.h:53:
build-gnulib/import/stddef.h:106:3: error: typedef redefinition with different types ('union max_align_t' vs 'long double')
} max_align_t;
^
/usr/include/c++/v1/stddef.h:57:21: note: previous definition is here
typedef long double max_align_t;

```

**Comment 2**

- 1. Joel Sherrill, Thu, 12 Oct 2017 02:49:38 GMT**
- 2. owner:** changed from **joel.sherrill@...** to **Sebastian Huber**
- 3. status:** changed from **new** to **assigned**

**Comment 3**

- 1. Sebastian Huber, Thu, 12 Oct 2017 05:00:35 GMT**
- 2. status:** changed from **assigned** to **closed**
- 3. resolution:** set to **wontfix**

It works with FreeBSD 11.1. This is good enough for me.

**Comment 4**

- 1. Sebastian Huber, Thu, 09 Nov 2017 06:27:14 GMT**
- 2. milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3124 - Ignore pshared attribute for POSIX semaphores**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3124">https://devel.rtems.org/ticket/3124</a> ( <a href="https://devel.rtems.org/ticket/3124">https://devel.rtems.org/ticket/3124</a> )
<b>Id</b>	3124
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 September 2017 13:17:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Since we have only one process, sharing between processes is trivial.

**Comment 1**

1. **Sebastian Huber**, Thu, 14 Sep 2017 05:01:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 18b32d76/rtems:

```
posix: Ignore pshared for semaphores
Since we have only one process, sharing between processes is trivial.
Close #3124.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3125 - Accept PTHREAD\_PROCESS\_SHARED for POSIX mutexes**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3125">https://devel.rtems.org/ticket/3125</a> ( <a href="https://devel.rtems.org/ticket/3125">https://devel.rtems.org/ticket/3125</a> )
<b>Id</b>	3125
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 September 2017 13:38:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Since we have only one process, sharing between processes is trivial.

**Comment 1**

1. **Sebastian Huber**, Fri, 08 Sep 2017 13:42:33 GMT
2. **type**: changed from **defect** to **enhancement**

**Comment 2**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:00:15 GMT
2. **status**: changed from **assigned** to **closed**



3. **resolution:** set to **fixed**

In 3b47ce7/rtems:

```
posix: Allow PTHREAD_PROCESS_SHARED for mutexes
Close #3125.
```

#### Comment 3

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component:** changed from **score** to **posix**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### **3126 - Accept PTHREAD\_PROCESS\_SHARED for POSIX barriers**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3126">https://devel.rtems.org/ticket/3126</a> ( <a href="https://devel.rtems.org/ticket/3126">https://devel.rtems.org/ticket/3126</a> )
<b>Id</b>	3126
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 September 2017 13:42:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

Since we have only one process, sharing between processes is trivial.

#### Comment 1

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:00:27 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8230a329/rtems:

```
posix: Allow PTHREAD_PROCESS_SHARED for barriers
Close #3126.
```

#### Comment 2

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component:** changed from **score** to **posix**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### **3127 - MIPS tool build on Darwin (MacOS) fails.**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3127">https://devel.rtems.org/ticket/3127</a> ( <a href="https://devel.rtems.org/ticket/3127">https://devel.rtems.org/ticket/3127</a> )
<b>Id</b>	3127
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 September 2017 22:58:02
<b>Modified</b>	14 October 2018 00:38:59
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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=66032) [https://gcc.gnu.org/bugzilla/show\\_bug.cgi?id=62097](https://gcc.gnu.org/bugzilla/show_bug.cgi?id=62097)

**Comment 1**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT
2. **component**: changed from **GCC** to **tool/gcc**

**Comment 2**

1. **Joel Sherrill**, Thu, 12 Oct 2017 18:52:53 GMT
2. **summary**: changed from **MIP tool build on Darwin (MacOS) fails.** to **MIPS tool build on Darwin (MacOS) fails.**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 4**

1. **Chris Johns**, Sun, 14 Oct 2018 00:38:59 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Fixed:

<https://lists.rtems.org/pipermail/build/2018-October/001117.html>

---

**3128 - RTEMS Tools corvar does not build on Windows.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3128">https://devel.rtems.org/ticket/3128</a> ( <a href="https://devel.rtems.org/ticket/3128">https://devel.rtems.org/ticket/3128</a> )
<b>Id</b>	3128
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 September 2017 20:29:29
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	RTP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The following error has appeared on Windows:

```
In file included from ../rtemstoolkit/elftoolchain/libelf/gelf.h:34:0,
                 from ../rtemstoolkit/rld-elf-types.h:29,
                 from ../rtemstoolkit/rld.h:72,
                 from ../rtemstoolkit/rld-process.h:31,
                 from ../tester/covoar/ObjdumpProcessor.h:16,
                 from ../tester/covoar/DesiredSymbols.h:18,
                 from ../tester/covoar/app_common.h:6,
                 from ../tester/covoar/app_common.cc:40:
../rtemstoolkit/elftoolchain/libelf/libelf.h:33:23: fatal error: sys/queue.h: No such file or directory
#include
      ^
compilation terminated.
Waf: Leaving directory `D:/opt/rtems/rsb.git/rtems/build/rtH/rtems-tools.git/build'
```

**Comment 1**

1. **Chris Johns**, Sun, 10 Sep 2017 21:15:44 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In cb0677b/rtems-tools:

```
Add Windows includes so the rtemstoolkit builds.
Closes #3128.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3129 - RTEMS Tools covoar build fails on Windows**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3129">https://devel.rtems.org/ticket/3129</a> ( <a href="https://devel.rtems.org/ticket/3129">https://devel.rtems.org/ticket/3129</a> )
<b>Id</b>	3129
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 September 2017 21:21:50
<b>Modified</b>	5 December 2017 14:21:44
<b>Owner</b>	joel
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	RTP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The following warnings and errors are present so the RSB tools do not finish and install:

```
[ 97/150] Compiling linkers/rtems-syms.cpp
[ 98/150] Compiling linkers/rtems-rapper.cpp
[ 99/150] Compiling linkers/rtems-exeinfo.cpp
In file included from ../rtemstoolkit/rld-files.cpp:30:0:
../rtemstoolkit/rld-files.cpp: In destructor 'virtual rld::files::~image::~image()':
../rtemstoolkit/rld.h:111:75: warning: throw will always call terminate() [-Wterminate]
   rld::error (what, std::string (FILE_) + ":" + to_string (LINE_))
   ^
../rtemstoolkit/rld-files.cpp:256:15: note: in expansion of macro 'rld_error_at'
   throw rld_error_at ("references when destructing image");
   ^
../rtemstoolkit/rld.h:111:75: note: in C++11 destructors default to noexcept
   rld::error (what, std::string (FILE_) + ":" + to_string (LINE_))
   ^
../rtemstoolkit/rld-files.cpp:256:15: note: in expansion of macro 'rld_error_at'
   throw rld_error_at ("references when destructing image");
   ^
[100/150] Compiling tester/covovar/app_common.cc
[101/150] Compiling tester/covovar/CoverageFactory.cc
[102/150] Compiling tester/covovar/CoverageMap.cc
[103/150] Compiling tester/covovar/CoverageMapBase.cc
[104/150] Compiling tester/covovar/CoverageRanges.cc
[105/150] Compiling tester/covovar/CoverageReaderBase.cc
[106/150] Compiling tester/covovar/CoverageReaderQEMU.cc
[107/150] Compiling tester/covovar/CoverageReaderRTEMS.cc
[108/150] Compiling tester/covovar/CoverageReaderSkyeye.cc
[109/150] Compiling tester/covovar/CoverageReaderTSIM.cc
[110/150] Compiling tester/covovar/CoverageWriterBase.cc
[111/150] Compiling tester/covovar/CoverageWriterRTEMS.cc
[112/150] Compiling tester/covovar/CoverageWriterSkyeye.cc
[113/150] Compiling tester/covovar/CoverageWriterTSIM.cc
[114/150] Compiling tester/covovar/DesiredSymbols.cc
[115/150] Compiling tester/covovar/ExecutableInfo.cc
[116/150] Compiling tester/covovar/Explanations.cc
[117/150] Compiling tester/covovar/GcovData.cc
[118/150] Compiling tester/covovar/GcovFunctionData.cc
[119/150] Compiling tester/covovar/ObjdumpProcessor.cc
../tester/covovar/DesiredSymbols.cc: In member function 'void Coverage::DesiredSymbols::determineSourceLines(Coverage::CoverageRanges*,
Coverage::ExecutableInfo)':
../tester/covovar/DesiredSymbols.cc:517:36: error: 'realpath' was not declared in this scope
   realpath( inputBuffer, rpath );
   ^
Waf: Leaving directory `D:/opt/rtems/rtems-tools.git/build'
Build failed
-> task in 'ccovovar' failed with exit status 1 (run with -v to display more information)
```

**Comment 1**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 2**

1. **Joel Sherrill**, Tue, 05 Dec 2017 14:21:44 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

This must have been fixed since the ticket was filed. It builds now. There are warnings but that's a different issue.

**3130 - RTEMS Doxygen.in latex output does not build**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3130">https://devel.rtems.org/ticket/3130</a> ( <a href="https://devel.rtems.org/ticket/3130">https://devel.rtems.org/ticket/3130</a> )
<b>Id</b>	3130
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 September 2017 22:01:32
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	doxygen
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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".

**Comment 1**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 2**

1. **Chris Johns**, Thu, 12 Oct 2017 15:49:54 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In addeb53a/rtems:

```
doxygen: Set the Latex generation default to NO.
Closes #3130.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3132 - Add reference counting to file descriptors**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3132">https://devel.rtems.org/ticket/3132</a> ( <a href="https://devel.rtems.org/ticket/3132">https://devel.rtems.org/ticket/3132</a> )
<b>Id</b>	3132
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 September 2017 05:56:39
<b>Modified</b>	15 November 2017 12:25:56
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
int op( int fd, ... )
{
  rtems_libio_t *iop;
  unsigned int  flags;
  if ( (uint32_t) fd >= rtems_libio_number_iops ) {
    rtems_set_errno_and_return_minus_one( EBADF );
  }
  iop = rtems_libio_iop( fd );
  flags = rtems_libio_iop_hold( iop );
  if ( ( flags & LIBIO_FLAGS_OPEN ) == 0 ) {
    rtems_libio_iop_drop( iop );
    rtems_set_errno_and_return_minus_one( EBADF );
  }
  do_op( iop, ... );
  rtems_libio_iop_drop( iop );
  return 0;
}
```

A close() should return -1 with EBUSY in case the file descriptor is referenced. In this case, no close operation will be performed.

**Comment 1**

1. **Sebastian Huber**, Wed, 13 Sep 2017 05:56:49 GMT
2. **status**: changed from **assigned** to **accepted**

**Comment 2**

1. **Sebastian Huber**, Thu, 14 Sep 2017 05:03:35 GMT

In ead1281f/rtems:

bsp/mrm332: Remove dead code

Update #3132.

### Comment 3

1. **Sebastian Huber**, Thu, 14 Sep 2017 06:36:11 GMT
2. **description:** modified (diff)

### Comment 4

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:58:46 GMT

In 7b45202/rtems:

libio: Simplify rtems\_libio\_iop()

Remove the file descriptor validation. This is the job of rtems\_libio\_check\_fd(). Use an inline function instead of a macro.

Update #3132.

### Comment 5

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:58:57 GMT

In 4b759b1/rtems:

libio: Avoid direct use of rtems\_libio\_iops

Update #3132.

### Comment 6

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:59:09 GMT

In 0169e90/rtems:

libio: Do simple parameter checks early

This simplifies error handling later.

Update #3132.

### Comment 7

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:59:20 GMT

In 48dbb6cf/rtems:

libio: Remove rtems\_libio\_check\_permissions()

Remove rtems\_libio\_check\_permissions() and convert single user to rtems\_libio\_check\_permissions\_with\_error().

Update #3132.

### Comment 8

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:59:32 GMT

In ec10d26/rtems:

libio: rtems\_libio\_check\_permissions\_with\_error()

Rename rtems\_libio\_check\_permissions\_with\_error() in rtems\_libio\_check\_permissions().

Update #3132.

### Comment 9

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:59:43 GMT

In 856ede4f/rtems:

libio: Add iop set/clear flags

Update #3132.

**Comment 10**

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:59:56 GMT

In ca90c6c/rtems:

```
libio: Add rtems_libio_iop_flags_initialize()  
Update #3132.
```

**Comment 11**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:00:08 GMT

In e2b1db23/rtems:

```
libio: Add rtems_libio_iop_flags()  
Update #3132.
```

**Comment 12**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:00:20 GMT

In bbcdc302/rtems:

```
libio: Add rtems_libio_iop_is_no_delay()  
Update #3132.
```

**Comment 13**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:00:32 GMT

In a937a5a/rtems:

```
libio: Add rtems_libio_iop_is_readable()  
Update #3132.
```

**Comment 14**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:00:45 GMT

In 3cffd66d/rtems:

```
libio: Add rtems_libio_iop_is_writeable()  
Update #3132.
```

**Comment 15**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:00:57 GMT

In d4c5441/rtems:

```
libio: Add rtems_libio_iop_is_append()  
Update #3132.
```

**Comment 16**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:01:09 GMT

In 9012db8/rtems:

```
libio: LIBIO_GET_IOP() LIBIO_GET_IOP_WITH_ACCESS()  
  
Replace rtems_libio_check_fd(), rtems_libio_iop(), rtems_libio_check_open() and rtems_libio_check_permissions() combinations with new  
LIBIO_GET_IOP() and LIBIO_GET_IOP_WITH_ACCESS() macros.  
Update #3132.
```

**Comment 17**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:01:20 GMT

In 98041b68/rtems:

```
libio: Unify readv() and writev()
Update #3132.
```

#### **Comment 18**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:01:32 GMT

In baef823c/rtems:

```
libio: Add hold/drop iop reference
Check iop reference count in close() and return -1 with errno set to EBUSY in case the file descriptor is still in use.
Update #3132.
```

#### **Comment 19**

1. **Sebastian Huber**, Fri, 15 Sep 2017 10:49:57 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 894c965/rtems-libbsd:

```
Support reference counting for file descriptors
Close #3132.
```

#### **Comment 20**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 21**

1. **Sebastian Huber**, Wed, 15 Nov 2017 12:23:13 GMT

In d4b99ae/rtems:

```
libio: Add assert to rtems_libio_iop_drop()
This assert helps to detect an invalid reference counting in RTEMS_DEBUG configurations.
Update #3132.
```

#### **Comment 22**

1. **Sebastian Huber**, Wed, 15 Nov 2017 12:25:56 GMT

In b03a1c0/rtems-libbsd:

```
Fix file descriptor reference counting in accept()
Update #3132.
```

---

### **3133 - Remove rtems\_libio\_t::driver**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3133">https://devel.rtems.org/ticket/3133</a> ( <a href="https://devel.rtems.org/ticket/3133">https://devel.rtems.org/ticket/3133</a> )
<b>Id</b>	3133
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 September 2017 07:16:36
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove unused rtems\_libio\_t::driver member.

**Comment 1**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:00:02 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 8fa75d3/rtems:

```
libio: Remove rtems_libio_t::driver
This member was apparently unused.
Close #3133.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3134 - Remove LIBIO\_FLAGS\_CREATE**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3134">https://devel.rtems.org/ticket/3134</a> ( <a href="https://devel.rtems.org/ticket/3134">https://devel.rtems.org/ticket/3134</a> )
<b>Id</b>	3134
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 September 2017 08:49:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove unused LIBIO\_FLAGS\_CREATE flag.

**Comment 1**

1. **Sebastian Huber**, Thu, 14 Sep 2017 05:10:53 GMT

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>

**Comment 2**

1. **Sebastian Huber**, Fri, 15 Sep 2017 08:58:34 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 5eb67f3/rtems:

```
libio: Remove LIBIO_FLAGS_CREATE
Close #3134.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3135 - Devel mailing list doesn't work and Git push impossible due to disk full**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3135">https://devel.rtems.org/ticket/3135</a> ( <a href="https://devel.rtems.org/ticket/3135">https://devel.rtems.org/ticket/3135</a> )
<b>Id</b>	3135
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 September 2017 13:42:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	amar@...
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

I got this:

```
git push
Counting objects: 18, done.
Delta compression using up to 12 threads.
Compressing objects: 100% (17/17), done.
Writing objects: 100% (18/18), 1.68 KiB | 0 bytes/s, done.
Total 18 (delta 16), reused 0 (delta 0)
remote: error: file write error (No space left on device)
remote: fatal: unable to write sha1 file
error: remote unpack failed: unpack-objects abnormal exit
To ssh://dispatch.rtems.org/data/git/rtems.git
 ! [remote rejected] upstream -> master (unpacker error)
error: failed to push some refs to 'ssh://sebh@dispatch.rtems.org/data/git/rtems.git'
```

We have on dispatch.rtems.org:

Filesystem	Size	Used	Avail	Capacity	Mounted on
/dev/gpt/root0	88G	82G	-600M	101%	/

**Comment 1**

1. **Amar Takhar**, Wed, 13 Sep 2017 23:14:10 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3136 - Use FIFO for file descriptor free list**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3136">https://devel.rtems.org/ticket/3136</a> ( <a href="https://devel.rtems.org/ticket/3136">https://devel.rtems.org/ticket/3136</a> )
<b>Id</b>	3136
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 September 2017 05:39:25
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 15 Sep 2017 09:01:44 GMT

In ac74162/rtems:

```
libio: Use FIFO for iop free list
Update #3136.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 15 Sep 2017 10:50:09 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3137 - Accept PTHREAD\_PROCESS\_SHARED for POSIX condition variables**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3137">https://devel.rtems.org/ticket/3137</a> ( <a href="https://devel.rtems.org/ticket/3137">https://devel.rtems.org/ticket/3137</a> )
<b>Id</b>	3137
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 September 2017 11:30:59
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Since we have only one process, sharing between processes is trivial.

**Comment 1**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:00:39 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c030edd/rtems:

```
posix: Allow PTHREAD_PROCESS_SHARED for condvar
Close #3137.
```

#### **Comment 2**

1. **Joel Sherrill**, Mon, 18 Sep 2017 05:02:17 GMT

Please check the docs for any impact.

#### **Comment 3**

1. **Sebastian Huber**, Mon, 18 Sep 2017 05:06:08 GMT

I didn't find anything in the documentation.

#### **Comment 4**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

#### **Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### **3139 - Remove old ISR parameter from Clock\_driver\_support\_install\_isr() and make it optional**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3139">https://devel.rtems.org/ticket/3139</a> ( <a href="https://devel.rtems.org/ticket/3139">https://devel.rtems.org/ticket/3139</a> )
<b>Id</b>	3139
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 September 2017 06:02:15
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

The old ISR is not used by the clock driver shell.

#### **Comment 1**

1. **Sebastian Huber**, Mon, 18 Sep 2017 06:30:51 GMT

In f3b29236/rtems:

```
bsps: Clock_driver_support_install_isr()
Remove old ISR parameter since is not used by the clock driver shell. Make an implementation optional.
Update #3139.
```

#### **Comment 2**

1. **Sebastian Huber**, Mon, 18 Sep 2017 06:31:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 27515ec/rtems-docs:

bsp-howto: Clock\_driver\_support\_install\_isr()  
Close #3139.

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 3140 - CPU Kit broken with --enable-rtems-debug

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3140">https://devel.rtems.org/ticket/3140</a> ( <a href="https://devel.rtems.org/ticket/3140">https://devel.rtems.org/ticket/3140</a> )
<b>Id</b>	3140
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 September 2017 22:53:25
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Building with:

```
.../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:

```
gmake[5]: Entering directory '/opt/work/chris/rtems/kernel/bsps/beagleboneblack/arm-rtems4.12/c/beagleboneblack/cpukit/score'
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
In file included from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/semaphore.c:21:0:
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/semaphore.c: In function '_Semaphore Post':
/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'?
    _Assert( sem->count < UINT_MAX );
                        ^
../../../../cpukit/../../../../beagleboneblack/lib/include/rtems/score/assert.h:67:12: note: in definition of macro '_Assert'
    ( ( e ) ? \
      ^
/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
    _Assert( sem->count < UINT_MAX );
                        ^
../../../../cpukit/../../../../beagleboneblack/lib/include/rtems/score/assert.h:67:12: note: in definition of macro '_Assert'
    ( ( e ) ? \
      ^
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:

```
$ /opt/work/rtems/4.12/bin/arm-rtems4.12-gcc --version
arm-rtems4.12-gcc (GCC) 7.2.0 20170814 (RTEMS 4.12, RSB e6d0a8bae6d16eba605370calla5928b797820bb-modified, Newlib 2.5.0.20170818)
```

### Comment 1

1. **Chris Johns**, Mon, 18 Sep 2017 22:55:24 GMT
2. **description**: modified (diff)

### Comment 2

1. **Sebastian Huber**, Tue, 19 Sep 2017 08:57:49 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 9a50e32/rtems:

score: Include missing  
Update #2132. Close #3140.

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3141 - Change the BSP Howto's name to something smaller.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3141">https://devel.rtems.org/ticket/3141</a> ( <a href="https://devel.rtems.org/ticket/3141">https://devel.rtems.org/ticket/3141</a> ),
<b>Id</b>	3141
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 September 2017 23:05:20
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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\_\_

**Comment 1**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:06:29 GMT
2. **component**: changed from **Documentation** to **doc**

**Comment 2**

1. **Joel Sherrill**, Thu, 12 Oct 2017 23:53:55 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c6f8e51/rtems-docs:

Shorten the name of the BSP and Device Driver Development Guide

Old name:

RTEMS BSP and Device Driver Development Guide

This is long and causes problems in the PDF output. This patch changes the name to:

RTEMS BSP and Driver Guide

Closes #3141.

**Comment 3**

1. **Joel Sherrill**, Fri, 13 Oct 2017 00:04:38 GMT

In 13a15f9/rtems-docs:

Shorten BSP and Driver Guide name (missed commit)

Updates #3141.

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3142 - POSIX: Reduce size of pthread\_once\_t and make it zero-initialized**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3142">https://devel.rtems.org/ticket/3142</a> ( <a href="https://devel.rtems.org/ticket/3142">https://devel.rtems.org/ticket/3142</a> )
<b>Id</b>	3142
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 September 2017 11:17:59
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 19 Sep 2017 11:18:05 GMT
2. **status**: changed from **assigned** to **accepted**

**Comment 2**

1. **Sebastian Huber**, Tue, 19 Sep 2017 11:18:34 GMT
2. **summary**: changed from **POSIX: Reduce size of pthread\_once\_t and make it llow zero-initialized** to **POSIX: Reduce size of pthread\_once\_t and make it zero-initialized**

**Comment 3**

1. **Sebastian Huber**, Thu, 05 Oct 2017 12:36:06 GMT

In 47b1e31/rtems:

```
posix: Optimize pthread_once_t
Reduce size of pthread_once_t and make it zero-initialized.
Update #3142.
```

**Comment 4**

1. **Sebastian Huber**, Fri, 06 Oct 2017 12:48:57 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

Fixed with latest RSB.

**Comment 5**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 3148 - PSXRDWRV Test failure on Beaglebone Black

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3148">https://devel.rtems.org/ticket/3148</a> ( <a href="https://devel.rtems.org/ticket/3148">https://devel.rtems.org/ticket/3148</a> )
<b>Id</b>	3148
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 September 2017 06:44:13
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	joel.sherrill@...
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	Beaglebone
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Running rtems-test with a recent u-boot and a current master this failure is reported:

```

] RTEMS Beagleboard: am335x-based
]
]
] *** BEGIN OF TEST PSXRDWRV ***
] writev bad file descriptor -- EBADF
] writev error 1: 22=Invalid argument
] Error during error test!!!!

```

### Comment 1

1. **Joel Sherrill**, Thu, 21 Sep 2017 15:15:38 GMT

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

### Comment 2

1. **Joel Sherrill**, Thu, 21 Sep 2017 15:17:28 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

In 714cb06/rtems:

```

psxrdwrv/test.c: Clear iovec to ensure consistent results
closes #3148.

```

### Comment 3

1. **Sebastian Huber**, Thu, 05 Oct 2017 08:30:10 GMT
2. **milestone**: changed from **Indefinite** to **4.12.0**

### Comment 4

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 3152 - Beaglebone Black crashes on u-boot master build.



<b>Link</b>	<a href="https://devel.rtems.org/ticket/3152">https://devel.rtems.org/ticket/3152</a> ( <a href="https://devel.rtems.org/ticket/3152">https://devel.rtems.org/ticket/3152</a> )
<b>Id</b>	3152
<b>Reporter</b>	Chris Johns
<b>Created</b>	22 September 2017 05:27:55
<b>Modified</b>	14 October 2018 00:42:04
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	Beaglebone u-boot
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

The crash with a Linux type image and no FDT is:

```

] ## Booting kernel from Legacy Image at 82000000 ...
] Image Name: RTEMS
] Image Type: ARM Linux Kernel Image (gzip compressed)
] Data Size: 60886 Bytes = 59.5 KiB
] Load Address: 80000000
] Entry Point: 80000000
] Verifying Checksum ... OK
] Uncompressing Kernel Image ... OK
]
] Starting kernel ...
]
] data abort
]
] MAYBE you should read doc/README.arm-unaligned-accesses
]
] pc : [<8000010c>] lr : [<800000ac>]
] sp : 80101000 ip : 0000000c fp : 9f35ac28
] r10: 9f3ad0f4 r9 : 00000000 r8 : 9f238f40
] r7 : 00000000 r6 : 80000100 r5 : 00000e05 r4 : 60000193
] r3 : 9f238fe0 r2 : 80000100 r1 : 00000e05 r0 : 60000193
] Flags: nzcvc IRQs off FIQs on Mode SVC_32
] Resetting CPU ...

```

and the code is:

```

BSP_START_TEXT_SECTION void bsp_start_hook_0(void)
{
}
80000104: e12fff1e bx lr
80000108:
BSP_START_TEXT_SECTION static inline arm_a8core_start_set_vector_base(void)
{
/*
 * Do not use bsp_vector_table_begin == 0, since this will get optimized away.
 */
if (bsp_vector_table_end != bsp_vector_table_size) {
80000108: e3002040 movw r2, #64 ; 0x40
8000010c: e3003040 movw r3, #64 ; 0x40
80000110: e3482000 movt r2, #32768 ; 0x8000
80000114: e3403000 movt r3, #0
80000118: e1520003 cmp r2, r3

```

## Comment 1

1. **Chris Johns**, Fri, 22 Sep 2017 08:12:37 GMT

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

## Comment 2

1. **Chris Johns**, Mon, 25 Sep 2017 03:45:39 GMT

The SD card requires you position the SPL (MLO) and u-boot image in specific locations to boot:

```

dd if=MLO of=sdcard.img count=1 seek=1 conv=notrunc bs=128k
dd if=u-boot.img of=sdcard.img count=2 seek=1 conv=notrunc bs=384k

```

The SD card can be formatted with anything.

## Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:54:12 GMT

2. **component**: changed from **bsps** to **arch/arm**

## Comment 4

1. **Joel Sherrill**, Wed, 11 Oct 2017 23:11:19 GMT

2. **owner**: changed from **joel.sherrill@...** to **Chris Johns**

3. **status**: changed from **new** to **assigned**

4. **summary**: changed from **Beaglebone Black crashes on u-boot master build.** to **Beaglebone Black crashes on u-boot master build.**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 6**

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:42:04 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

There is a work around. If broken again, someone can reopen or file a new ticket.

**3153 - Accept PTHREAD\_PROCESS\_SHARED for POSIX rwlocks**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3153">https://devel.rtems.org/ticket/3153</a> ( <a href="https://devel.rtems.org/ticket/3153">https://devel.rtems.org/ticket/3153</a> )
<b>Id</b>	3153
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	22 September 2017 06:13:58
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Since we have only one process, sharing between processes is trivial.

**Comment 1**

1. **Sebastian Huber**, Fri, 22 Sep 2017 06:46:59 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In bdc468a/rtems:

```
posix: Allow PTHREAD_PROCESS_SHARED for rwlocks
Close #3153.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3157 - PowerPC tools don't build on 32-bit hosts**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3157">https://devel.rtems.org/ticket/3157</a> ( <a href="https://devel.rtems.org/ticket/3157">https://devel.rtems.org/ticket/3157</a> )
<b>Id</b>	3157
<b>Reporter</b>	Jeff Mayes
<b>Created</b>	29 September 2017 20:31:32
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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 conftest.c >&5
```

Assembler messages:

Fatal error: -a64 unsupported

configure:3688: \$? = 1

configure: failed program was:

```
/* confdefs.h */
#define PACKAGE_NAME "GNU C Runtime 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

### Comment 1

1. **Jeff Mayes**, Fri, 29 Sep 2017 20:32:06 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Joel Sherrill**, Fri, 29 Sep 2017 20:55:48 GMT
2. **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.

### Comment 3

1. **Sebastian Huber**, Sat, 30 Sep 2017 07:20:20 GMT

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.

### Comment 4

1. **Sebastian Huber**, Sat, 30 Sep 2017 07:25:02 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **duplicate**

Duplicate of #2540.

### Comment 5

1. **Jeff Mayes**, Wed, 04 Oct 2017 19:48:34 GMT

2. **status:** changed from closed to reopened
3. **resolution:** duplicate deleted

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

## Comment 6

1. **Jeff Mayes**, Wed, 04 Oct 2017 19:55:52 GMT

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?

```
+ /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
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
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
Target: powerpc-rtems4.12
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-libstdc++-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_1
5,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,ucs_4_internal,ucs_4be,ucs_4le,us_ascii,utf_16,utf_16be,utf_16le,utf_8,win_1250,win_1251,win_12
52,win_1253,win_1254,win_1255,win_1256,win_1257,win_1258 --enable-threads --disable-languages=c,c++
Thread model: rtems
gcc version 7.2.0 20170814 (RTEMS 4.12, RSB 55f2d69e9b67cde23d61375fa34ef5b0f04a985d, Newlib 2.5.0.20170818) (GCC)
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'
'/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/.gcc/ccl.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
GNU C11 (GCC) version 7.2.0 20170814 (RTEMS 4.12, RSB 55f2d69e9b67cde23d61375fa34ef5b0f04a985d, Newlib 2.5.0.20170818) (powerpc-
rtems4.12)
  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
GGC heuristics: --param ggc-min-expand=100 --param ggc-min-heapsize=131072
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"
ignoring nonexistent directory "/desk/rtems/powerpc/powerpc-rtems4.12/include"
ignoring nonexistent directory "/desk/rtems/powerpc/powerpc-rtems4.12/sys-include"
#include "... search starts here:"
#include <...> search starts here:"
/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
/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
/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
End of search list.
GNU C11 (GCC) version 7.2.0 20170814 (RTEMS 4.12, RSB 55f2d69e9b67cde23d61375fa34ef5b0f04a985d, Newlib 2.5.0.20170818) (powerpc-
rtems4.12)
  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
GGC heuristics: --param ggc-min-expand=100 --param ggc-min-heapsize=131072
Compiler executable checksum: c400f821a881560be7012bb91d375b83
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'
'/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
GNU assembler version 2.29 (powerpc-rtems4.12) using BFD version (GNU Binutils) 2.29
Assembler messages:
Fatal error: -a64 unsupported
```

## Comment 7

1. **Chris Johns**, Wed, 04 Oct 2017 23:45:27 GMT

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.

## Comment 8

1. **Sebastian Huber**, Thu, 05 Oct 2017 06:53:10 GMT

The BFD configuration is in Binutils bfd/config.bfd:

```
powerpc-*bsd* | powerpc-*elf* | powerpc-*sysv4* | powerpc-*eabi* | \
powerpc-*solaris2* | powerpc-*linux-* | powerpc-*rtems* | \
powerpc-*chorus*)
  targ_defvec=powerpc_elf32_vec
  targ_selvecs="rs6000_xcoff_vec powerpc_elf32_le_vec powerpc_boot_vec"
  targ64_selvecs="powerpc_elf64_vec powerpc_elf64_le_vec"
;
```

Looks like some Cygwin-specific build problem to me.

#### Comment 9

1. **Jeff Mayes**, Tue, 10 Oct 2017 22:53:01 GMT

With Joel's help, I got it to build today. Here are the changes we made:

```
jeff@Win7-VM /opt/rtems-tools/rsb/rtems
$ git diff config/tools/rtems-binutils-2.29-1.cfg
diff --git a/rtems/config/tools/rtems-binutils-2.29-1.cfg b/rtems/config/tools/rtems-binutils-2.29-1.cfg
index 6941ebb..87580f8 100644
--- a/rtems/config/tools/rtems-binutils-2.29-1.cfg
+++ b/rtems/config/tools/rtems-binutils-2.29-1.cfg
@@ -20,6 +20,11 @@
 #define with_deterministic_archives 1
+# Enable 64-bit BFD support
+#
+%define with_64_bit_bfd 1
+
+# The binutils build instructions. We use 2.xx Release 1.
+#
#include %{_configdir}/binutils-2-1.cfg
jeff@Win7-VM /opt/rtems-tools/rsb/rtems
$ git diff ../source-builder/config/binutils-2-1.cfg
diff --git a/source-builder/config/binutils-2-1.cfg b/source-builder/config/binutils-2-1.cfg
index 539f076..0b4101d 100644
--- a/source-builder/config/binutils-2-1.cfg
+++ b/source-builder/config/binutils-2-1.cfg
@@ -70,6 +70,7 @@ BuildRoot: %{_tmppath}/%{name}-root-%{__id_u} -n
  --target=%{_target} \
  --verbose --disable-nls \
  %{?with_deterministic_archives:--enable-deterministic-archives} \
+  %{?with_64_bit_bfd:--enable-64-bit-bfd} \
  %{?with_gold:--enable-gold=yes} \
  %{?with_lto:--enable-lto --enable-lto} \
  --without-included-gettext \
```

#### Comment 10

1. **Chris Johns**, Wed, 11 Oct 2017 10:21:20 GMT

Please correct the ticket and:

Assign ownership to Joel. Set a milestone Add binutils PowerPC 64bit to the tags

Thanks

What hosts have you tested?

#### Comment 11

1. **Joel Sherrill**, Wed, 11 Oct 2017 10:33:42 GMT

2. **owner:** changed from **Sebastian Huber** to **Joel Sherrill**

3. **status:** changed from **reopened** to **assigned**

4. **milestone:** set to **4.12.0**

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.

#### Comment 12

1. **Chris Johns**, Wed, 11 Oct 2017 11:32:44 GMT

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.

#### Comment 13

1. **Joel Sherrill**, Wed, 11 Oct 2017 12:13:05 GMT

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.

#### Comment 14

1. **Jeff Mayes**, Wed, 11 Oct 2017 20:24:31 GMT

Just tested aarch64 and sparc64 with the fixed files, and they both build just fine.

**Comment 15**

1. **Joel Sherrill**, Wed, 11 Oct 2017 23:57:25 GMT
2. **summary:** changed from **PowerPC tools don't build** to **PowerPC tools don't build on 32-bit hosts**

**Comment 16**

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:18:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c4b6bf0/rtems-source-builder:

```
Enable 64-bit BFD support. Needed on 32bit hosts
Closes #3157.
```

**Comment 17**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3158 - Examples v2 does not build**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3158">https://devel.rtems.org/ticket/3158</a> ( <a href="https://devel.rtems.org/ticket/3158">https://devel.rtems.org/ticket/3158</a> )
<b>Id</b>	3158
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 October 2017 00:20:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	examples
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Updating waf breaks the rootfs. Add rootfs support to rtems-waf.git.

**Comment 1**

1. **Chris Johns**, Mon, 02 Oct 2017 00:13:35 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

**Comment 2**

1. **Joel Sherrill**, Fri, 06 Oct 2017 19:41:46 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

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 "./wak -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
```

```
#include "FilesystemImage?.h"
```

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.

### Comment 3

1. **Chris Johns**, Fri, 06 Oct 2017 21:57:35 GMT

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: FilesystemImage?.h: No such file or directory
```

```
#include "FilesystemImage?.h"
```

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.

### Comment 4

1. **Joel Sherrill**, Fri, 06 Oct 2017 22:04:09 GMT

Awesome! Any other tests which look easy to fix?

### Comment 5

1. **Sebastian Huber**, Thu, 12 Oct 2017 11:03:38 GMT

In 4b907ce/examples-v2:

Fix configuration warnings

Update #3158.

### Comment 6

1. **Sebastian Huber**, Thu, 12 Oct 2017 11:07:34 GMT

In 7a8df0d/examples-v2:

Fix warnings

Update #3158.

### Comment 7

1. **Sebastian Huber**, Thu, 12 Oct 2017 11:12:24 GMT

The following errors are left:

```
Waf: Entering directory `build/arm-rtems4.12-xilinx_zynq_a9_qemu'
[ 29/115] Compiling 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
[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
#include "FilesystemImage.h"
~~~~~
compilation terminated.
librtemscpu.a(default-configuration.o): In function `__getreent':
confdefs.h:2342: multiple definition of `__getreent'
Waf: Leaving directory `build/arm-rtems4.12-xilinx_zynq_a9_qemu'
Build failed
-> task in 'fdopen.texe' failed with exit status 10 (run with -v to display more information)
-> task in 'crc.exe' failed with exit status 1 (run with -v to display more information)
-> task in 'psx sched report.exe' failed with exit status 1 (run with -v to display more information)
```

**Comment 8**

1. **Chris Johns**, Thu, 12 Oct 2017 15:59:18 GMT

Replying to Sebastian Huber:

The following errors are left:

```
Waf: Entering directory `build/arm-rtems4.12-xilinx_zynq_a9_qemu'
[ 29/115] Compiling 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
`#include "FilesystemImage.h"`
^~~~~~
compilation terminated.
```

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.

**Comment 9**

1. **Joel Sherrill**, Thu, 12 Oct 2017 19:11:24 GMT

In f15676f/examples-v2:

```
Make crc and fdopen build
Updates #3158.
```

**Comment 10**

1. **Joel Sherrill**, Thu, 12 Oct 2017 19:16:23 GMT

psx\_sched\_report fails due to #3176 and using a default configuration. Changing that test to have an explicit RTEMS configuration.

**Comment 11**

1. **Joel Sherrill**, Thu, 12 Oct 2017 19:17:28 GMT

2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In b6c5dbb/examples-v2:

```
psx_sched_report: Add RTEMS configuration to address build issue.
Closes #3158.
```

**Comment 12**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3159 - Examples v2 trace linker ini files reference non-existing dump-on-error**



<b>Link</b>	<a href="https://devel.rtems.org/ticket/3159">https://devel.rtems.org/ticket/3159</a> ( <a href="https://devel.rtems.org/ticket/3159">https://devel.rtems.org/ticket/3159</a> )
<b>Id</b>	3159
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 October 2017 00:21:06
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	examples
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Remove the dump-on-error option.

**Comment 1**

1. **Chris Johns**, Mon, 02 Oct 2017 00:14:07 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

**Comment 2**

1. **Joel Sherrill**, Thu, 05 Oct 2017 14:07:05 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

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.

**Comment 3**

1. **Chris Johns**, Thu, 05 Oct 2017 21:34:05 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

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?

**Comment 4**

1. **Joel Sherrill**, Thu, 05 Oct 2017 22:26:58 GMT

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?

#### **Comment 5**

1. **Chris Johns**, Thu, 05 Oct 2017 23:12:15 GMT

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.

#### **Comment 6**

1. **Joel Sherrill**, Thu, 05 Oct 2017 23:40:26 GMT

OK. Looks like 3158 but I don't have a toolset now. Rebuilding with the latest changes. Will do that in the morning.

#### **Comment 7**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### **3160 - Trace linker score support is broken**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3160">https://devel.rtems.org/ticket/3160</a> ( <a href="https://devel.rtems.org/ticket/3160">https://devel.rtems.org/ticket/3160</a> )
<b>Id</b>	3160
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 October 2017 00:23:33
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

The trace linker needs to be updated to build. I am not sure which bit is broken. Building the tools gives:

```
[ 7/15] Compiling build/arm-rtems4.12-beagleboneblack/hello/both_hello/test.c.2.o
/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'?
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Thread_queue_Flush_callout), "Thread_queue_Flush_callout" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      Thread_queue_Flush_filter
/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'?
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (CORE_mutex_Status), "CORE_mutex_Status" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      CORE_mutex_Control
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:143:19: error: unknown type name 'CORE_mutex_Attributes'
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (const CORE_mutex_Attributes*), "const CORE_mutex_Attributes*"
},
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/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)
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (CORE_mutex_API_mp_support_callout),
"CORE_mutex_API_mp_support_callout" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/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 'Objects_Information'?
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Objects_Locations*), "Objects_Locations*" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      Objects_Information
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:321:31: error: expected expression before ')' token
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Objects_Locations*), "Objects_Locations*" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:342:31: error: expected expression before ')' token
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Objects_Locations*), "Objects_Locations*" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:359:31: error: expected expression before ')' token
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Objects_Locations*), "Objects_Locations*" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:368:31: error: expected expression before ')' token
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Objects_Locations*), "Objects_Locations*" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:443:31: error: expected expression before ')' token
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Objects_Locations*), "Objects_Locations*" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^
/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'?
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Thread_Start_types), "Thread_Start_types" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      Thread_Start
/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'?
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Thread_blocking_operation_States),
"Thread_blocking_operation_States" },
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      Thread_queue_Operations
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c: In function 'rtld_pg_printk entry':
/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]
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      printk (">>> %s (0x%08x)\n", func_name, func_addr);
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      printf
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c: At top level:
/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'
/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);
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/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'
/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);
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/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'
/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);
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/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'?
/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);
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: CORE_mutex_Control
```

This is a snip of the errors.

### Comment 1

1. **Sebastian Huber**, Mon, 02 Oct 2017 11:50:12 GMT

I removed these types some months ago. Are you on the right branch? How can I build this stuff?

### Comment 2

1. **Chris Johns**, Mon, 02 Oct 2017 22:23:58 GMT

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.

### Comment 3

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Fri, 06 Oct 2017 07:34:14 GMT

The CORE mutex implementation changed considerably. Most of it moved to inline functions. I am not sure what you want to trace here?

#### Comment 4

1. **Sebastian Huber**, Fri, 06 Oct 2017 07:36:18 GMT

Maybe this should be replaced by the thread queue enqueue and extract functions.

#### Comment 5

1. **Chris Johns**, Sat, 07 Oct 2017 00:16:31 GMT

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.

#### Comment 6

1. **Sebastian Huber**, Thu, 12 Oct 2017 10:53:52 GMT

In b76fa74/rtems-tools:

```
linkers: Update due to API changes
Update #3160.
```

#### Comment 7

1. **Sebastian Huber**, Thu, 12 Oct 2017 10:56:24 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3742597/examples-v2:

```
Update due to trace linker changes
Close #3160.
```

#### Comment 8

1. **Chris Johns**, Thu, 12 Oct 2017 15:54:19 GMT

Thank you for fixing this for me.

#### Comment 9

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## 3163 - Add I2C device driver for temperature sensor LM75A

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3163">https://devel.rtems.org/ticket/3163</a> ( <a href="https://devel.rtems.org/ticket/3163">https://devel.rtems.org/ticket/3163</a> )
<b>Id</b>	3163
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 October 2017 11:40:34
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Mon, 02 Oct 2017 11:41:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4cfce5c/rtems:

```
i2c: Add temperature sensor LM75A driver
Close #3163.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3166 - New default ticket assignee: NeedsReview**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3166">https://devel.rtems.org/ticket/3166</a> ( <a href="https://devel.rtems.org/ticket/3166">https://devel.rtems.org/ticket/3166</a> )
<b>Id</b>	3166
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 October 2017 16:25:57
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

We have to 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.

**Comment 1**

1. **Chris Johns**, Wed, 04 Oct 2017 23:53:48 GMT

I would prefer we remove the default owner from the components and have Trac leave the ticket unassigned.

**Comment 2**

1. **Sebastian Huber**, Thu, 05 Oct 2017 04:56:39 GMT

Ok, I will remove the default owners tomorrow if nobody objects.

**Comment 3**

1. **Sebastian Huber**, Fri, 06 Oct 2017 11:47:08 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

I removed the default owner for all components.

**Comment 4**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:12:28 GMT
2. **component**: changed from **Other** to **unspecified**

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

- milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

### **3167 - Internal status codes must not depend on RTEMS\_POSIX\_API**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3167">https://devel.rtems.org/ticket/3167</a> ( <a href="https://devel.rtems.org/ticket/3167">https://devel.rtems.org/ticket/3167</a> )
<b>Id</b>	3167
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 October 2017 07:24:55
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

- Sebastian Huber**, Thu, 05 Oct 2017 07:46:12 GMT
- status:** changed from **assigned** to **closed**
- resolution:** set to **fixed**

In 5cf5d46e/rtems:

```
score: Make status codes unconditional
```

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.

```
Close #3167.
```

#### **Comment 2**

- Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
- milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

### **3168 - Simplify POSIX\_API\_Control**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3168">https://devel.rtems.org/ticket/3168</a> ( <a href="https://devel.rtems.org/ticket/3168">https://devel.rtems.org/ticket/3168</a> )
<b>Id</b>	3168
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 October 2017 13:28:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Attachments:**

- 
1. **Sebastian Huber**, Thu, 05 Oct 2017 13:28:41 GMT  
attach: set to [test.c \(https://devel.rtems.org/ticket/3168/test.c\)](https://devel.rtems.org/ticket/3168/test.c)
- 

**Comment 1**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:43:49 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In af9115f3/rtems:

```
posix: Simplify POSIX_API_Control
Return stack area via pthread_getattr_np().

Simplify
pthread_attr_setaffinity_np(), and pthread_attr_getaffinity_np()
and let the scheduler do the more sophisticated error checks.

Make
pthread_setaffinity_np(), pthread_getaffinity_np(), pthread_attr_setaffinity_np(), and pthread_attr_getaffinity_np()
available in all configurations.

Update #2514. Close #3145. Close #3168.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 3**

1. **Sebastian Huber**, Thu, 02 Nov 2017 10:25:59 GMT

In 81fd79d/rtems:

```
smppsxaffinity02: Fix thread attribute usage

The pthread_getattr_np() returns now the stack address and size. Do not use this stack for the new threads.

Update #2514. Update #3145. Update #3168.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3170 - Use BSP\_output\_char via RTEMS printer or simple console driver for test output by default**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3170">https://devel.rtems.org/ticket/3170</a> ( <a href="https://devel.rtems.org/ticket/3170">https://devel.rtems.org/ticket/3170</a> )
<b>Id</b>	3170
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 October 2017 04:02:37
<b>Modified</b>	5 February 2018 09:48:37
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	zedboard testing
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

```
*** 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.

**Attachments:****1 Chris Johns, Fri, 06 Oct 2017 04:03:09 GMT**

**attach:** set to [microzed-block8.txt \(https://devel.rtems.org/ticket/3170/microzed-block8.txt\)](https://devel.rtems.org/ticket/3170/microzed-block8.txt)

**Comment 1**

1. **Chris Johns**, Fri, 06 Oct 2017 21:48:30 GMT

2. **severity:** changed from **major** to **critical**

3. **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 Zynq 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?

**Comment 2**

1. **Sebastian Huber**, Mon, 09 Oct 2017 07:19:29 GMT

Does the following patch alter the output:

```
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
index fa91f3f46e..3c42be428f 100644
--- a/c/src/lib/libbsp/arm/xilinx-zynq/console/zynq-uart.c
+++ b/c/src/lib/libbsp/arm/xilinx-zynq/console/zynq-uart.c
@@ -226,12 +226,18 @@ void zynq_uart_write_polled(
 {
     zynq_uart_context *ctx = (zynq_uart_context *) base;
     volatile zynq_uart *regs = ctx->regs;
+    rtems_interrupt_level level;
+
+    rtems_interrupt_local_disable(level);
     while ((regs->channel_sts & ZYNQ_UART_CHANNEL_STS_TFUL) != 0) {
         /* Wait */
+        rtems_interrupt_local_enable(level);
+        rtems_interrupt_local_disable(level);
     }
     regs->tx_rx_fifo = ZYNQ_UART_TX_RX_FIFO_FIFO(c);
+    rtems_interrupt_local_enable(level);
 }
 static void zynq_uart_write_support(
```

**Comment 3**

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:46:55 GMT

2. **component:** changed from **testing** to **unspecified**

**Comment 4**

1. **Chris Johns**, Wed, 11 Oct 2017 23:11:59 GMT

2. **owner:** changed from **joel.sherrill@...** to **Chris Johns**

3. **status:** changed from **new** to **assigned**

**Comment 5**

1. **Chris Johns**, Thu, 12 Oct 2017 17:19:10 GMT

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?

**Comment 6**

1. **Sebastian Huber**, Fri, 13 Oct 2017 06:48:49 GMT

Do you use a polled or interrupt driven console driver? The tests need a polled console driver.

**Comment 7**

1. **Chris Johns**, Fri, 13 Oct 2017 12:51:02 GMT

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?

The tests need a polled console driver.

What do I do to make this happen?

#### Comment 8

1. **Sebastian Huber**, Fri, 13 Oct 2017 12:54:16 GMT

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 configure command line.

#### Comment 9

1. **Chris Johns**, Fri, 13 Oct 2017 13:21:40 GMT

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.

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.

#### Comment 10

1. **Sebastian Huber**, Fri, 13 Oct 2017 13:28:24 GMT

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.

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.

#### **Comment 11**

1. **Sebastian Huber**, Fri, 13 Oct 2017 13:38:59 GMT

An short term option would be a unification of the BSP option to select a polled console driver.

#### **Comment 12**

1. **Joel Sherrill**, Fri, 13 Oct 2017 13:41:11 GMT

There is a buffered test up option for the tests which will help those that use the infrastructure. Should be in testsuites/configure.ac

#### **Comment 13**

1. **Chris Johns**, Fri, 13 Oct 2017 13:42:07 GMT

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.

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.

#### **Comment 14**

1. **Sebastian Huber**, Fri, 13 Oct 2017 13:44:54 GMT

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.

#### Comment 15

1. **Chris Johns**, Fri, 13 Oct 2017 13:47:42 GMT

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?

#### Comment 16

1. **Sebastian Huber**, Mon, 16 Oct 2017 05:22:23 GMT

Its not really transparent to the user that --enable-tests=all tinkers with the console driver.

#### Comment 17

1. **Sebastian Huber**, Mon, 23 Oct 2017 11:49:42 GMT

In 88e84c22/rtems:

```
testsuite: Fix build
Updates #3170.
```

#### Comment 18

1. **Chris Johns**, Tue, 24 Oct 2017 21:33:16 GMT

In 4c70110/rtems:

```
testsuite: Fix build
Updates #3170.
```

#### Comment 19

1. **Sebastian Huber**, Thu, 26 Oct 2017 12:06:21 GMT

Tests must be audited to ensure that they don't call the standard output functions, e.g.

```
nm find -name '*.exe' | grep 'exe:\\\\|'
```

#### Comment 20

1. **Sebastian Huber**, Fri, 27 Oct 2017 05:01:07 GMT

2. **description:** modified (diff)

3. **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.

#### Comment 21

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:08:04 GMT

In f703e7f/rtems:

```
tests: Move rtems_test_printer definition
Statically initialize it to use printk().
Update #3170. Update #3199.
```

#### **Comment 22**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:08:16 GMT

In 7bec7f27/rtems:

```
rtems: Add rtems_print_printer_fprintf_putc()
Update #3170. Update #3199.
```

#### **Comment 23**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:08:27 GMT

In 73d892d8/rtems:

```
tests: Use rtems_test_printer
Update #3170. Update #3199.
```

#### **Comment 24**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:08:39 GMT

In 46ddc3c5/rtems:

```
tests: Use rtems_print_printer_fprintf_putc()
Use rtems_print_printer_fprintf_putc() instead of rtems_print_printer_printf() to output via rtems_putc().
Update #3170. Update #3199.
```

#### **Comment 25**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:08:51 GMT

In 7e10291/rtems:

```
tests: Use rtems_test_printer in general
Update #3170. Update #3199.
```

#### **Comment 26**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:09:02 GMT

In acc9d064/rtems:

```
tests: Remove obsolete TESTS_USE_PRINTK
Update #3170. Update #3199.
```

#### **Comment 27**

1. **Sebastian Huber**, Sat, 28 Oct 2017 12:09:15 GMT

In af43554/rtems:

```
tests: Remove TEST_INIT
The TEST_EXTERN is a used only by the system.h style tests and they use CONFIGURE_INIT appropriately.
Update #3170. Update #3199.
```

#### **Comment 28**

1. **Chris Johns**, Mon, 30 Oct 2017 05:31:17 GMT

In 2126438a/rtems:

```
testsuite: Add bspIo for a local printk.  
Update #3170. Update #3199.
```

#### **Comment 29**

1. **Sebastian Huber**, Thu, 02 Nov 2017 13:25:12 GMT

In 0d796d6/rtems:

```
tests: Delete obsolete TESTS_USE_PRINTF  
Update #3170. Update #3199.
```

#### **Comment 30**

1. **Sebastian Huber**, Thu, 02 Nov 2017 13:26:51 GMT

In 8c1f4064/rtems:

```
tests: Use printf() instead of fprintf()  
Update #3170. Update #3199.
```

#### **Comment 31**

1. **Sebastian Huber**, Mon, 06 Nov 2017 06:29:25 GMT

In ac28f15/rtems:

```
Add simple console driver  
Update #3170. Update #3199.
```

#### **Comment 32**

1. **Sebastian Huber**, Mon, 06 Nov 2017 06:29:41 GMT

In c4b8b147/rtems:

```
tests: Use simple console driver  
Update #3170. Update #3199.
```

#### **Comment 33**

1. **Sebastian Huber**, Tue, 07 Nov 2017 06:09:15 GMT

In 7b00c2fa/rtems:

```
tests: Use in all tests  
Update #3170. Update #3199.
```

#### **Comment 34**

1. **Sebastian Huber**, Tue, 07 Nov 2017 07:32:57 GMT

In 32ceb38/rtems:

```
tests: Use  
Update #3170. Update #3199.
```

#### **Comment 35**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 36**

1. **Sebastian Huber**, Mon, 13 Nov 2017 09:01:06 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**Comment 37**

1. **Sebastian Huber**, Mon, 13 Nov 2017 09:02:07 GMT
2. **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**

**Comment 38**

1. **Sebastian Huber**, Mon, 05 Feb 2018 09:48:37 GMT

In d078405/rtems-docs:

```
CONFIGURE_APPLICATION_NEEDS_SIMPLE_CONSOLE_DRIVER
Close #3170. Update #3199.
```

**3171 - RSB GCC does not build on High Sierra and APFS**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3171">https://devel.rtems.org/ticket/3171</a> ( <a href="https://devel.rtems.org/ticket/3171">https://devel.rtems.org/ticket/3171</a> ),
<b>Id</b>	3171
<b>Reporter</b>	Chris Johns
<b>Created</b>	7 October 2017 20:34:21
<b>Modified</b>	14 October 2018 00:37:39
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	RSB APFS MacOS
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The issue has been reported upstream as [https://gcc.gnu.org/bugzilla/show\\_bug.cgi?id=81797](https://gcc.gnu.org/bugzilla/show_bug.cgi?id=81797)

**Attachments:**

- 
1. **Chris Johns, Wed, 11 Oct 2017 12:31:33 GMT**  
**attach**: set to [darwin-apfs-gcc-libstdc++-bug-81797.diff](https://devel.rtems.org/ticket/3171/darwin-apfs-gcc-libstdc++-bug-81797.diff) (<https://devel.rtems.org/ticket/3171/darwin-apfs-gcc-libstdc++-bug-81797.diff>)
  2. **Chris Johns, Fri, 27 Oct 2017 03:04:12 GMT**  
**attach**: set to [darwin-apfs-gcc-libstdc++-bug-81797-redi-2.diff](https://devel.rtems.org/ticket/3171/darwin-apfs-gcc-libstdc++-bug-81797-redi-2.diff) (<https://devel.rtems.org/ticket/3171/darwin-apfs-gcc-libstdc++-bug-81797-redi-2.diff>)
  3. **Chris Johns, Sun, 07 Oct 2018 03:16:48 GMT**  
**attach**: set to [darwin-libstdcpp-noparallel-fix.patch](https://devel.rtems.org/ticket/3171/darwin-libstdcpp-noparallel-fix.patch) (<https://devel.rtems.org/ticket/3171/darwin-libstdcpp-noparallel-fix.patch>)
- 

**Comment 1**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:58:26 GMT
2. **component**: changed from **GCC** to **tool/gcc**

**Comment 2**

1. **Chris Johns**, Wed, 11 Oct 2017 23:13:11 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **accepted**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Chris Johns**, Fri, 12 Oct 2018 17:00:55 GMT

In 7bb268b/rtems-source-builder:

darwin: Work around symlink issues on Darwin with APFS building libstd++.

See [https://gcc.gnu.org/bugzilla/show\\_bug.cgi?id=81797](https://gcc.gnu.org/bugzilla/show_bug.cgi?id=81797)

Updates #3171

#### Comment 5

1. **Chris Johns**, Sun, 14 Oct 2018 00:37:39 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

Tested on Mojave.

### 3172 - i386 PC BSP does not reset when bsp\_reset is called.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3172">https://devel.rtems.org/ticket/3172</a> ( <a href="https://devel.rtems.org/ticket/3172">https://devel.rtems.org/ticket/3172</a> )
<b>Id</b>	3172
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 October 2017 02:56:01
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	PC i386 reset
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Removal of the Edison support removed the standard PC reset using the keyboard controller rather than the specific Edison support.

#### Comment 1

1. **Joel Sherrill**, Mon, 09 Oct 2017 03:14:53 GMT

I noticed the wrong code was removed Thursday and have a patch ready to push.

#### Comment 2

1. **Joel Sherrill**, Mon, 09 Oct 2017 03:26:42 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 19cbd194/rtems:

pc386/.../bspreset.c: Readd proper reset code.

The removal of the Edison code removed the wrong part of the conditional.

Closes #3172.

#### Comment 3

1. **Sebastian Huber**, Tue, 10 Oct 2017 06:55:23 GMT
2. **component:** changed from **bsps** to **arch/i386**

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### **3173 - Xilinx AXI I2C driver IP race condition causes clock glitch.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3173">https://devel.rtems.org/ticket/3173</a> ( <a href="https://devel.rtems.org/ticket/3173">https://devel.rtems.org/ticket/3173</a> )
<b>Id</b>	3173
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 October 2017 10:50:41
<b>Modified</b>	1 February 2018 04:00:19
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	I2C Xilinx AXI
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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#### **Description**

The Xilinx AXI I2C IP has a race condition when the PIRQ read FIFO level is reached and the clock is throttling.

#### **Comment 1**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:18:44 GMT
2. **component**: changed from **score** to **arch/arm**

#### **Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 3**

1. **Chris Johns**, Thu, 01 Feb 2018 04:00:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 05015dc1/rtems:

```
Xilinx AXI I2C driver IP race condition causes clock glitch.
```

```
Setting the PIRQ to 0 before reading the data produces a short clock pulse. Moving the write to after reading the data fixes the issue.
```

```
Close #3173
```

---

### **3174 - Remove rtems\_pthread\_attribute\_compare()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3174">https://devel.rtems.org/ticket/3174</a> ( <a href="https://devel.rtems.org/ticket/3174">https://devel.rtems.org/ticket/3174</a> )
<b>Id</b>	3174
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 October 2017 13:24:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

The `rtems_pthread_attribute_compare()` function is undocumented and used only in one test. Move it to the test.

**Comment 1**

1. **Sebastian Huber**, Tue, 10 Oct 2017 05:44:03 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In da9f5f1/rtems:

```
posix: Remove rtems_pthread_attribute_compare()
Update #2514. Close #3174.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 16 Oct 2017 06:17:09 GMT
2. **component**: changed from **score** to **posix**

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3175 - Merge FreeBSD timecounter changes from 2015-01-20 to now**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3175">https://devel.rtems.org/ticket/3175</a> ( <a href="https://devel.rtems.org/ticket/3175">https://devel.rtems.org/ticket/3175</a> )
<b>Id</b>	3175
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 October 2017 05:50:32
<b>Modified</b>	20 October 2018 15:21:27
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3557

**Description****Comment 1**

1. **Hans Petter Selasky**, Thu, 12 Oct 2017 05:05:59 GMT

In ea0b339/rtems:

```
timecounter: Merge FreeBSD change r279728
Add mutex support to the pps_ioctl() API in the kernel. Bump kernel version to reflect structure change.
PR: 196897 MFC after: 1 week
Update #3175.
```

**Comment 2**

1. **Ian Lepore**, Thu, 12 Oct 2017 05:06:10 GMT

In 0aef6fb/rtems:

```
timecounter: Merge FreeBSD change r280012
Use sbuf_printf() for sysctl strings instead of stack buffers and snprintf().
Update #3175.
```

**Comment 3**1. **Ian Lepore**, Thu, 12 Oct 2017 05:06:22 GMT

In 51304dde/rtems:

timecounter: Merge FreeBSD change r282424

Implement a mechanism for making changes in the kernel<->driver PPS interface without breaking ABI or API compatibility with existing drivers.

The existing data structures used to communicate between the kernel and driver portions of PPS processing contain no spare/padding fields and no flags field or other straightforward mechanism for communicating changes in the structures or behaviors of the code. This makes it difficult to MFC new features added to the PPS facility. ABI compatibility is important; out-of-tree drivers in module form are known to exist. (Note that the existing `api_version` field in the `pps_params` structure must contain the value mandated by RFC 2783 and any RFCs that come along after.)

These changes introduce a pair of abi-version fields which are filled in by the driver and the kernel respectively to indicate the interface version. The driver sets its version field before calling the new `pps_init_abi()` function. That lets the kernel know how much of the `pps_state` structure is understood by the driver and it can avoid using newer fields at the end of the structure that it knows about if the driver is a lower version. The kernel fills in its version field during the init call, letting the driver know what features and data the kernel supports.

To implement the new version information in a way that is backwards compatible with code from before these changes, the high bit of the lightly-used 'kmode' field is repurposed as a flag bit that indicates the driver is aware of the abi versioning scheme. Basically if this bit is clear that indicates a "version 0" driver and if it is set the `driver_abi` field indicates the version.

These changes also move the recently-added 'mtx' field of `pps_state` from the middle to the end of the structure, and make the kernel code that uses this field conditional on the driver being abi version 1 or higher. It changes the only driver currently supplying the `mtx` field, `usb_serial`, to use `pps_init_abi()`.

Reviewed by: hselasky@  
Update #3175.

**Comment 4**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:06:34 GMT

In 4d0ade9/rtems:

timecounter: Merge FreeBSD change r284256

Tweaks for r284178:

Do not include `machine/atomic.h` explicitly, the header is already included by `sys/system.h`.

Force inlining of `tc_getgen()` and `tc_setgen()`. The functions are used more than once, which causes compilers with non-aggressive inlining policies to generate calls.

Suggested by: bde Sponsored by: The FreeBSD Foundation MFC after: 1 week  
Update #3175.

**Comment 5**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:06:46 GMT

In 0163063/rtems:

timecounter: Merge FreeBSD change r285286

Reimplement the ordering requirements for the timehands updates, and for timehands consumers, by using fences.

Ensure that the `timehands->th_generation` reset to zero is visible before the data update is visible [\*]. `tc_setget()` allowed data update writes to become visible before generation (but not on TSO architectures).

Remove `tc_setgen()`, `tc_getgen()` helpers, use atomics inline [\_\_]. \_\_

Noted by: alc [\*] Requested by: bde [\_\_] Reviewed by: alc, bde Sponsored by: The FreeBSD Foundation MFC after: 3 weeks \_\_  
Update #3175.

**Comment 6**1. **Ian Lepore**, Thu, 12 Oct 2017 05:06:58 GMT

In ec349b58/rtems:

timecounter: Merge FreeBSD change r286423

RFC 2783 requires a status of `ETIMEDOUT`, not `EWOULDBLOCK`, on a timeout.

Update #3175.

**Comment 7**1. **Ian Lepore**, Thu, 12 Oct 2017 05:07:09 GMT

In 7494681/rtems:

timecounter: Merge FreeBSD change r286429

Only process the PPS event types currently enabled in pps\_params.mode.

This makes the PPS API behave correctly, but isn't ideal -- we still end up capturing PPS data for non-enabled edges, we just don't process the data into an event that becomes visible outside of kern tc. That's because the event type isn't passed to pps\_capture(), so it can't do the filtering. Any solution for capture filtering is going to require touching every driver.

Update #3175.

### **Comment 8**

#### 1. Ian Lepore, Thu, 12 Oct 2017 05:07:21 GMT

In f1463c8/rtems:

timecounter: Merge FreeBSD change r286701

If a specific timecounter has been chosen via sysctl, and a new timecounter with higher quality registers (presumably in a module that has just been loaded), do not undo the user's choice by switching to the new timecounter.

Document that behavior, and also the fact that there is no way to unregister a timecounter (and thus no way to unload a module containing one).

Update #3175.

### **Comment 9**

#### 1. Ian Lepore, Thu, 12 Oct 2017 05:07:33 GMT

In 2b6d00f/rtems:

timecounter: Merge FreeBSD change r304285

Constify the pointers to eventtimer and timecounter name strings.

The need for this appears as soon as you try to set the names to something that isn't a "quoted literal". (I'm actually confused why quoted strings aren't a problem as well, we must have some warning disabled.)

Update #3175.

### **Comment 10**

#### 1. Konstantin Belousov, Thu, 12 Oct 2017 05:07:44 GMT

In f013c14/rtems:

timecounter: Merge FreeBSD change r288216

Use per-cpu values for base and last in tc\_cpu\_ticks(). The values are updated lockless, different CPUs write its own view of timecounter state. The critical section is done for safety, callers of tc\_cpu\_ticks() are supposed to already enter critical section, or to own a spinlock.

The change fixes sporadic reports of too high values reported for the (W)CPU on platforms that do not provide cpu ticker and use tc\_cpu\_ticks(), in particular, arm\*.

Diagnosed and reviewed by: jhb Sponsored by: The FreeBSD Foundation MFC after: 1 week

Update #3175.

### **Comment 11**

#### 1. Ngie Cooper, Thu, 12 Oct 2017 05:07:56 GMT

In 4cd742e/rtems:

timecounter: Merge FreeBSD change r290257

Define fhard in pps\_event(..) only when PPS\_SYNC is defined to mute an -Wunused-but-set-variable warning

Reported by: FreeBSD\_HEAD\_amd64\_gcc4.9 jenkins job Sponsored by: EMC / Isilon Storage Division

Update #3175.

### **Comment 12**

#### 1. Pedro Giffuni, Thu, 12 Oct 2017 05:08:08 GMT

In 65f2cd7a/rtems:

timecounter: Merge FreeBSD change r298819

sys/kern: spelling fixes in comments.

No functional change.

Update #3175.

**Comment 13**1. **Pedro Giffuni**, Thu, 12 Oct 2017 05:08:20 GMT

In f6c94601/rtems:

timecounter: Merge FreeBSD change r298981  
 sys/sys: minor spelling fixes.  
 While the changes are minor, these headers are very visible.  
 MFC after: 2 weeks  
 Update #3175.

**Comment 14**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:08:32 GMT

In d310aa7/rtems:

timecounter: Merge FreeBSD change r303382  
 Hide the boottime and boottimebin globals, provide the getboottime(9) and getboottimebin(9) KPI. Change consumers of boottime to use the KPI. The variables were renamed to avoid shadowing issues with local variables of the same name.  
 Issue is that boottime\* should be adjusted from tc\_windup(), which requires them to be members of the timehands structure. As a preparation, this commit only introduces the interface.  
 Some uses of boottime were found doubtful, e.g. NLM uses boottime to identify the system boot instance. Arguably the identity should not change on the leap second adjustment, but the commit is about the timekeeping code and the consumers were kept bug-to-bug compatible.  
 Tested by: pho (as part of the bigger patch) Reviewed by: jhb (same) Discussed with: bde Sponsored by: The FreeBSD Foundation  
 MFC after: 1 month X-Differential revision: <https://reviews.freebsd.org/D7302>  
 Update #3175.

**Comment 15**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:08:44 GMT

In 6d3c125/rtems:

timecounter: Merge FreeBSD change r303383  
 Reduce number of timehands to just two. This is useful because consumers can now be only one tc\_windup() call late.  
 Use C99 initialization.  
 Tested by: pho (as part of the whole patch) Reviewed by: jhb (same) Discussed with: bde Sponsored by: The FreeBSD Foundation  
 MFC after: 1 month X-Differential revision: <https://reviews.freebsd.org/D7302>  
 Update #3175.

**Comment 16**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:08:56 GMT

In 464fd5d/rtems:

timecounter: Merge FreeBSD change r303384  
 Style.  
 Sponsored by: The FreeBSD Foundation  
 MFC after: 1 month X-Differential revision: <https://reviews.freebsd.org/D7302>  
 Update #3175.

**Comment 17**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:09:08 GMT

In b48aeaf/rtems:

timecounter: Merge FreeBSD change r303387  
 Prevent parallel tc\_windup() calls, both parallel top-level calls from setclock() and from simultaneous top-level and interrupt. For this, tc\_windup() is protected with a tc\_setclock mtx spinlock, in the try mode when called from hardclock interrupt. If spinlock cannot be obtained without spinning from the interrupt context, this means that top-level executes tc\_windup() on other core and our try may be avoided.  
 The boottimebin and boottime variables should be adjusted from tc\_windup(). To be correct, they must be part of the timehands and read using lockless protocol. Remove the globals and reimplement the getboottime(9)/getboottimebin(9) KPI using the timehands read protocol.  
 Tested by: pho (as part of the whole patch) Reviewed by: jhb (same) Discussed with: bde Sponsored by: The FreeBSD Foundation  
 MFC after: 1 month X-Differential revision: <https://reviews.freebsd.org/D7302>  
 Update #3175.

**Comment 18**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:09:20 GMT

In c382cc83/rtems:

timecounter: Merge FreeBSD change r303548

Cache getbintime(9) answer in timehands, similarly to getnanotime(9) and getmicrotime(9).

Suggested and reviewed by: bde (previous version) Sponsored by: The FreeBSD Foundation MFC after: 1 month

Update #3175.

**Comment 19**1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:09:33 GMT

In 7488715/rtems:

timecounter: Merge FreeBSD change r304285

Implement userspace gettimeofday(2) with HPET timecounter.

Right now, userspace (fast) gettimeofday(2) on x86 only works for RDTSC. For older machines, like Core2, where RDTSC is not C2/C3 invariant, and which fall to HPET hardware, this means that the call has both the penalty of the syscall and of the uncached hw behind the QPI or PCIe connection to the sought bridge. Nothing can be done against the access latency, but the syscall overhead can be removed. System already provides mappable /dev/hpetX devices, which gives straight access to the HPET registers page.

Add yet another algorithm to the x86 'vdso' timehands. Libc is updated to handle both RDTSC and HPET. For HPET, the index of the hpet device to mmap is passed from kernel to userspace, index might be changed and libc invalidates its mapping as needed.

Remove cpu\_fill\_vdso\_timehands() KPI, instead require that timecounters which can be used from userspace, to provide tc\_fill\_vdso\_timehands(,32)() methods. Merge i386 and amd64 libc//sys/vdso\_getttc.c into one source file in the new libc/x86/sys location. vdso\_getttc() internal interface is changed to move timecounter algorithm detection into the MD code.

Measurements show that RDTSC even with the syscall overhead is faster than userspace HPET access. But still, userspace HPET is three-four times faster than syscall HPET on several Core2 and SandyBridge? machines.

Tested by: Howard Su Sponsored by: The FreeBSD Foundation MFC after: 1 month Differential revision: <https://reviews.freebsd.org/D7473>

Update #3175.

**Comment 20**1. **Ed Schouten**, Thu, 12 Oct 2017 05:09:45 GMT

In a9219e7/rtems:

timecounter: Merge FreeBSD change r310053

Add labels to sysctls related to clocks.

Sysctls like kern.eventtimer.et.\*.quality currently embed the name of the clock device. This is problematic for the Prometheus metrics exporter for two reasons:

Some of those clocks have dashes in their names, which Prometheus doesn't allow to be used in metric names. It doesn't allow for extracting the same property of all clocks on the system from within a single query.

Attach these nodes to have a label, so that the Prometheus metrics exporter gives these metric a uniform name with the name of the clock attached as a label.

Reviewed by: cem Differential Revision: <https://reviews.freebsd.org/D8775>

Update #3175.

**Comment 21**1. **Eric van Gyzen**, Thu, 12 Oct 2017 05:09:57 GMT

In 952b42b6/rtems:

timecounter: Merge FreeBSD change r315280

When the RTC is adjusted, reevaluate absolute sleep times based on the RTC

POSIX 2008 says this about clock\_settime(2):

If the value of the CLOCK\_REALTIME clock is set via clock\_settime(), the new value of the clock shall be used to determine the time of expiration for absolute time services based upon the CLOCK\_REALTIME clock. This applies to the time at which armed absolute timers expire. If the absolute time requested at the invocation of such a time service is before the new value of the clock, the time service shall expire immediately as if the clock had reached the requested time normally.

Setting the value of the CLOCK\_REALTIME clock via clock\_settime() shall have no effect on threads that are blocked waiting for a relative time service based upon this clock, including the nanosleep() function; nor on the expiration of relative timers based upon this clock. Consequently, these time services shall expire when the requested relative interval elapses, independently of the new or old value of the clock.

When the real-time clock is adjusted, such as by clock\_settime(3), wake any threads sleeping until an absolute real-clock time. Such a sleep is indicated by a non-zero td\_rtcgen. The sleep functions will set that field to zero and return zero to tell the caller to reevaluate its sleep duration based on the new value of the clock.

At present, this affects the following functions:

```
pthread_cond_timedwait(3) pthread_mutex_timedlock(3) pthread_rwlock_timedrdlock(3) pthread_rwlock_timedwrlock(3) sem_timedwait(3)
sem_clockwait_np(3)
```

I'm working on adding `clock_nanosleep(2)`, which will also be affected.

Reported by: Sebastian Huber Reviewed by: jhb, kib MFC after: 2 weeks Relnotes: yes Sponsored by: Dell EMC  
 Differential Revision: <https://reviews.freebsd.org/D9791>

Update #3175.

### Comment 22

1. **Eric van Gyzen**, Thu, 12 Oct 2017 05:10:09 GMT

In 5167d0e/rtems:

timecounter: Merge FreeBSD change r315287

Add missing pieces of r315280

I moved this branch from github to a private server, and pulled from the wrong one when committing r315280, so I failed to include two recent commits. Thankfully, they were only cosmetic and were included in the review. Specifically:

Add documentation, polish comments, and improve style(9).

Tested by: pho (r315280) MFC after: 2 weeks Sponsored by: Dell EMC Differential Revision:  
<https://reviews.freebsd.org/D9791>

Update #3175.

### Comment 23

1. **Konstantin Belousov**, Thu, 12 Oct 2017 05:10:22 GMT

In bcbbe76/rtems:

timecounter: Merge FreeBSD change r324528

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`.

Group all the updates under the relevant comment. Remove obsoleted XXX part.

Submitted by: Sebastian Huber MFC after: 1 week

Update #3175.

### Comment 24

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:10:35 GMT

In d8b6f1c/rtems:

timecounter: Update FreeBSD identifiers

Update #3175.

### Comment 25

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 26

1. **Joel Sherrill**, Tue, 05 Dec 2017 14:28:46 GMT

Is this done and can be closed? With an appropriate comment.

### Comment 27

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:46:08 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

Closing since no feedback since Dec 2017

### Comment 28

1. **Amar Takhar**, Sat, 20 Oct 2018 15:15:06 GMT

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.

#### Comment 29

1. **Amar Takhar**, Sat, 20 Oct 2018 15:21:27 GMT
2. **blockedby**: set to **3557**

### **3176 - \_\_getreent in libc.a and generated by confdefs.h**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3176">https://devel.rtems.org/ticket/3176</a> ( <a href="https://devel.rtems.org/ticket/3176">https://devel.rtems.org/ticket/3176</a> )
<b>Id</b>	3176
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 October 2017 14:40:33
<b>Modified</b>	17 September 2018 11:10:42
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Joel Sherrill**, Wed, 11 Oct 2017 10:31:43 GMT
2. **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.

#### Comment 2

1. **Joel Sherrill**, Thu, 12 Oct 2017 00:29:05 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Sebastian Huber**, Mon, 17 Sep 2018 11:10:42 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

This is fixed at least since [d7fd32078a45c1fc7ceed58528e0c6a193383104/rtems-source-builder].

### **3177 - Replace/update POSIX Compliance Guide**

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3177">https://devel.rtems.org/ticket/3177</a> ( <a href="https://devel.rtems.org/ticket/3177">https://devel.rtems.org/ticket/3177</a> )
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	11 October 2017 22:36:34
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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#### Description

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:

- new Sphinx document
- contents generated from POSIX API tracking spreadsheet (CSV)
- outline per .h file, not functional area
- use bullets, not tables so easier to format

#### Comment 1

1. **Joel Sherrill**, Wed, 11 Oct 2017 22:37:09 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**
4. **component**: changed from **admin** to **doc**
5. **milestone**: set to **4.12.0**

#### Comment 2

1. **Chris Johns**, Thu, 12 Oct 2017 19:29:47 GMT
2. **owner**: changed from **Joel Sherrill** to **Chris Johns**

Add waf support to convert the CSV file to ReST.

#### Comment 3

1. **Chris Johns**, Fri, 13 Oct 2017 01:26:12 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 2804294/rtems-docs:

```
posix-compliance: Add automatic generation of the ReST file from CSV data.  
Closes #3177.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### **3178 - Update sh-rtems4.12 bset to use rtems-default (using old gcc)**



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<b>Link</b>	<a href="https://devel.rtems.org/ticket/3178">https://devel.rtems.org/ticket/3178</a> ( <a href="https://devel.rtems.org/ticket/3178">https://devel.rtems.org/ticket/3178</a> )
<b>Id</b>	3178
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	12 October 2017 01:11:16
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:15:31 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In c7f286e/rtems-source-builder:

```
rtems-sh.bset: Use default toolset specifically GCC 7
Closes #3178.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

**3179 - New warnings from Time Changes**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3179">https://devel.rtems.org/ticket/3179</a> ( <a href="https://devel.rtems.org/ticket/3179">https://devel.rtems.org/ticket/3179</a> )
<b>Id</b>	3179
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	12 October 2017 01:23:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

New warnings after picking up your recent commits. How are you checking for warnings?

```

../../../../../../../../rtems/c/src/../../../../cpukit/posix/src/pthreadattribdefault.c:58:5: warning: initialization discards 'const' qualifier from
pointer target type [-Wdiscarded-qualifiers]
    & POSIX_Threads_Default_attributes.affinitysetpreallocated,
    ^
../../../../../../../../rtems/c/src/../../../../cpukit/posix/src/adjtime.c: In function 'adjtime':
../../../../../../../../rtems/c/src/../../../../cpukit/posix/src/adjtime.c:85:16: warning: passing argument 1 of '_TOD_Adjust' from incompatible
pointer type [-Wincompatible-pointer-types]
    _TOD_Adjust( &delta_as_timestamp );
    ^
In file included from ../../../../../../../../../../rtems/c/src/../../../../cpukit/posix/src/adjtime.c:28:0:
../../../../../../../../../../../../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 *}'
    void _TOD_Adjust(
    ^~~~~~
sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
../../../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/_times.c: In function '_times':
../../../../../../../../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]
    _TOD_Get_zero_based_uptime( &binuptime );
    ^
In file included from ../../../../../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/_times.c:35:0:
../../../../../../../../../../../../erc32/lib/include/rtems/score/todimpl.h:215:20: note: expected 'Timestamp_Control * {aka long long int *}' but
argument is of type 'struct bintime *'
    static inline void _TOD_Get_zero_based_uptime(
    ^~~~~~
../../../../../../../../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]
    _Thread_Get_CPU_time_used( _Thread_Get_executing(), &bin_cpu_time_used );
    ^
In file included from ../../../../../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/_times.c:37:0:
../../../../../../../../../../../../erc32/lib/include/rtems/score/threadimpl.h:906:6: note: expected 'Timestamp_Control * {aka long long int *}' but
argument is of type 'struct bintime *'
    void _Thread_Get_CPU_time_used(
    ^~~~~~

```

**Comment 1**

1. **Joel Sherrill**, Thu, 12 Oct 2017 01:24:09 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:20:28 GMT

In 58500540/rtems:

```

posix: Fix const qualifier warning
Update #2514. Update #3179.

```

**Comment 3**

1. **Sebastian Huber**, Thu, 12 Oct 2017 05:27:11 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 16db540a/rtems:

```

Use right time format in _times()
Update #2740. Close #3179.

```

**Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**3180 - ar warning: u' modifier ignored since D' is the default (see `U')**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3180">https://devel.rtems.org/ticket/3180</a> ( <a href="https://devel.rtems.org/ticket/3180">https://devel.rtems.org/ticket/3180</a> )
<b>Id</b>	3180
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	12 October 2017 01:25:21
<b>Modified</b>	22 October 2018 05:52:46
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Remove this warning

```
sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
```

#### Comment 1

1. **Joel Sherrill**, Thu, 12 Oct 2017 01:41:30 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **severity**: changed from **blocker** to **normal**
5. **milestone**: changed from **4.12.0** to **Indefinite**

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.

#### Comment 2

1. **Sebastian Huber**, Mon, 22 Oct 2018 05:52:46 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: changed from **Indefinite** to **5.1**

Fixed by [637546a659cd71fba108bbdce4478e466d3b65bb/rtems].

### 3181 - Various cc1plus warnings for "valid for C/ObjC but not for C++"

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3181">https://devel.rtems.org/ticket/3181</a> ( <a href="https://devel.rtems.org/ticket/3181">https://devel.rtems.org/ticket/3181</a> )
<b>Id</b>	3181
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	12 October 2017 02:30:54
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Fix these

```
cc1plus: warning: command line option '-Wmissing-prototypes' is valid for C/ObjC but not for C++
cc1plus: warning: command line option '-Wimplicit-function-declaration' is valid for C/ObjC but not for C++
cc1plus: warning: command line option '-Wstrict-prototypes' is valid for C/ObjC but not for C++
cc1plus: warning: command line option '-Wnested-externs' is valid for C/ObjC but not for C++
```

#### Comment 1

1. **Joel Sherrill**, Thu, 12 Oct 2017 02:35:11 GMT
2. **owner**: set to **Joel Sherrill** <joel@...>

3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 14e5a08/rtems:

```
Fix warnings for using C/ObjC specific GCC flags with C++
Closes #3181.
```

### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

---

## **3182 - CLOCK\_REALTIME timeout implementation is not POSIX compliant**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3182">https://devel.rtems.org/ticket/3182</a> ( <a href="https://devel.rtems.org/ticket/3182">https://devel.rtems.org/ticket/3182</a> )
<b>Id</b>	3182
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 October 2017 05:35:17
<b>Modified</b>	22 March 2018 08:06:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

Changes of the CLOCK\_REALTIME must trigger absolute timeouts. This is not the case. There is no test for this in RTEMS.

### Comment 1

1. **Joel Sherrill**, Thu, 12 Oct 2017 17:34:48 GMT

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?

### Comment 2

1. **Sebastian Huber**, Fri, 13 Oct 2017 08:07:57 GMT

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>

### Comment 3

1. **Sebastian Huber**, Fri, 13 Oct 2017 08:08:28 GMT
2. **description:** modified (diff)

### Comment 4

1. **Sebastian Huber**, Tue, 17 Oct 2017 06:31:01 GMT

In bf2a53d2/rtems:

```
score: Rename watchdog variants
Rename PER_CPU_WATCHDOG_RELATIVE in PER_CPU_WATCHDOG_MONOTONIC to highlight the corresponding POSIX CLOCK_MONOTONIC.
Rename PER_CPU_WATCHDOG_ABSOLUTE in PER_CPU_WATCHDOG_REALTIME to highlight the corresponding POSIX CLOCK_REALTIME.
Update #3117. Update #3182.
```

**Comment 5**

1. **Sebastian Huber**, Tue, 17 Oct 2017 06:31:14 GMT

In 91ce012c/rtems:

```
score: Rename _Watchdog_Per_CPU_insert_monotonic()
Rename _Watchdog_Per_CPU_insert_monotonic() in _Watchdog_Per_CPU_insert_ticks().
Update #3117. Update #3182.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 17 Oct 2017 11:57:07 GMT

In 9a583a9/rtems-libbsd:

```
SLEEPQUEUE(9): Update due to API changes
Update #3117. Update #3182.
```

**Comment 7**

1. **Sebastian Huber**, Thu, 19 Oct 2017 12:47:54 GMT

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.

**Comment 8**

1. **Joel Sherrill**, Thu, 19 Oct 2017 13:03:51 GMT

I think having a time in the past `yield` is a good solution. Just add it to the documentation in the right spots.

**Comment 9**

1. **Sebastian Huber**, Thu, 19 Oct 2017 13:06:45 GMT

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".

**Comment 10**

1. **Sebastian Huber**, Thu, 19 Oct 2017 13:40:08 GMT

Why is `nanosleep()` not implemented as `clock_nanosleep(CLOCK_REALTIME, 0, rqtp, rmp)`?

**Comment 11**

1. **Joel Sherrill**, Thu, 19 Oct 2017 13:44:02 GMT

History. `nanosleep` has been there much longer.

**Comment 12**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:14 GMT

In d85c94c0/rtems:

```
psxclockrealtime01: New test
Update #3182.
```

**Comment 13**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:25 GMT

In 02878626/rtems:

```
score: Add _Thread_Add_timeout_ticks()
Replace _Thread_Timer_insert_monotonic() with _Thread_Add_timeout_ticks().
Update #3117. Update #3182.
```

**Comment 14**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:37 GMT

In 27cfe7c/rtems:

```
score: Add _Watchdog_Ticks_per_second
```

This value is frequently used. Avoid the function call overhead and the integer division at run-time.

Update #3117. Update #3182.

**Comment 15**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:20:49 GMT

In e0dc6ef/rtems:

```
rtems: Simplify RTEMS_MILLISECONDS_TO_MICROSECONDS
```

Remove the cast so that it can be used in C pre-processor directives.

Update #3117. Update #3182.

**Comment 16**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:01 GMT

In 381ef5c/rtems:

```
confdefs: Warn about problematic ticks per second
```

A non-integer clock ticks per second value may lead to inaccurate time format conversions.

Update #3117. Update #3182.

**Comment 17**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:13 GMT

In ecef3698/rtems:

```
score: Rename _Watchdog_Ticks_from_*
```

```
Rename _Watchdog_Ticks_from_*() to _Watchdog_Realtime_from_*().
```

This highlights that these routines are used for the CLOCK\_REALTIME watchdogs (in contrast to CLOCK\_MONOTONIC).

Update #3117. Update #3182.

**Comment 18**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:25 GMT

In adaf5c23/rtems:

```
score: _Watchdog_Is_far_future_realtime_timespec()
```

Update #3117. Update #3182.

**Comment 19**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:36 GMT

In d16d07f/rtems:

```
score: Add _Watchdog_Is_valid_interval_timespec()
```

Update #3117. Update #3182.

**Comment 20**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:21:48 GMT

In 7ed377b/rtems:

```
score: _Watchdog_Is_far_future_monotonic_timespec
Update #3117. Update #3182.
```

#### **Comment 21**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:00 GMT

In cea5ff7/rtems:

```
score: Add _Watchdog_Nanoseconds_per_tick
Move it from the configuration to a separate variable.
Update #3117. Update #3182.
```

#### **Comment 22**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:12 GMT

In b13ec80/rtems:

```
score: Add _Watchdog_Monotonic_from_timespec()
Update #3117. Update #3182.
```

#### **Comment 23**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:24 GMT

In 5747962/rtems:

```
score: _Watchdog_Per_CPU_lazy_insert_monotonic()
Update #3117. Update #3182.
```

#### **Comment 24**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:36 GMT

In 6de1f92/rtems:

```
score: Add _Thread_Continue()
Update #3117. Update #3182.
```

#### **Comment 25**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:22:48 GMT

In 1666ffe5/rtems:

```
score: Rename function threadq support function
Rename _Thread_queue_Context_set_do_nothing_enqueue_callout() into
_Thread_queue_Context_set_enqueue_do_nothing_extra(). More
_Thread_queue_Context_set_enqueue_*() functions will follow.
Update #3117. Update #3182.
```

#### **Comment 26**

1. **Sebastian Huber**, Tue, 24 Oct 2017 08:23:00 GMT

In c3105894/rtems:

```
score: Move thread queue timeout handling
Update #3117. Update #3182.
```

#### **Comment 27**

1. **Sebastian Huber**, Wed, 25 Oct 2017 05:54:30 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c5161ee/rtems-docs:

posix-users: Clarify timed operation errors  
Close #3182.

#### **Comment 28**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 29**

1. **Sebastian Huber**, Thu, 22 Mar 2018 07:43:06 GMT

In 3da2f471/rtems:

mpci: Update due to thread queue API changes  
Update #3117. Update #3182.

#### **Comment 30**

1. **Sebastian Huber**, Thu, 22 Mar 2018 08:06:14 GMT

In 7353422f/rtems:

mpci: Fix \_MPCI\_Enqueue\_callout()  
Update #3117. Update #3182.

---

### **3185 - Change uptime seconds to int32\_t**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3185">https://devel.rtems.org/ticket/3185</a> ( <a href="https://devel.rtems.org/ticket/3185">https://devel.rtems.org/ticket/3185</a> )
<b>Id</b>	3185
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 October 2017 11:27:33
<b>Modified</b>	9 November 2017 12:40:44
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

The use of a 64-bit integer for the uptime seconds is overkill. Use int32\_t instead for \_Timecounter\_Time\_uptime. Change derived APIs, e.g. rtems\_clock\_get\_uptime\_seconds().

#### **Comment 1**

1. **Sebastian Huber**, Thu, 12 Oct 2017 11:27:47 GMT
2. **summary**: changed from **Change uptime to int32\_t** to **Change uptime seconds to int32\_t**

#### **Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### **Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:09:37 GMT



In c6b890c/rtems-source-builder:

5: Add Newlib patches  
Update #3185. Close #3189.

#### **Comment 4**

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:14:19 GMT

In 5f02a57/rtems:

score: Change `_Timecounter_Time_uptime` to `int32_t`  
Move basic timecounter API shared with BSD network stack to .  
Update #3185.

#### **Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 12:39:54 GMT

In b225aa1/rtems:

Reject incompatible tool chains  
Update #3185.

#### **Comment 6**

1. **Sebastian Huber**, Thu, 09 Nov 2017 12:40:44 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

### **3187 - smptests/Makefile.am Issues**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3187">https://devel.rtems.org/ticket/3187</a> ( <a href="https://devel.rtems.org/ticket/3187">https://devel.rtems.org/ticket/3187</a> )
<b>Id</b>	3187
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	12 October 2017 18:32:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

There appear to be two issues in smptests/Makefile.am:

- `smppsxaffinity0[12]` are listed twice. This causes a warning. I am unsure if they should always be built or only when POSIX is enabled.
- `smppsxmutex01` is listed in the "HAS\_POSIX" section. Aren't POSIX mutexes always on now so this test should not be inside the conditional?

#### **Comment 1**

1. **Joel Sherrill**, Thu, 12 Oct 2017 18:32:53 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**
4. **component**: changed from **admin** to **build**

#### **Comment 2**

1. **Sebastian Huber**, Fri, 13 Oct 2017 04:55:00 GMT

It is a bit work left to enable the POSIX tests by default, e.g. a lot of them use `pthread_create()`.

### Comment 3

1. **Sebastian Huber**, Wed, 25 Oct 2017 05:59:02 GMT

The 2. is a duplicate of #2514.

### Comment 4

1. **Sebastian Huber**, Wed, 25 Oct 2017 05:59:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In e3ef14b/rtems:

```
smptests: Remove duplicate Makefile targets
Close #3187.
```

### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## **3188 - Add C11 Threading Examples**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3188">https://devel.rtems.org/ticket/3188</a> ( <a href="https://devel.rtems.org/ticket/3188">https://devel.rtems.org/ticket/3188</a> )
<b>Id</b>	3188
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	12 October 2017 19:21:24
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

C11 is new and we need to provide examples.

### Comment 1

1. **Joel Sherrill**, Thu, 12 Oct 2017 19:21:40 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

### Comment 2

1. **Joel Sherrill**, Thu, 12 Oct 2017 19:22:36 GMT

Add c11 directory to examples-v2 which contains a set of examples for using the entire C11 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

### Comment 3

1. **Joel Sherrill**, Thu, 12 Oct 2017 19:23:27 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1963961/examples-v2:

Add examples for using the entire C11 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

Closes #3188.

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

## 3189 - MUTEX\_INITIALIZER missing braces warning

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3189">https://devel.rtems.org/ticket/3189</a> ( <a href="https://devel.rtems.org/ticket/3189">https://devel.rtems.org/ticket/3189</a> )
<b>Id</b>	3189
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 October 2017 01:50:07
<b>Modified</b>	9 November 2017 07:09:37
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Hi

Multiple tests have this warning. Appears to be something not quite right in the newlib .h files.

```

21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_unlock.c:27:27: warning: missing braces
around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_trylock.c:27:27: warning: missing
braces around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_timedlock.c:30:27: warning: missing
braces around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_lock.c:27:27: warning: missing braces
around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_init.c:27:31: warning: missing braces
around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_destroy.c:27:28: warning: missing
braces around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_cond_wait.c:28:27: warning: missing braces
around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/pthread_cond_timedwait.c:28:27: warning: missing
braces around initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxautoinit02/init.c:33:25: warning: missing braces around
initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxautoinit01/init.c:29:28: warning: missing braces around
initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxautoinit01/init.c:28:28: warning: missing braces around
initializer [-Wmissing-braces]
21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psx0

```

#### Comment 1

1. **Joel Sherrill**, Fri, 13 Oct 2017 01:50:22 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

#### Comment 2

1. **Sebastian Huber**, Fri, 13 Oct 2017 06:04:01 GMT
- How did you get these warnings? I get them when I turn on -Wsystem-headers by hand.

#### Comment 3

1. **Sebastian Huber**, Fri, 13 Oct 2017 06:09:49 GMT
- Fixed in Newlib. I will integrate this with the October Newlib snapshot.

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:09:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c6b890c/rtems-source-builder:

```
5: Add Newlib patches
Update #3185. Close #3189.
```

### 3190 - RTEMS Tester covoar does not link on MacOS

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3190">https://devel.rtems.org/ticket/3190</a> ( <a href="https://devel.rtems.org/ticket/3190">https://devel.rtems.org/ticket/3190</a> )
<b>Id</b>	3190
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 October 2017 16:29:18
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	covoar
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

The executables do not link on MacOS.

#### Comment 1

1. **Chris Johns**, Fri, 13 Oct 2017 16:31:25 GMT
2. **component**: changed from **admin** to **tool**

#### Comment 2

1. **Chris Johns**, Fri, 13 Oct 2017 16:34:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0054585/rtems-tools:

```
tester/covoar: Use standard waf modules for linking.
Use the standard modules use option for building executables and let waf figure out the platform specifics.
Closes #3190.
```

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

### 3191 - RTEMS Tester covoar dies with no arguments.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3191">https://devel.rtems.org/ticket/3191</a> ( <a href="https://devel.rtems.org/ticket/3191">https://devel.rtems.org/ticket/3191</a> )
<b>Id</b>	3191
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 October 2017 16:30:48
<b>Modified</b>	2 January 2018 23:00:41
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

Running covoar terminate with an unhandled exception with no arguments on the command line:

```
$ ./build/tester/covoar/covoar
error missing option: target -T
Usage: ./build/tester/covoar/covoar [-v] -T TARGET -f FORMAT [-E EXPLANATIONS] -l EXECUTABLE coverage1 ... coverageN
--OR--
Usage: ./build/tester/covoar/covoar [-v] -T TARGET -f FORMAT [-E EXPLANATIONS] -e EXE_EXTENSION -c COVERAGEFILE_EXTENSION EXECUTABLE1
... EXECUTABLE2
-v                - verbose at initialization
-T TARGET        - target name
-f FORMAT        - coverage file format (RTEMS, QEMU, TSIM or Skyeeye)
-E EXPLANATIONS - name of file with explanations
-s SYMBOLS_FILE - name of file with symbols of interest
-l EXECUTABLE    - name of executable to get symbols from
-e EXE_EXTENSION - extension of the executables to analyze
-c COVERAGEFILE_EXTENSION - extension of the coverage files to analyze
-g GCNOS_LIST    - name of file with list of *.gcno files
-p PROJECT_NAME - name of the project
-C ConfigurationFileName - name of configuration file
-O Output_Directory - name of output directory (default=.)
libc++abi.dylib: terminating with uncaught exception of type std::__1::basic_string, std::__1::allocator >
Abort trap: 6
```

## Comment 1

1. **Joel Sherrill**, Wed, 01 Nov 2017 20:43:46 GMT
2. **owner:** set to **Joel Sherrill**
3. **status:** changed from **new** to **assigned**

## Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## Comment 3

1. **Joel Sherrill**, Tue, 05 Dec 2017 14:05:02 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In b516a58/rtems-tools:

```
tester/covoar/covoar.cc: Exit using exit() rather than just throwing.
Closes #3191.
```

## Comment 4

1. **Joel Sherrill**, Tue, 02 Jan 2018 23:00:41 GMT

In 0333442/rtems-tools:

```
tester/covoar/covoar.cc: Add missing throw keyword
Why clang caught this and gcc didn't is a mystery.
Updates #3191.
```

## 3198 - Add lazy update of line control and baud divisor to NS16550 serial driver

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3198">https://devel.rtems.org/ticket/3198</a> ( <a href="https://devel.rtems.org/ticket/3198">https://devel.rtems.org/ticket/3198</a> )
<b>Id</b>	3198
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 October 2017 05:18:39
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	dev/serial
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 18 Oct 2017 06:52:56 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 67015b6/rtems:

```
dev/serial: Lazy update of NS16550 settings
```

```
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.
```

```
Close #3198.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3200 - m32c tests don't build -- test\_context too large**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3200">https://devel.rtems.org/ticket/3200</a> ( <a href="https://devel.rtems.org/ticket/3200">https://devel.rtems.org/ticket/3200</a> )
<b>Id</b>	3200
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 October 2017 14:22:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```
../../../../../../../../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.

**Comment 1**

1. **Joel Sherrill**, Mon, 23 Oct 2017 14:22:32 GMT
2. **owner**: set to **Chris Johns**

3. **status:** changed from **new** to **assigned**

#### Comment 2

1. **Joel Sherrill**, Mon, 23 Oct 2017 18:12:30 GMT
2. **owner:** changed from **Chris Johns** 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
```

```
#define CPU_COUNT 32
```

```
+#endif
```

```
#define MSG_COUNT 3
```

#### Comment 3

1. **Sebastian Huber**, Tue, 24 Oct 2017 07:28:08 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 0e1ad7fa/rtems:

```
tmtests/tmfine01: Reduce test context size
Reduce test context size in non-SMP configurations.
Close #3200.
```

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 3201 - epiphany tools checksum error

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3201">https://devel.rtems.org/ticket/3201</a> ( <a href="https://devel.rtems.org/ticket/3201">https://devel.rtems.org/ticket/3201</a> )
<b>Id</b>	3201
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 October 2017 14:24:00
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	arch/epiphany
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 ->
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: checksum error: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip  
 error: checksum failure file: sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip

#### Comment 1

1. **Joel Sherrill**, Mon, 23 Oct 2017 17:20:00 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 6c60a4b/rtems-source-builder:

```
rtems-epiphany.bset: Add sha512sum for GCC git repository
Closes #3201.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

## 3202 - or1k tools build error

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3202">https://devel.rtems.org/ticket/3202</a> ( <a href="https://devel.rtems.org/ticket/3202">https://devel.rtems.org/ticket/3202</a> )
<b>Id</b>	3202
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 October 2017 14:24:53
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	arch/or1k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

I assume this is a side-effect of recent checksum changes. Otherwise, there is a serious problem.

download: (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:  
 0b8b2a23c7d1592315fe0130188f457c80f8b1e26645535bed091a5e0671682dc44a1987d00e6939a1b1c562c7579404db43183e666c29c2b479446aa61ca4f6 =>  
 4c44afec9c00a45b9322d787da3796f3294f207ddae9fe9faab3327b6991ac75  
 warning: checksum error: gdb-7.11-sis-leon2-leon3.diff  
 error: checksum failure file: patches/gdb-7.11-sis-leon2-leon3.diff

#### Comment 1

1. **Joel Sherrill**, Mon, 23 Oct 2017 14:25:04 GMT
2. **description:** modified (diff)

#### Comment 2

1. **Joel Sherrill**, Mon, 23 Oct 2017 16:18:07 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 5295cb8/rtems-source-builder:

```
rtems-gdb-7.11-1.cfg: Correct sha512sum on gdb-7.11-sis-leon2-leon3.diff
Closes #3202.
```



**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3203 - Upgrade trac to fix numerous problems.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3203">https://devel.rtems.org/ticket/3203</a> ( <a href="https://devel.rtems.org/ticket/3203">https://devel.rtems.org/ticket/3203</a> )
<b>Id</b>	3203
<b>Reporter</b>	Amar Takhar
<b>Created</b>	23 October 2017 20:01:53
<b>Modified</b>	20 October 2018 23:01:00
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	Sebastian Huber Chris Johns thomas.doerfler Joel Sherrill
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

There are a ton of issues going on with trac that need to be resolved. The two major ones are:

- The ticket commenter emails people who aren't a trac user. This may require a custom modification.
- The always\_email setting is taking things too literally and always sending emails even if it shouldn't.
- The Git plug-in consistently spins, floods the jail with processes then the site dies.
- Frequent, strange and random crashes.
  - This one is not a huge deal since it's just that request process users won't even notice when this happens.

Upgrading trac is a weeklong project usually I will start preparing for it and update here.

If anyone has any feature requests now is the time to do it!

**Comment 1**

1. **Amar Takhar**, Sat, 20 Oct 2018 23:01:00 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **milestone**: set to **5.1**

The first 2 items are fixed which were the most important.

The last two will only be fixed by a major upgrade which is a lot of work. There's a lot of custom glue we work and it will be a rewrite for most of it for 1.3. Not a bad thing since 1.3 is far superior to 1.2

I'll call this fixed and open a new ticket for the upgrade when the time comes I've made so many changes this ticket is no longer relevant.

---

**3204 - Exception in rtems-test**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3204">https://devel.rtems.org/ticket/3204</a> ( <a href="https://devel.rtems.org/ticket/3204">https://devel.rtems.org/ticket/3204</a> )
<b>Id</b>	3204
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 October 2017 20:34:03
<b>Modified</b>	13 December 2019 14:27:38
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

```
+ /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_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
RTEMS Testing - Tester, 4.12 (52513610668b)
[ 5/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: hello.exe
[ 6/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: cxx_iostream.exe
[ 3/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: cdtest.exe
[ 9/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: paranoia.exe
[ 7/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: minimum.exe
[ 1/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: base_sp.exe
[11/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: unlimited.exe
[ 4/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: fileio.exe
[10/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: ticker.exe
[ 2/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: capture.exe
[ 8/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: nsecs.exe
Traceback (most recent call last):
  File "/home/joel/rtems-work/rtems-tools//tester/rtems-test", line 40, in
    rt.test.run()
  File "/data/home/joel/rtems-work/rtems-tools/tester/rt/test.py", line 336, in run
    job.trace()
  File "/data/home/joel/rtems-work/rtems-tools/tester/rt/test.py", line 189, in report_finished
    reports.log(tst.executable, report_mode)
  File "/data/home/joel/rtems-work/rtems-tools/tester/rt/report.py", line 193, in log
    exe = path.basename(self.results[name]['exe'])
  File "/home/joel/rtems-work/rtems-tools/rtemstoolkit/path.py", line 77, in basename
    return shell(os.path.basename(path))
  File "/usr/lib64/python2.7/posixpath.py", line 121, in basename
    i = p.rfind('/') + 1
AttributeError: 'NoneType' object has no attribute 'rfind'
```

### Comment 1

1. **Joel Sherrill**, Mon, 23 Oct 2017 20:34:13 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Chris Johns**, Tue, 24 Oct 2017 11:23:33 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In bf58911/rtems-tools:

```
tester: Refactor to use INI format files for BSP configurations.
Add support for user configurations files with the --user-config. Add support for a $HOME/.rtemstesterrc for a user configuration.
Closes #3204.
```

### Comment 3

1. **Joel Sherrill**, Tue, 24 Oct 2017 14:13:19 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

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.

### Comment 4

1. **Chris Johns**, Tue, 24 Oct 2017 21:03:20 GMT

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

### Comment 5

1. **Chris Johns**, Tue, 24 Oct 2017 21:48:01 GMT

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.

#### Comment 6

1. **Chris Johns**, Tue, 24 Oct 2017 22:06:08 GMT

In 41d0c34/rtems-tools:

```
tester: Add a BSP field to each BSP INI configuration section.
```

```
The INI section in a BSP configuration is the name of the INI file so each BSP configuration section needs a BSP.
```

```
Updates #3204.
```

#### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 8

1. **Chris Johns**, Fri, 19 Oct 2018 00:32:43 GMT

Joel, is this ticket valid? Please close if fixed.

#### Comment 9

1. **Chris Johns**, Fri, 23 Nov 2018 03:54:05 GMT
2. **description**: modified (diff)
3. **summary**: changed from **Exception in rtems-tester** to **Exception in rtems-test**

#### Comment 10

1. **Chris Johns**, Fri, 23 Nov 2018 03:54:55 GMT

Ping.

#### Comment 11

1. **Joel Sherrill**, Fri, 13 Dec 2019 14:27:38 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **worksforme**

This is old and I haven't seen this issue recently.

## 3205 - Relative timespec timeouts are subject to integer overflows

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3205">https://devel.rtems.org/ticket/3205</a> ( <a href="https://devel.rtems.org/ticket/3205">https://devel.rtems.org/ticket/3205</a> )
<b>Id</b>	3205
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 October 2017 09:07:21
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 03 Nov 2017 06:08:04 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 3e81d52/rtems:

```
posix: Use far future for very long timeouts
Close #3205.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3207 - Supported Architectures Page is out of date**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3207">https://devel.rtems.org/ticket/3207</a> ( <a href="https://devel.rtems.org/ticket/3207">https://devel.rtems.org/ticket/3207</a> )
<b>Id</b>	3207
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	25 October 2017 12:49:10
<b>Modified</b>	5 December 2017 16:51:05
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

<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.

**Comment 1**

1. **Chris Johns**, Wed, 25 Oct 2017 22:23:34 GMT

Is this a duplicate of #3206?

The architecture and BSP is closely linked.

**Comment 2**

1. **Joel Sherrill**, Wed, 25 Oct 2017 22:26:58 GMT

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.

**Comment 3**

1. **Chris Johns**, Wed, 25 Oct 2017 22:36:30 GMT

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?

**Comment 4**

1. **Sebastian Huber**, Thu, 26 Oct 2017 05:39:15 GMT

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.

**Comment 5**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 6**

1. **Joel Sherrill**, Tue, 05 Dec 2017 16:51:05 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

**3209 - RSB should fail on this error**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3209">https://devel.rtems.org/ticket/3209</a> ( <a href="https://devel.rtems.org/ticket/3209">https://devel.rtems.org/ticket/3209</a> )
<b>Id</b>	3209
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 October 2017 19:01:06
<b>Modified</b>	11 April 2018 02:01:37
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

I was updating the md5's to sha512's on qemu and made a typo which resulted in this message:

```
reporting: devel/qemu-git-1.cfg -> qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1.xml
error: qemu-git-1.cfg:57: invalid number of hash args
loading: vdeplug
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:

```
%patch add qemu ${rtems_http_git}/rtems-tools/plain/tools/qemu/0001-openrisc-terminate-qemu-process-upon-receiving-a-hal.patch
-%hash md5 0001-openrisc-terminate-qemu-process-upon-receiving-a-hal.patch 6aa9dfc4522466ab4a463129b3b9cb1d
+%hash md5
376ea9e07c4c8077b345af02856549843dff2ad73b5da5886c71e859c4a0849522c59dcd05724270756763438aecdb70211ea2ae8cac28056cb17da53c3981e1
```

**Attachments:**

1. **Chris Johns**, Tue, 10 Apr 2018 08:03:19 GMT  
**attach**: set to [0001-sb-config-Terminate-building-on-an-error.patch](https://devel.rtems.org/ticket/3209/0001-sb-config-Terminate-building-on-an-error.patch) (<https://devel.rtems.org/ticket/3209/0001-sb-config-Terminate-building-on-an-error.patch>)

**Comment 1**

1. **Joel Sherrill**, Thu, 26 Oct 2017 19:01:16 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Thu, 26 Oct 2017 19:03:21 GMT
2. **description**: modified (diff)

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Chris Johns**, Tue, 10 Apr 2018 07:55:58 GMT

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?

#### Comment 5

1. **Chris Johns**, Wed, 11 Apr 2018 02:01:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 162cbda/rtems-source-builder:

```
sb/config: Terminate building on an error.
```

```
This changes the previous functionality where the RSB switch to dry run mode. This functionality can be enabled by adding --keep-going.
Close #3209.
```

## **3210 - Improve the RSB build email message**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3210">https://devel.rtems.org/ticket/3210</a> ( <a href="https://devel.rtems.org/ticket/3210">https://devel.rtems.org/ticket/3210</a> )
<b>Id</b>	3210
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 October 2017 06:20:10
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	RSB
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

The message needs more detail to provide a suitable archive.

#### Comment 1

1. **Chris Johns**, Fri, 27 Oct 2017 06:27:12 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0f97375/rtems-source-builder:

```
sb: Provide a more detail email message.
```

```
Close #3210.
```

#### Comment 2

1. **Chris Johns**, Fri, 27 Oct 2017 06:34:55 GMT

In 70e3e5e/rtems-source-builder:

```
sb: Set the to email address to build@...
Fix a minor bug in the to addr processing.
Update #3210
```

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 3211 - Fix pthread\_create() with user provided stack

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3211">https://devel.rtems.org/ticket/3211</a> ( <a href="https://devel.rtems.org/ticket/3211">https://devel.rtems.org/ticket/3211</a> )
<b>Id</b>	3211
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 October 2017 06:58:22
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

In case the user provides a stack with address and size, then do not alter the stack size.

#### Comment 1

1. **Sebastian Huber**, Sat, 28 Oct 2017 11:14:18 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1d572eba/rtems:

```
posix: Fix pthread_create() with user stack
```

```
In case the user provides a stack with address and size, then do not alter the stack size.
```

```
Close #3211.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

### 3212 - Qemu Fails to Build, RSB Gives Odd Traceback

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3212">https://devel.rtems.org/ticket/3212</a> ( <a href="https://devel.rtems.org/ticket/3212">https://devel.rtems.org/ticket/3212</a> )
<b>Id</b>	3212
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	27 October 2017 18:17:05
<b>Modified</b>	12 December 2019 23:24:47
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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:

```

script: 78: cd "/data/home/joel/rtems-work/rtems-source-builder/bare/build/qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1"
script: 79: echo "=> qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1:"
script: 80: echo "=> %prep:"
script: 81: build_top=$(pwd)
script: 82: source_dir qemu="qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144"
source setup: qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1: source qemu -q -n qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144
making dir: /data/home/joel/rtems-work/rtems-source-builder/bare/sources/git
url: git://git.qemu-project.org/qemu.git?pull?checkout=42d58e7c6760cb9c55627c28ae538e27dcf2f144?submodule=dtc -> /data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git
cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /usr/bin/git status
exe: ['/usr/bin/git', 'status']
# On branch am
# Untracked files:
#   (use "git add ..." to include in what will be committed)
#
#   ../../../../am/
#   ../../../../j_qemu
#   ../../../../nohup.out
#   ../../../../gcc7/
#   ../../../../rtems/4.10-targets
#   ../../../../rtems/all
#   ../../../../rtems/chris
#   ../../../../rtems/do_a
#   ../../../../rtems/dō_all
#   ../../../../rtems/nohup.out
#   ../../../../rtems/p_rm
#   ../../../../rtems/sh-gdb.diff
nothing added to commit but untracked files present (use "git add" to track)
cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /usr/bin/git clean -f -d
exe: ['/usr/bin/git', 'clean', '-f', '-d']
cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /usr/bin/git reset --hard
exe: ['/usr/bin/git', 'reset', '--hard']
HEAD is now at 96485e3 Add SHA512 checksums for qemu sources
cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /usr/bin/git checkout master
exe: ['/usr/bin/git', 'checkout', 'master']
Switched to branch 'master'
git: pull: git://git.qemu-project.org/qemu.git
cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /usr/bin/git pull
exe: ['/usr/bin/git', 'pull']
Build Set: Time 0:05:24.810871
abort: user terminated

```

**Attachments:****1 Joel Sherrill, Fri, 27 Oct 2017 18:17:23 GMT**

**attach:** set to [0001-Add-SHA512-checksums-for-qemu-sources.patch](https://devel.rtems.org/ticket/3212/0001-Add-SHA512-checksums-for-qemu-sources.patch) (<https://devel.rtems.org/ticket/3212/0001-Add-SHA512-checksums-for-qemu-sources.patch>)

**Comment 1**

1. **Joel Sherrill**, Fri, 27 Oct 2017 18:18:09 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 3**

1. **Chris Johns**, Wed, 11 Apr 2018 02:09:16 GMT

I see a patch for the checksums has already gone into the repo. See 18e1ba6a/rtems-source-builder. The attachment will not be merged.

**Comment 4**

1. **Chris Johns**, Wed, 11 Apr 2018 02:14:22 GMT

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?

**Comment 5**

1. **Chris Johns**, Wed, 21 Nov 2018 02:14:45 GMT

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?

**Comment 6**

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:24:47 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **worksforme**



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.

## 3213 - Move erc32, leon2, leon3, psim and jmr3904 to Tier 2

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3213">https://devel.rtems.org/ticket/3213</a> ( <a href="https://devel.rtems.org/ticket/3213">https://devel.rtems.org/ticket/3213</a> )
<b>Id</b>	3213
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	27 October 2017 19:08:31
<b>Modified</b>	13 December 2019 15:46:49
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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?

### Comment 1

1. **Joel Sherrill**, Fri, 27 Oct 2017 19:08:39 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Chris Johns**, Sat, 28 Oct 2017 07:03:51 GMT

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?

### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 4

1. **Joel Sherrill**, Wed, 29 Nov 2017 20:06:39 GMT

Where are the BSPs in each tier listed? If these are on the list, can this be closed?

### Comment 5

1. **Chris Johns**, Fri, 13 Dec 2019 15:37:29 GMT

Here <https://git.rtems.org/rtems-tools/tree/config/rtems-bsps-tiers.ini#n19>

**Comment 6**

1. **Chris Johns**, Fri, 13 Dec 2019 15:46:49 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 429b747/rtems-tools:

```
tiers: Move bsps from tier-3 to tier-2
Closes #3213
```

**3215 - Configuring a System Still Includes Notepads and Has Wrong Heading**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3215">https://devel.rtems.org/ticket/3215</a> ( <a href="https://devel.rtems.org/ticket/3215">https://devel.rtems.org/ticket/3215</a> )
<b>Id</b>	3215
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 November 2017 15:08:04
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

This section has the wrong heading and needs to be deleted anyway.

```
24.8.2. Specify Maximum Classic API Timers
CONSTANT:
CONFIGURE ENABLE CLASSIC API NOTEPADS
```

**Comment 1**

1. **Joel Sherrill**, Thu, 02 Nov 2017 15:08:15 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Thu, 02 Nov 2017 15:13:51 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 120c8a0/rtems-docs:

```
c-user/configuring_a_system.rst: Delete notepads section
closes #3215.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3216 - Replace vprintk() implementation**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3216">https://devel.rtems.org/ticket/3216</a> ( <a href="https://devel.rtems.org/ticket/3216">https://devel.rtems.org/ticket/3216</a> )
<b>Id</b>	3216
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 November 2017 15:25:09
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 02 Nov 2017 20:48:50 GMT

Good idea.

**Comment 2**

1. **Sebastian Huber**, Mon, 06 Nov 2017 06:29:13 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1082798/rtems:

```
score: Add _IO_Printf() and _IO_Vprintf()
```

The previous vprintk() implementation had 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.

The new implementation allows a low overhead rtems\_snprintf() if necessary.

Update #3199. Close #3216.

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

---

**3217 - Add RTEMS version, build and tools details to tests**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3217">https://devel.rtems.org/ticket/3217</a> ( <a href="https://devel.rtems.org/ticket/3217">https://devel.rtems.org/ticket/3217</a> )
<b>Id</b>	3217
<b>Reporter</b>	Chris Johns
<b>Created</b>	5 November 2017 07:38:56
<b>Modified</b>	10 April 2018 05:14:43
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Published test results need the RTEMS version, how it is built and the tools used to build the kernel and tests.

**Attachments:**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1 **Chris Johns**, Tue, 14 Nov 2017 01:00:54 GMT

**attach:** set to [0001-build-Fix-the-dependence-for-the-generating-the-key-patch](https://devel.rtems.org/ticket/3217/0001-build-Fix-the-dependence-for-the-generating-the-key-patch) (<https://devel.rtems.org/ticket/3217/0001-build-Fix-the-dependence-for-the-generating-the-key-patch>)

### Comment 1

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone:** changed from **4.12.0** to **5.1**

Milestone renamed

### Comment 2

1. **Chris Johns**, Sat, 11 Nov 2017 05:23:26 GMT

In 30218f5/rtems-tools:

```
tester: Add reporting the RTEMS version, build and tools.
Update #3217.
```

### Comment 3

1. **Sebastian Huber**, Mon, 13 Nov 2017 13:16:44 GMT

I get build failures on CentOS Linux release 7.4.1708 with a "make -j 1":

```
+ version=5
+ bsp=t32mppc
+ target=powerpc
+ build_dir=b-t32mppc
+ source_dir=/home/rtems/rtems
+ rm -rf b-t32mppc
+ mkdir b-t32mppc
+ cd b-t32mppc
+ /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
checking for gmake... gmake
checking for RTEMS Version... 5.0.0
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
...
Making all-am in sapi
gmake[5]: Entering directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi'
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
/home/rtems/rtems/c/src/../../../../cpukit/sapi/src/version.c:30:10: fatal error: version-vc-key.h: No such file or directory
`#include "version-vc-key.h"
^~~~~~
compilation terminated.
gmake[5]: *** [src/libsapi_a-version.o] Error 1
gmake[5]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi'
gmake[4]: *** [sapi] Error 2
gmake[4]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit'
gmake[3]: *** [cpukit] Error 2
gmake[3]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc'
gmake[2]: *** [all-recursive] Error 1
gmake[2]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc'
gmake[1]: *** [all-recursive] Error 1
gmake[1]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c'
make: *** [all-recursive] Error 1
```

It works only if I change into the sapi build directory and run "make" here:

```
cd /home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi
~/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi > make
Generating version-vc-key.h
gmake all-am
gmake[1]: Entering directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi'
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
```

### Comment 4

1. **Chris Johns**, Mon, 13 Nov 2017 21:53:06 GMT

Replying to Sebastian Huber:

I get build failures on CentOS Linux release 7.4.1708 with a "make -j 1":

```
#include "version-vc-key.h"
```

```
~
```

I can repeat this. And ..

```
$ find . -name version-vc-key.h
$
```

.. for some reason the key is not being generated with a single job.

**Comment 5**

1. **Chris Johns**, Tue, 14 Nov 2017 06:07:03 GMT

In 631f711/rtems:

```
build: Fix the dependence for the generating the key file.
Update #3217.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 14 Nov 2017 06:07:47 GMT

Thanks, this patch worked.

**Comment 7**

1. **Joel Sherrill**, Tue, 05 Dec 2017 14:27:35 GMT

Is this resolved? The tests are reporting version information. I can't tell what else is required before this ticket is complete.

**Comment 8**

1. **Chris Johns**, Tue, 10 Apr 2018 05:14:43 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

**3218 - Termios canonical mode (ICANON) does not return input line by line**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3218">https://devel.rtems.org/ticket/3218</a> ( <a href="https://devel.rtems.org/ticket/3218">https://devel.rtems.org/ticket/3218</a> )
<b>Id</b>	3218
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2017 06:50:14
<b>Modified</b>	9 November 2017 06:27:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	dev/serial
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 08 Nov 2017 07:44:45 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 791469bd/rtems:

```
termios: Fix canonical mode
```

```
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.
```

```
Close #3218.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT

2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**3219 - Zynq BSP missing linker option --gc-sections**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3219">https://devel.rtems.org/ticket/3219</a> ( <a href="https://devel.rtems.org/ticket/3219">https://devel.rtems.org/ticket/3219</a> )
<b>Id</b>	3219
<b>Reporter</b>	Chris Johns
<b>Created</b>	7 November 2017 16:45:20
<b>Modified</b>	17 September 2018 11:46:13
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This Zynq BSP is missing this option.

**Comment 1**

1. **Chris Johns**, Tue, 07 Nov 2017 16:45:32 GMT
2. **status**: changed from **assigned** to **accepted**

**Comment 2**

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

**Comment 3**

1. **Sebastian Huber**, Mon, 17 Sep 2018 11:46:13 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

This BSP has this option since [5460722d8d17fb6dc34bfca217b88369a8094260/rtems]. This happened before the ticket was opened.

---

**3220 - Change RTEMS release number scheme from 4.12 to 5**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3220">https://devel.rtems.org/ticket/3220</a> ( <a href="https://devel.rtems.org/ticket/3220">https://devel.rtems.org/ticket/3220</a> )
<b>Id</b>	3220
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 November 2017 06:11:33
<b>Modified</b>	21 March 2018 06:55:18
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

- Change version of RTEMS tools
- Change version of RSB
- Change version of RTEMS
- Documentation repo. Easy.
- Documentation website repo. Easy.
- Release procedure repo. Easy.
- Trac tickets. Not sure.
- Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.
- rtems.org website. That needs Joel.
- Make announcement on the devel and user mailing list

#### Comment 1

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:11:43 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

#### Comment 2

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:11:51 GMT
2. **status**: changed from **assigned** to **accepted**

#### Comment 3

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:27:14 GMT
2. **milestone**: changed from **4.12.0** to **5.1**

Milestone renamed

#### Comment 4

1. **Sebastian Huber**, Thu, 09 Nov 2017 06:29:50 GMT
2. **description**: modified (diff)

Trac update done.

#### Comment 5

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:03:21 GMT
2. **description**: modified (diff)

Wiki update done:

<https://devel.rtems.org/search?q=4.12&noquickjump=1&wiki=on>

#### Comment 6

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:06:37 GMT
- In e5dad3c/rtems-tools:

```
Change RTEMS version from 4.12 to 5
Update #3220.
```

#### Comment 7

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:09:27 GMT
- In 637061c/rtems-source-builder:

```
Change RTEMS version from 4.12 to 5
Update #3220.
```

#### Comment 8

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:09:48 GMT
- In 089327b/rtems-source-builder:

```
Change RSB version from 4.12 to 5
Update #3220.
```

**Comment 9**

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:15:40 GMT
  2. **description:** modified (diff)
- [4a14751879f61ba7a045a1fcc7ff485a88dcb51d/rtems]

**Comment 10**

1. **Sebastian Huber**, Thu, 09 Nov 2017 07:44:54 GMT
- In aff8c47/rtems-tools:
- Add tools/5 patch  
Update #3220.

**Comment 11**

1. **Sebastian Huber**, Thu, 09 Nov 2017 08:05:35 GMT
- In b5a4b15/rtems-tools:
- Add tools/5 patch  
Update #3220.

**Comment 12**

1. **Sebastian Huber**, Thu, 09 Nov 2017 08:17:04 GMT
- In 2da1356/rtems-tools:
- Add tools/5 patches  
Update #3220.

**Comment 13**

1. **Sebastian Huber**, Thu, 09 Nov 2017 08:26:23 GMT
- In 52f3790/rtems-tools:
- Add tools/5 patch  
Update #3220.

**Comment 14**

1. **Sebastian Huber**, Thu, 09 Nov 2017 08:35:50 GMT
- In a70b8e6/rtems-tools:
- Add tools/5 patch  
Update #3220.

**Comment 15**

1. **Sebastian Huber**, Thu, 09 Nov 2017 08:41:55 GMT
- In 469e362/rtems-tools:
- Add tools/5 patches  
Update #3220.

**Comment 16**

1. **Sebastian Huber**, Thu, 09 Nov 2017 09:24:34 GMT
- In 60a6d6e/rtems-docs:



Change RTEMS version to 5

Update #3220.

#### Comment 17

1. **Sebastian Huber**, Thu, 09 Nov 2017 09:25:36 GMT
2. **description:** modified (diff)

#### Comment 18

1. **Sebastian Huber**, Thu, 09 Nov 2017 09:26:10 GMT
2. **description:** modified (diff)

#### Comment 19

1. **Sebastian Huber**, Thu, 09 Nov 2017 13:29:24 GMT

In b15a719/rtems-libbsd:

Change RTEMS version to 5

Update #3220.

#### Comment 20

1. **Sebastian Huber**, Fri, 10 Nov 2017 08:39:09 GMT

In 9f34b38/rtems-tools:

Remove tools/5 patches

Update #3220.

#### Comment 21

1. **Sebastian Huber**, Mon, 13 Nov 2017 08:01:56 GMT

In cb40687/rtems:

Change RTEMS\_API from 5.0 to 5

This fixes the legacy Makefile based build system which expects RTEMS\_API to be identical to the tool chain version.

Update #3220.

#### Comment 22

1. **Sebastian Huber**, Thu, 23 Nov 2017 07:53:51 GMT
2. **description:** modified (diff)

#### Comment 23

1. **Sebastian Huber**, Wed, 06 Dec 2017 18:21:41 GMT

In 9526b034/rtems:

confdefs: Replace RTEMS 4.12 with 5.1

Update #3220.

#### Comment 24

1. **Sebastian Huber**, Wed, 21 Mar 2018 06:55:18 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

I think the version change is complete.

---

### 3221 - RSB wiki page duplicates documentation

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3221">https://devel.rtems.org/ticket/3221</a> ( <a href="https://devel.rtems.org/ticket/3221">https://devel.rtems.org/ticket/3221</a> )
<b>Id</b>	3221
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 November 2017 06:49:14
<b>Modified</b>	4 April 2020 18:18:05
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The wiki page  
<https://devel.rtems.org/wiki/Developer/Tools/RSB>  
 duplicates content with  
<https://docs.rtems.org/branches/master/rsb/index.html>

**Comment 1**

1. **Gedare Bloom**, Sat, 04 Apr 2020 18:18:05 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

I replaced the wiki content with a link to the docs.

---

**3224 - Upgrade or1k and m32c to Binutils 2.29**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3224">https://devel.rtems.org/ticket/3224</a> ( <a href="https://devel.rtems.org/ticket/3224">https://devel.rtems.org/ticket/3224</a> )
<b>Id</b>	3224
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 November 2017 08:13:50
<b>Modified</b>	10 November 2017 08:17:09
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/binutils
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Fri, 10 Nov 2017 08:14:00 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**

**Comment 2**

1. **Sebastian Huber**, Fri, 10 Nov 2017 08:17:09 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In db55c3/rtems-source-builder:

```
5: Use Binutils 2.29 for or1k and m32c
This avoids Binutils patches from rtems-tools.
Close #3224.
```

## 3225 - Upgrade m32c to GDB 8.0.1

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3225">https://devel.rtems.org/ticket/3225</a> ( <a href="https://devel.rtems.org/ticket/3225">https://devel.rtems.org/ticket/3225</a> )
<b>Id</b>	3225
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 November 2017 08:33:13
<b>Modified</b>	10 November 2017 08:36:40
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

### Comment 1

1. **Sebastian Huber**, Fri, 10 Nov 2017 08:36:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d20f4df/rtems-source-builder:

```
5: Upgrade m32c to GDB 8.0.1
Close #3225.
```

---

## 3226 - gdb: pr 16827, fix sim on Mavrck

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3226">https://devel.rtems.org/ticket/3226</a> ( <a href="https://devel.rtems.org/ticket/3226">https://devel.rtems.org/ticket/3226</a> )
<b>Id</b>	3226
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 November 2017 08:48:52
<b>Modified</b>	10 November 2017 09:07:22
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

### Attachments:

- 1 **Sebastian Huber**, Fri, 10 Nov 2017 08:50:03 GMT  
**attach**: set to [gdb-sim-arange-inline.diff](https://devel.rtems.org/ticket/3226/gdb-sim-arange-inline.diff) (<https://devel.rtems.org/ticket/3226/gdb-sim-arange-inline.diff>)
  - 2 **Sebastian Huber**, Fri, 10 Nov 2017 08:50:14 GMT  
**attach**: set to [gdb-sim-cgen-inline.diff](https://devel.rtems.org/ticket/3226/gdb-sim-cgen-inline.diff) (<https://devel.rtems.org/ticket/3226/gdb-sim-cgen-inline.diff>)
- 

### Comment 1

1. **Sebastian Huber**, Fri, 10 Nov 2017 09:07:22 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 831bc7e/rtems-source-builder:

```
5: Avoid rtems-tools for epiphany GDB
Close #3226.
```

**3227 - sb-check fails on Msys2 64-bit**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3227">https://devel.rtems.org/ticket/3227</a> ( <a href="https://devel.rtems.org/ticket/3227">https://devel.rtems.org/ticket/3227</a> )
<b>Id</b>	3227
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 November 2017 16:13:10
<b>Modified</b>	5 December 2017 14:31:08
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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>

```
$ ./source-builder/sb-check
error: no hosts defaults found; please add
```

After adding some prints, I learned this:

```
$ ./source-builder/sb-check
posix
made it
MSYS_NT-10.0
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:

```
$ ./source-builder/sb-check
posix
MSYS_NT-10.0
RTEMS Source Builder - Check, 5 (8b30eb3f440a modified)
error: exe: not found: (_ar) ar
error: exe: not found: (_as) as
error: exe: not found: (_cc) x86_64-w64-mingw32-gcc
error: exe: not found: (_cxx) x86_64-w64-mingw32-g++
error: exe: not found: (_ld) ld
error: exe: not found: (_nm) nm
error: exe: not found: (_objcopy) objcopy
error: exe: not found: (_objdump) objdump
error: exe: not found: (_ranlib) ranlib
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:

```
$ find / -name "*gcc.*"
/home/jrs007/.ssh/id_rsa_gcc.pub
/mingw64/bin/gcc.exe
/mingw64/bin/x86_64-w64-mingw32-gcc.exe
/mingw64/lib/gcc/x86_64-w64-mingw32/6.2.0/include/stdint-gcc.h
/mingw64/lib/gcc/x86_64-w64-mingw32/6.2.0/libgcc.a
/mingw64/share/info/gcc.info.gz
/mingw64/share/man/man1/gcc.1.gz
/usr/share/vim/vim80/compiler/gcc.vim
find: failed to read file names from file system at or below '/': No such file or directory
jrs007@JRS-OAR-Laptop MINGW64 /c/opt/rtems/rsb/source-builder
$ /mingw64/bin/x86_64-w64-mingw32-gcc.exe --version
x86_64-w64-mingw32-gcc.exe (Rev2, Built by MSYS2 project) 6.2.0
Copyright (C) 2016 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

**Attachments:**

- 
- 1 Joel Sherrill, Fri, 10 Nov 2017 16:13:54 GMT**  
attach: set to [rsb.diff](https://devel.rtems.org/ticket/3227/rsb.diff) (<https://devel.rtems.org/ticket/3227/rsb.diff>)
- 

**Comment 1**

- 1. Joel Sherrill, Fri, 10 Nov 2017 16:14:37 GMT**
- owner:** set to **Chris Johns**
- status:** changed from **new** to **assigned**

**Comment 2**

- 1. Joel Sherrill, Sun, 12 Nov 2017 15:53:38 GMT**
- status:** changed from **assigned** to **closed**
- resolution:** set to **fixed**

In d1e6dfc/rtems-source-builder:

```
5/rtems-all.bset: Add missing aarch64
closes #3227.
```

### Comment 3

1. **Joel Sherrill**, Sun, 12 Nov 2017 15:54:36 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

Wrong ticket closed

### Comment 4

1. **Chris Johns**, Sun, 12 Nov 2017 21:38:18 GMT

I have just updated my MSYS2 and I am not seeing an issue. Also:

```
chris@weng MINGW64 /d/opt/rtems/rsb.git/rtems
$ ../source-builder/sb-check
RTEMS Source Builder - Check, 5 (089327b5dcf9)
Environment is ok
chris@weng MINGW64 /d/opt/rtems/rsb.git/rtems
$ /mingw64/bin/x86_64-w64-mingw32-gcc.exe --version
x86_64-w64-mingw32-gcc.exe (Rev1, Built by MSYS2 project) 7.2.0
Copyright (C) 2017 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is 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> ?

### Comment 5

1. **Joel Sherrill**, Tue, 05 Dec 2017 14:31:08 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **worksforme**

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.

## 3228 - aarch64 missing from 5/rtems-all build set

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3228">https://devel.rtems.org/ticket/3228</a> ( <a href="https://devel.rtems.org/ticket/3228">https://devel.rtems.org/ticket/3228</a> )
<b>Id</b>	3228
<b>Reporter</b>	Chris Johns
<b>Created</b>	11 November 2017 01:51:48
<b>Modified</b>	12 November 2017 16:04:37
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	RSB aarch64
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

This arch needs to be added to the all build set.

### Comment 1

1. **Joel Sherrill**, Sun, 12 Nov 2017 16:04:24 GMT

Fixed by commit <https://git.rtems.org/rtems-source-builder/commit/?id=d1e6dfcb1e14d2f9d42c79e1137ddca6d8fc67d5>

### Comment 2

1. **Joel Sherrill**, Sun, 12 Nov 2017 16:04:37 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

**3229 - Add index to all documents.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3229">https://devel.rtems.org/ticket/3229</a> ( <a href="https://devel.rtems.org/ticket/3229">https://devel.rtems.org/ticket/3229</a> )
<b>Id</b>	3229
<b>Reporter</b>	Chris Johns
<b>Created</b>	11 November 2017 23:08:36
<b>Modified</b>	14 October 2018 00:36:36
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Indexes currently do not work. Fix this adding them to all documents.

Add index entries where possible.

**Comment 1**

1. **Chris Johns**, Sat, 11 Nov 2017 23:08:46 GMT
2. **status:** changed from **assigned** to **accepted**

**Comment 2**

1. **Chris Johns**, Sat, 11 Nov 2017 23:43:38 GMT

In 42d50d7/rtems-docs:

```
Add indexes to all documents.
Update #3229.
```

**Comment 3**

1. **Chris Johns**, Sun, 12 Nov 2017 02:57:42 GMT

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.

**Comment 4**

1. **Chris Johns**, Sun, 12 Nov 2017 03:35:39 GMT

In 6c56401/rtems-docs:

```
c-user: Fix index locations.
Update #3229.
```

**Comment 5**

1. **Chris Johns**, Mon, 13 Nov 2017 02:27:40 GMT

In 3384994/rtems-docs:

```
Clean up sphinx warnings.
Fix minor formatting issues. Fix reference the glossary TLS using ':term:'. Make sure nothing is between an anchor and the heading where ':ref:' references the anchor. This meant moving all the recently added '.. index::' entries.
Update #3232. Update #3229.
```

**Comment 6**

1. **Chris Johns**, Tue, 14 Nov 2017 22:04:30 GMT

The documentation README needs updating to explain the formatting I fixed in the last change in this ticket.

**Comment 7**

1. **Sebastian Huber**, Mon, 05 Feb 2018 09:04:34 GMT

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](https://docs.rtems.org/branches/master/c-user/configuring_a_system.html#configure-bdbuf-buffer-count)

**Comment 8**

1. **Sebastian Huber**, Mon, 05 Feb 2018 09:48:28 GMT

In 13debf/rtems-docs:

```
c-user: Fix index directives
Update #3229.
```

**Comment 9**

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:36:36 GMT

2. **status**: changed from **accepted** to **closed**

3. **resolution**: set to **fixed**

Fixed on review doc master.

**3231 - RTEMS Top level README needs updating.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3231">https://devel.rtems.org/ticket/3231</a> ( <a href="https://devel.rtems.org/ticket/3231">https://devel.rtems.org/ticket/3231</a> )
<b>Id</b>	3231
<b>Reporter</b>	Chris Johns
<b>Created</b>	12 November 2017 05:05:32
<b>Modified</b>	27 April 2020 07:09:25
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

- Add markdown header.
- Does the release process add a VERSION file to releases?
- Docs link is wrong.
- Anything else we need to add?

**Comment 1**

1. **Chris Johns**, Sun, 14 Oct 2018 20:26:01 GMT

2. **owner**: set to **Chris Johns**

3. **status**: changed from **new** to **accepted**

**Comment 2**

1. **Chris Johns**, Mon, 27 Apr 2020 01:36:16 GMT

In 396e9830/rtems:

```
README: Fix the rtems.git line
Updates #3231
```

**Comment 3**

1. **Chris Johns**, Mon, 27 Apr 2020 07:09:25 GMT

2. **status**: changed from **accepted** to **closed**

3. **resolution**: set to **fixed**

**3232 - Use of .. include:: in the User Manual should be changed.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3232">https://devel.rtems.org/ticket/3232</a> ( <a href="https://devel.rtems.org/ticket/3232">https://devel.rtems.org/ticket/3232</a> )
<b>Id</b>	3232
<b>Reporter</b>	Chris Johns
<b>Created</b>	12 November 2017 23:04:38
<b>Modified</b>	13 November 2017 02:27:40
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This tricket for Sphinx highlights an issue when using .. include::, we should be using .. toctree::

<https://github.com/sphinx-doc/sphinx/issues/3432>

**Comment 1**

1. **Chris Johns**, Mon, 13 Nov 2017 00:54:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ac0eaff/rtems-docs:

```
Use '.. toctree::' and not '.. include::' in the User Manual.
Change all suitable '.. include::' to TOC tree. Remove unused and not needed sections. Fix the conf.py to not exclude some files.
Close #3232.
```

**Comment 2**

1. **Chris Johns**, Mon, 13 Nov 2017 02:27:40 GMT

In 3384994/rtems-docs:

```
Clean up sphinx warnings.
Fix minor formatting issues. Fix reference the gloassary TLS using ':term:'. Make sure nothing is between an anchor and the heading where
':ref:' references
the anchor. This meant moving all the recently added '.. index::' entries.
Update #3232. Update #3229.
```

**3234 - Quick Start Instructions Inconsistent**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3234">https://devel.rtems.org/ticket/3234</a> ( <a href="https://devel.rtems.org/ticket/3234">https://devel.rtems.org/ticket/3234</a> )
<b>Id</b>	3234
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 November 2017 18:28:45
<b>Modified</b>	14 November 2017 18:35:48
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.



**Comment 1**

1. **Joel Sherrill**, Tue, 14 Nov 2017 18:29:00 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Tue, 14 Nov 2017 18:35:48 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **invalid**

Must have misread the documentation.

---

**3235 - Fix rtems\_semaphore\_flush() for priority inheritance semaphores**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3235">https://devel.rtems.org/ticket/3235</a> ( <a href="https://devel.rtems.org/ticket/3235">https://devel.rtems.org/ticket/3235</a> )
<b>Id</b>	3235
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 November 2017 13:08:04
<b>Modified</b>	16 November 2017 13:40:44
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The `_Semaphore_Get_operations()` must return the proper operations for priority inheritance semaphores.  
Add a test case for `rtems_semaphore_flush()` with priority inheritance.

**Comment 1**

1. **Sebastian Huber**, Thu, 16 Nov 2017 13:40:44 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 79a998d/rtems:

```
rtems: rtems_semaphore_flush() with prio inherit
The _Semaphore_Get_operations() must return the proper operations for priority inheritance semaphores.
Add a test case for rtems_semaphore_flush() with priority inheritance.
Close #3235.
```

---

**3236 - Fix thread queue owner priority update in \_Thread\_queue\_Flush\_critical()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3236">https://devel.rtems.org/ticket/3236</a> ( <a href="https://devel.rtems.org/ticket/3236">https://devel.rtems.org/ticket/3236</a> )
<b>Id</b>	3236
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 November 2017 13:37:57
<b>Modified</b>	16 November 2017 13:41:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 16 Nov 2017 13:41:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9c30c31e/rtems:

```
score: Fix _Thread_queue_Flush_critical()
```

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.

Close #3236.

**3237 - Fix priority ceiling updates**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3237">https://devel.rtems.org/ticket/3237</a> ( <a href="https://devel.rtems.org/ticket/3237">https://devel.rtems.org/ticket/3237</a> )
<b>Id</b>	3237
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 November 2017 14:25:37
<b>Modified</b>	16 November 2017 14:29:23
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 16 Nov 2017 14:29:23 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ec771f2/rtems:

```
score: Fix priority ceiling updates
```

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.

Close #3237.

**3238 - Git push to Trac with more than one commit does not update tickets.**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3238">https://devel.rtems.org/ticket/3238</a> ( <a href="https://devel.rtems.org/ticket/3238">https://devel.rtems.org/ticket/3238</a> )
<b>Id</b>	3238
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 November 2017 20:42:19
<b>Modified</b>	21 October 2018 00:13:37
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3561
<b>Blocked by</b>	

---

**Description**

The git push to trac hook does not queue or handle a number of commits in a push. As a result updates to tickets can be missed.

**Comment 1**

1. **Chris Johns**, Thu, 16 Nov 2017 20:42:34 GMT
2. **summary:** changed from **Git push to trace with more than one commit does not update tickets.** to **Git push to Trac with more than one commit does not update tickets.**

**Comment 2**

1. **Chris Johns**, Mon, 05 Feb 2018 23:42:25 GMT
2. **priority:** changed from **normal** to **highest**
3. **severity:** changed from **normal** to **blocker**

I consider this ticket is important and we need to find a solution. I am finding tickets are not being closed on branches if there is a push with more than one change. This creates 2 issues, the first the ticket is not closed effecting the milestone report \_\_ and \_\_ manually closing the ticket requires finding and pasting in the URL for the changeset and so we can have a possible mix of Trac changesets and cgit changesets. Given we have moved to Trac generated Release Notes (which are fantastic) having this data correct for releases is important.

**Comment 3**

1. **Sebastian Huber**, Thu, 03 May 2018 05:19:40 GMT

I use the following workaround:

```
git log --format='%h' origin/master..HEAD | tac | sed 's%(.*)%git push origin \1:master%' > tmp.sh
```

It creates a script to push each commit separately.

**Comment 4**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:35:56 GMT
2. **owner:** set to **Amar Takhar**
3. **status:** changed from **new** to **assigned**

**Comment 5**

1. **Chris Johns**, Sun, 14 Oct 2018 00:46:19 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Work around the problem with this script: <https://devel.rtems.org/wiki/Developer/Git/Committers#PushingMultipleCommits>

**Comment 6**

1. **Amar Takhar**, Sun, 21 Oct 2018 00:13:37 GMT
  2. **blocking:** set to **3561**
- 

**3239 - Add getentropy() implementation provided by each BSP**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3239">https://devel.rtems.org/ticket/3239</a> ( <a href="https://devel.rtems.org/ticket/3239">https://devel.rtems.org/ticket/3239</a> )
<b>Id</b>	3239
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 November 2017 06:26:22
<b>Modified</b>	22 November 2017 12:01:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	dev
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Christian Mauderer**, Fri, 17 Nov 2017 06:28:22 GMT

In `ddc339c/rtems`:

```
cpukit: Add _arc4random_getentropy_fail.
```

```
Add a default implementation of _arc4random_getentropy_fail with an internal error.
```

```
Update #3239.
```

#### Comment 2

1. **Christian Mauderer**, Fri, 17 Nov 2017 06:28:34 GMT

In `ca4895c/rtems`:

```
getentropy: Add cpu counter based implementation.
```

```
Update #3239.
```

#### Comment 3

1. **Christian Mauderer**, Fri, 17 Nov 2017 06:28:47 GMT

In `1358d4c/rtems`:

```
getentropy: Add test.
```

```
Update #3239.
```

#### Comment 4

1. **Christian Mauderer**, Fri, 17 Nov 2017 06:29:01 GMT

In `a9de9a7/rtems`:

```
bsp/atsam: Add getentropy().
```

```
Update #3239.
```

#### Comment 5

1. **Christian Mauderer**, Fri, 17 Nov 2017 06:48:05 GMT

In `d0b961a/rtems-docs`:

```
bsp-howto: Add getentropy.
```

```
Update #3239.
```

#### Comment 6

1. **Sebastian Huber**, Fri, 17 Nov 2017 06:58:41 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In baf9824/rtems-docs:

Document INTERNAL\_ERROR\_ARC4RANDOM\_GETENTROPY\_FAIL  
Close #3239.

#### **Comment 7**

1. **Sebastian Huber**, Mon, 20 Nov 2017 07:09:41 GMT

In 70f23e4/rtems-docs:

Clarify INTERNAL\_ERROR\_ARC4RANDOM\_GETENTROPY\_FAIL  
Update #3239.

#### **Comment 8**

1. **Sebastian Huber**, Mon, 20 Nov 2017 07:50:50 GMT

In 3d374d9/rtems:

bsps: Use a state in default getentropy()  
Use the boot time to initialize the state. Use the state, the current CPU counter and a very simple pseudo random number generator for getentropy(). At least, this enables to pass the test "GETENTROPY 1" on ERC32.  
Update #3239.

#### **Comment 9**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:01:45 GMT

In a8bf9a3/rtems:

bsps: Add default getentropy() implementation  
Update #3239. Close #3249.

---

### **3240 - cpukit/libmisc/stackchk/check.c stack addresses formatted incorrectly.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3240">https://devel.rtems.org/ticket/3240</a> ( <a href="https://devel.rtems.org/ticket/3240">https://devel.rtems.org/ticket/3240</a> )
<b>Id</b>	3240
<b>Reporter</b>	Andrei Chichak
<b>Created</b>	18 November 2017 05:32:17
<b>Modified</b>	6 December 2017 22:51:35
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	rtems_stack_checker_report_usage
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Attachments:**

- 
1. **Andrei Chichak**, Sat, 18 Nov 2017 06:14:29 GMT  
**attach**: set to 0001-libmisc-stackchk-check.c-correct-formatting-of-stack.patch (<https://devel.rtems.org/ticket/3240/0001-libmisc-stackchk-check.c-correct-formatting-of-stack.patch>)
-

**Comment 1**

1. **Andrei Chichak**, Sat, 18 Nov 2017 06:05:38 GMT

**Comment 2**

1. **Joel Sherrill**, Tue, 05 Dec 2017 21:17:08 GMT

Wasn't a fix for this committed? Is there work left to do? Either close or state actions left. Please

**Comment 3**

1. **Chris Johns**, Wed, 06 Dec 2017 06:05:34 GMT

No, the format of the prints is wrong and this patch fixes it. It needs to be applied and that should close the ticket.

**Comment 4**

1. **Chris Johns**, Wed, 06 Dec 2017 22:48:31 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **accepted**

**Comment 5**

1. **Andrei Chichak**, Wed, 06 Dec 2017 22:51:35 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 1737e8f/rtems:

```
libmisc/stackchk/check.c: correct formatting of stack pointers in Stack_check_Dump_threads_usage
```

```
Pointers were being printed as 0x rather than 0x. I altered the formatting define used to give the correct formatting. Close #3240
```

**3242 - Workarounds for UT699, UT700, and GR712RC errata**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3242">https://devel.rtems.org/ticket/3242</a> ( <a href="https://devel.rtems.org/ticket/3242">https://devel.rtems.org/ticket/3242</a> )
<b>Id</b>	3242
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 November 2017 12:57:44
<b>Modified</b>	19 December 2017 09:40:32
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

<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 - GRFPFU 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
```

**Attachments:**

- 1 **Sebastian Huber, Thu, 30 Nov 2017 08:32:21 GMT**  
attach: set to [gcc-sparc-ticket-3242\\_patch \(https://devel.rtems.org/ticket/3242/gcc-sparc-ticket-3242\\_patch\)](https://devel.rtems.org/ticket/3242/gcc-sparc-ticket-3242_patch)
- 2 **Sebastian Huber, Tue, 19 Dec 2017 08:36:20 GMT**  
attach: set to [gcc-sparc-ticket-3242-v2\\_patch \(https://devel.rtems.org/ticket/3242/gcc-sparc-ticket-3242-v2\\_patch\)](https://devel.rtems.org/ticket/3242/gcc-sparc-ticket-3242-v2_patch)

**Comment 1**

1. **Sebastian Huber, Thu, 30 Nov 2017 08:26:56 GMT**

Include also:

[SPARC] Recognize the load when accessing the GOT [SPARC] Prevent -mfix-ut699 from generating b2bst errata sequences

**Comment 2**

1. **Sebastian Huber, Thu, 30 Nov 2017 08:31:12 GMT**

```

2017-11-29 Daniel Cederman
Backport from mainline
* config/sparc/sparc.c (sparc_do_work_around_errata): Treat the
movsi_pic_gotdata_op instruction as a load for the UT699 errata
workaround.
2017-11-29 Martin Aberg
Backport from mainline
* config/sparc/sparc.md (divdf3 fix): Add NOP and adjust length
to prevent b2bst errata sequence.
(sqrtdf2 fix): Likewise.
2017-11-29 Daniel Cederman
Backport from mainline
* config/sparc/sparc.c (fpop_reg_depend_p): New function.
(div_sqrt_insn_p): New function.
(sparc_do_work_around_errata): Insert NOP instructions to
prevent sequences that could trigger the TN-0013 errata for
certain LEON3 processors.
(pass_work_around_errata::gate): Also test sparc_fix_lost_divsqrt.
(sparc_option_override): Set sparc_fix_lost_divsqrt appropriately.
* config/sparc/sparc.md (fix_lost_divsqrt): New attribute.
(in_branch_delay): Prevent div and sqrt in delay slot if
fix_lost_divsqrt.
* config/sparc/sparc.opt (sparc_fix_lost_divsqrt): New variable.
2017-11-29 Daniel Cederman
Backport from mainline
* config/sparc/sparc.c (atomic_insn_p): New function.
(sparc_do_work_around_errata): Insert NOP instructions to
prevent sequences that could trigger the TN-0010 errata for
UT700.
* config/sparc/sync.md (atomic_compare_and_swap_leon3_1): Make
instruction referable in atomic_insns_p.
2017-11-29 Daniel Cederman
Backport from mainline
* config/sparc/sync.md (swapsi): 16-byte align if sparc_fix_gr712rc.
(atomic_compare_and_swap_leon3_1): Likewise.
(ldstub): Likewise.
2017-11-29 Daniel Cederman
Backport from mainline
* config/sparc/sparc.c (fpop_insn_p): New function.
(sparc_do_work_around_errata): Insert NOP instructions to
prevent sequences that could trigger the TN-0012 errata for
GR712RC.
(pass_work_around_errata::gate): Also test sparc_fix_gr712rc.
* config/sparc/sparc.md (fix_gr712rc): New attribute.
(in_branch_annul_delay): Prevent floating-point instructions
in delay slot of annulled integer branch.

```

**Comment 3**

1. **Sebastian Huber, Fri, 01 Dec 2017 06:02:08 GMT**
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ffb5e9/rtems-source-builder:

5: Add SPARC chip errata workarounds

Close #3242.

**Comment 4**

1. **Sebastian Huber, Tue, 19 Dec 2017 08:30:47 GMT**

Update the patch series to integrate some cleanup and fix an ICE.

```

2017-12-19 Daniel Cederman
Backport from mainline
2017-12-19 Daniel Cederman
* config/sparc/sparc.c (sparc_do_work_around_errata): Make sure
the jump is to a label.
2017-12-06 Eric Botcazou
Revert
2017-11-29 Martin Aberg
* config/sparc/sparc.md (divdf3 fix): Add NOP and adjust length
to prevent b2bst errata sequence.
(sqrtdf2 fix): Likewise.
2017-12-04 Eric Botcazou
* config/sparc/sparc.c (sparc_do_work_around_errata): Use mem_ref
instead of MEM_P in a couple more places. Fix formatting issues.

```

**Comment 5**

1. **Sebastian Huber**, Tue, 19 Dec 2017 09:40:32 GMT

In f3b1700/rtems-source-builder:

5: Update SPARC chip errata workarounds

Update #3242.

## **3243 - Simplify global construction**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3243">https://devel.rtems.org/ticket/3243</a> ( <a href="https://devel.rtems.org/ticket/3243">https://devel.rtems.org/ticket/3243</a> )
<b>Id</b>	3243
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 November 2017 06:53:42
<b>Modified</b>	1 October 2018 10:28:33
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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>

### **Comment 1**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:01:56 GMT

In a7dcef97/rtems:

score: Simplify global construction

Update #3243.

### **Comment 2**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:02:08 GMT

In cd3e220/rtems:

INTERNAL\_ERROR\_POSIX\_INIT\_THREAD\_ENTRY\_IS\_NULL

Delete superfluous INTERNAL\_ERROR\_POSIX\_INIT\_THREAD\_ENTRY\_IS\_NULL.

Update #3243.

### **Comment 3**

1. **Sebastian Huber**, Fri, 24 Nov 2017 05:57:02 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 674b714/rtems-docs:

c-user: Document global construction

Close #3243.

### **Comment 4**

1. **Sebastian Huber**, Mon, 01 Oct 2018 10:28:33 GMT

In 0614743/rtems:



spthreadlife01: Remove superfluous restart case

Update #3243.

## **3244 - Change rtems\_panic() implementation and document this function**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3244">https://devel.rtems.org/ticket/3244</a> ( <a href="https://devel.rtems.org/ticket/3244">https://devel.rtems.org/ticket/3244</a> )
<b>Id</b>	3244
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 November 2017 10:16:54
<b>Modified</b>	5 June 2018 07:13:17
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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 `vprintk()`.

Document this function in Fatal Manager chapter.

Replace all `BSP_panic()` with `rtems_panic()`.

### **Comment 1**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:02:20 GMT

In 15e19273/rtems:

```
sapi: New implementation of rtems_panic()

The previous rtems_panic() implementation was quite heavy weight. It depended on _exit() which calls the global destructors. It used
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 vprintk().

Update #3244.
```

### **Comment 2**

1. **Sebastian Huber**, Thu, 23 Nov 2017 06:28:11 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 97c51c8/rtems-docs:

```
c-user: Document rtems_panic()

Close #3244.
```

### **Comment 3**

1. **Sebastian Huber**, Tue, 05 Jun 2018 07:13:17 GMT

In c934365f/rtems:

```
Update rtems_fatal_source_text()

Add RTEMS_FATAL_SOURCE_PANIC to rtems_fatal_source_text().

Update #3244.
```

## **3245 - Replace BSP\_panic() with rtems\_panic()**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3245">https://devel.rtems.org/ticket/3245</a> ( <a href="https://devel.rtems.org/ticket/3245">https://devel.rtems.org/ticket/3245</a> )
<b>Id</b>	3245
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 November 2017 10:36:31
<b>Modified</b>	22 November 2017 12:02:32
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Due to a new `rtems_panic()` implementation, it is possible to replace the PowerPC-specific `BSP_panic()` with `rtems_panic()`. Remove `BSP_panic()` implementations.

**Comment 1**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:02:32 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1c193a2/rtems:

```
powerpc: Replace BSP_panic() with rtems_panic()
```

Due to a new `rtems_panic()` implementation, it is possible to replace the PowerPC-specific `BSP_panic()` with `rtems_panic()`. Remove `BSP_panic()` implementations.

```
Close #3245.
```

---

**3246 - Remove `_BSP_Fatal_error()`**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3246">https://devel.rtems.org/ticket/3246</a> ( <a href="https://devel.rtems.org/ticket/3246">https://devel.rtems.org/ticket/3246</a> )
<b>Id</b>	3246
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 November 2017 10:49:07
<b>Modified</b>	22 November 2017 12:02:46
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

BSPs can use the `bsp_fatal_extension()` to provide BSP-specific fatal error handling. There is no need for a `_BSP_Fatal_error()`.

**Comment 1**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:02:46 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 07d96453/rtems:

```
powerpc: Remove _BSP_Fatal_error()
```

BSPs can use the `bsp_fatal_extension()` to provide BSP-specific fatal error handling. There is no need for a `_BSP_Fatal_error()`.

```
Close #3246.
```

---

**3247 - Remove BSP-specific defaults for RTEMS\_BSP\_CLEANUP\_OPTIONS()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3247">https://devel.rtems.org/ticket/3247</a> ( <a href="https://devel.rtems.org/ticket/3247">https://devel.rtems.org/ticket/3247</a> )
<b>Id</b>	3247
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 November 2017 11:44:27
<b>Modified</b>	22 November 2017 12:44:40
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

**Comment 1**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:44:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

[3dd381f0431b761965f573381ff90a8d42a8bd79/rtems]

---

**3248 - Add BSP\_VERBOSE\_FATAL\_EXTENSION to RTEMS\_BSP\_CLEANUP\_OPTIONS**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3248">https://devel.rtems.org/ticket/3248</a> ( <a href="https://devel.rtems.org/ticket/3248">https://devel.rtems.org/ticket/3248</a> )
<b>Id</b>	3248
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 November 2017 11:50:43
<b>Modified</b>	2 December 2017 19:33:54
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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().

**Comment 1**

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:03:12 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 86a80ee1/rtems:

```
bsps: Add BSP_VERBOSE_FATAL_EXTENSION
```

```
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().
```

```
Close #3248.
```

**Comment 2**

1. **Sebastian Huber**, Sat, 02 Dec 2017 19:33:54 GMT

In 57f3969a/rtems:

```
bsps: Print internal error text
Update #3248.
```

## **3249 - imx7 does not link getentropy01 test on master**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3249">https://devel.rtems.org/ticket/3249</a> ( <a href="https://devel.rtems.org/ticket/3249">https://devel.rtems.org/ticket/3249</a> )
<b>Id</b>	3249
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	21 November 2017 18:38:50
<b>Modified</b>	22 November 2017 12:01:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

```
arm-rtems5-gcc -B./../../../../imx7/lib/ -specs bsp_specs -qrtems -march=armv7-a -mthumb -mcpu=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 -mcpu=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/getentropy01/init.c:57: 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/libtests/getentropy01/init.c:59: undefined reference to `getentropy'
```

### Comment 1

1. **Joel Sherrill**, Tue, 21 Nov 2017 18:39:24 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Sebastian Huber**, Wed, 22 Nov 2017 12:01:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In a8bf9a3/rtems:

```
bsps: Add default getentropy() implementation
Update #3239. Close #3249.
```

## **3254 - Reorganize header files to avoid "make preinstall"**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3254">https://devel.rtems.org/ticket/3254</a> ( <a href="https://devel.rtems.org/ticket/3254">https://devel.rtems.org/ticket/3254</a> )
<b>Id</b>	3254
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 November 2017 12:20:43
<b>Modified</b>	14 December 2018 06:04:11
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Chris Johns**, Fri, 24 Nov 2017 05:25:37 GMT

Solving this problem requires:

Capturing the installed headers files with an MD5 checksum so each can be clearly identified in the source tree. Capturing the preinstall view of the process with the install path and a source tree path. 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.

**Comment 2**

1. **Sebastian Huber**, Mon, 27 Nov 2017 06:34:35 GMT

In e58e29f/rtems:

```
Remove coverhd.h
This header file contained timing overhead values which are hard to maintain.
Update #3254.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 27 Nov 2017 06:34:46 GMT

In affb282/rtems:

```
bsps: Remove empty tm27.h variants
Update #3254.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 27 Nov 2017 06:34:58 GMT

In 0d5c795/rtems:

```
Move Ada includes
Update #3254.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 27 Nov 2017 08:37:18 GMT

In 642ef00/rtems:

```
bsps: Provide in each BSP
Since the is highly BSP-dependent and used only by the tm27 test program we must provide this header file for each BSP. Without the
preinstall build target each header file must have a unique source header file.
Update #3254.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 05 Dec 2017 13:31:43 GMT

In 61bd8cd6/rtems:

```
bsp/gen5200: Avoid duplicate header installation
Update #3254.
```

#### **Comment 7**

1. **Sebastian Huber**, Thu, 07 Dec 2017 06:17:09 GMT

In 28fb905/rtems:

```
bsps/powerpc: Fix mpc83xx_i2cdrv.h location
Update #3254.
```

#### **Comment 8**

1. **Sebastian Huber**, Thu, 07 Dec 2017 06:24:20 GMT

In 3f575da/rtems:

```
Remove obsolete network header files
Update #3254.
```

#### **Comment 9**

1. **Sebastian Huber**, Thu, 07 Dec 2017 10:50:19 GMT

In 7704f1a/rtems:

```
bsps/orlk: Avoid
Update #3254.
```

#### **Comment 10**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:06:17 GMT

In 102fd7c9/rtems:

```
bsps: Do not install
This is a cache manager implementation header file.
Update #3254.
```

#### **Comment 11**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:06:32 GMT

In e9d6114/rtems:

```
bsp/gumstix: Move libcpu files to BSP
Update #3254.
```

#### **Comment 12**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:06:46 GMT

In 586c70ad/rtems:

```
bsps/arm: Remove obsolete s3c2400
Update #3254.
```

#### **Comment 13**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:06:58 GMT

In 26ff9fd6/rtems:

bsp/csb336: Move libcpu files to BSP  
Update #3254.

#### **Comment 14**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:07:10 GMT

In 7829710/rtems:

bsp/rtl22xx: Move libcpu files to BSP  
Update #3254.

#### **Comment 15**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:07:23 GMT

In a1460043/rtems:

bsp/smdk2410: Move libcpu files to BSP  
Update #3254.

#### **Comment 16**

1. **Sebastian Huber**, Fri, 08 Dec 2017 12:07:35 GMT

In b748dffe/rtems:

bsp/csb337: Move libcpu files to BSP  
Update #3254.

#### **Comment 17**

1. **Sebastian Huber**, Fri, 08 Dec 2017 13:14:12 GMT

In 604f080c/rtems:

bsp/shsim: Move libcpu files to BSP  
Update #3254.

#### **Comment 18**

1. **Sebastian Huber**, Fri, 08 Dec 2017 13:14:25 GMT

In b850e7f/rtems:

bsp/gensh1: Move libcpu files to BSP  
Update #3254.

#### **Comment 19**

1. **Sebastian Huber**, Fri, 08 Dec 2017 13:14:39 GMT

In 533e2c0/rtems:

bsp/gensh2: Move libcpu files to BSP  
Update #3254.

#### **Comment 20**

1. **Sebastian Huber**, Fri, 08 Dec 2017 13:14:51 GMT

In f2969b5/rtems:

bsp/gensh4: Move libcpu files to BSP  
Update #3254.

**Comment 21**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:07:50 GMT

In 8e8cf72/rtems:

```
arm: Move to cpukit
Update #3254.
```

**Comment 22**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:08:02 GMT

In 6ad3f471/rtems:

```
libdebugger: Avoid use of
Update #3254.
```

**Comment 23**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:08:14 GMT

In a397c7d8/rtems:

```
IMFS: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 24**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:08:27 GMT

In 339069fc/rtems:

```
devfs: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 25**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:08:39 GMT

In 51a30a4/rtems:

```
ftpd: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 26**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:08:50 GMT

In 7683da8/rtems:

```
dosfs: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 27**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:09:02 GMT

In 7d9455e/rtems:

```
pipe: Include
Prepare for header file move to common include directory.
```



Update #3254.

**Comment 28**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:09:14 GMT

In 990adc5/rtems:

```
libdl: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 29**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:09:26 GMT

In 295ca7d/rtems:

```
RFS: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 30**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:09:39 GMT

In 249730de/rtems:

```
capture: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 31**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:09:50 GMT

In 47f236c6/rtems:

```
monitor: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 32**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:10:02 GMT

In 4a23aa45/rtems:

```
shell: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 33**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:10:14 GMT

In a1626726/rtems:

```
redirector: Include
Prepare for header file move to common include directory.
Update #3254.
```

**Comment 34**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:10:26 GMT

In f666fc59/rtems:

```
utf8proc: Include
Prepare for header file move to common include directory.
Update #3254.
```

#### **Comment 35**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:10:38 GMT

In edfdc42/rtems:

```
uuid: Include
Prepare for header file move to common include directory.
Update #3254.
```

#### **Comment 36**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:10:50 GMT

In 9589755f/rtems:

```
mghttpd: Include
Prepare for header file move to common include directory.
Update #3254.
```

#### **Comment 37**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:11:03 GMT

In 5346fa87/rtems:

```
pppd: Include
Prepare for header file move to common include directory.
Update #3254.
```

#### **Comment 38**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:11:15 GMT

In 94e04b5/rtems:

```
telnetd: Include
Prepare for header file move to common include directory.
Update #3254.
```

#### **Comment 39**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:26:41 GMT

In 241fc046/rtems:

```
zlib: Do not generate zconf.h
Update #3254.
```

#### **Comment 40**

1. **Sebastian Huber**, Wed, 13 Dec 2017 08:33:00 GMT

In d19e7aab/rtems:

```
zlib: Fix build
Update #3254.
```

#### **Comment 41**

1. **Sebastian Huber**, Thu, 14 Dec 2017 07:13:31 GMT

In 12641f7b/rtems:

```
epiphany: Remove superfluous includes
Update #3254.
```

#### **Comment 42**

1. **Sebastian Huber**, Fri, 15 Dec 2017 06:23:48 GMT

In 2717032d/rtems:

```
bsps/arm: Fix move to cpukit
Update #3254.
```

#### **Comment 43**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:19:08 GMT

In f3ce8f41/rtems:

```
bsps: Include bsp.am in all BSP Makefile.am
Update #3254.
```

#### **Comment 44**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:19:21 GMT

In 33a2faa/rtems:

```
bsps: Add EXTRA_DIST to all BSP Makefile.am
This makes it possible to easily use
EXTRA_DIST += foobar
in fragments.
Update #3254.
```

#### **Comment 45**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:19:35 GMT

In ec32100/rtems:

```
bsps: Use CPPASCOMPILE for startfile
Update #3254.
```

#### **Comment 46**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:19:59 GMT

In e1c0d67/rtems:

```
bsp/mpc55xxevb: Move
Update #3254. Update #3268.
```

#### **Comment 47**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:11 GMT

In 7190005/rtems:

```
sparc: Move
Update #3254. Update #3260.
```

#### **Comment 48**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:23 GMT

In 3b392b6/rtems:

```
sparc: Remove BSP specifics from
Update #3254. Update #3260.
```

#### **Comment 49**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:36 GMT

In 569fd50/rtems:

```
sparc: Remove BSP specifics from
Update #3254. Update #3260. Update #3269.
```

#### **Comment 50**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:49 GMT

In 4e100058/rtems:

```
sparc: Remove from PCI shell command
Update #3254. Update #3260.
```

#### **Comment 51**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:21:02 GMT

In fb01816b/rtems:

```
bsps/powerpc: Move shared irq.h
This header file is only used by motorola_powerpc, so not shared.
Update #3254. Update #3268.
```

#### **Comment 52**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:21:14 GMT

In 375e923d/rtems:

```
bsps/powerpc: Rename BSP specific linkcmds.base
Avoid name conflicts with shared linkcmds.base.
Update #3254.
```

#### **Comment 53**

1. **Sebastian Huber**, Fri, 05 Jan 2018 10:58:11 GMT

In f636e91a/rtems:

```
bsp/pc386: Do not install console_private.h
The name suggests that this is a private implementation header file.
Update #3254.
```

#### **Comment 54**

1. **Chris Johns**, Fri, 05 Jan 2018 10:58:22 GMT

In 6897cb1/rtems:

```
bsps: Add AM_CPPFLAGS to special case CPPFLAGS
This is necessary to pick up mandatory flags provided by the build system.
Update #3254.
```

#### **Comment 55**

1. **Chris Johns**, Fri, 05 Jan 2018 10:58:46 GMT

In 3eed4f3/rtems:

```
bsp/altera-cyclone-v: Use public include path
Update #3254.
```

#### **Comment 56**

1. **Chris Johns**, Fri, 05 Jan 2018 10:58:57 GMT

In 1efd148b/rtems:

```
bsp/pc386: Use public include path
Update #3254.
```

#### **Comment 57**

1. **Chris Johns**, Fri, 05 Jan 2018 10:59:09 GMT

In 9c91520/rtems:

```
bsps/lm32: Use public include path
Update #3254.
```

#### **Comment 58**

1. **Chris Johns**, Fri, 05 Jan 2018 10:59:22 GMT

In caeaae26/rtems:

```
bsp/gen5200: Use public include path
Update #3254.
```

#### **Comment 59**

1. **Chris Johns**, Fri, 05 Jan 2018 10:59:34 GMT

In 230acc55/rtems:

```
libchip: Use public include path
Update #3254.
```

#### **Comment 60**

1. **Chris Johns**, Fri, 05 Jan 2018 10:59:46 GMT

In e2cf289/rtems:

```
bsp/mcf548x: Use public include path
Update #3254.
```

#### **Comment 61**

1. **Chris Johns**, Fri, 05 Jan 2018 10:59:58 GMT

In 010bf86/rtems:

```
bsps/powerpc: Use public include path
Update #3254.
```

#### **Comment 62**

1. **Chris Johns**, Fri, 05 Jan 2018 11:00:11 GMT

In 9dd2fdb9/rtems:

bsps/bfin: Use public include path  
Update #3254.

#### **Comment 63**

1. **Chris Johns**, Fri, 05 Jan 2018 11:00:23 GMT

In 3964329/rtems:

bsp/beatnik: Use public include path  
Update #3254.

#### **Comment 64**

1. **Chris Johns**, Fri, 05 Jan 2018 11:00:35 GMT

In 731abf4/rtems:

bsp/mvme3100: Use public include path  
Update #3254.

#### **Comment 65**

1. **Chris Johns**, Fri, 05 Jan 2018 11:00:47 GMT

In 26ac19c/rtems:

bsps/powerpc: Use public include path  
Update #3254.

#### **Comment 66**

1. **Chris Johns**, Fri, 05 Jan 2018 11:00:59 GMT

In f4dc9737/rtems:

bsps: Use public include path  
Update #3254.

#### **Comment 67**

1. **Chris Johns**, Fri, 05 Jan 2018 11:01:11 GMT

In 8428b40/rtems:

bsp/edb7312: Use public include path  
Update #3254.

#### **Comment 68**

1. **Chris Johns**, Fri, 05 Jan 2018 11:01:23 GMT

In 816f999f/rtems:

bsps/i386: Fix AC\_CONFIG\_SRCDIR()  
Update #3254.

#### **Comment 69**

1. **Chris Johns**, Fri, 05 Jan 2018 11:01:35 GMT

In a7b0da2/rtems:

bsps/mips: Fix AC\_CONFIG\_SRCDIR()  
Update #3254.

**Comment 70**

1. **Sebastian Huber**, Fri, 05 Jan 2018 11:01:47 GMT

In 7cd389e/rtems:

```
bsps/m68k: Install shared
Update #3254.
```

**Comment 71**

1. **Sebastian Huber**, Mon, 15 Jan 2018 06:26:20 GMT

In a67f44c/rtems:

```
bsps/lm32: Do not include network headers in bsp.h
Update #3254.
```

**Comment 72**

1. **Sebastian Huber**, Mon, 15 Jan 2018 06:26:32 GMT

In 4b12436/rtems:

```
libchip: Use public include path
Update #3254.
```

**Comment 73**

1. **Sebastian Huber**, Mon, 15 Jan 2018 06:26:44 GMT

In 0d08844/rtems:

```
bsps: Add AM_CPPFLAGS to special case CPPFLAGS
This is necessary to pick up mandatory flags provided by the build system.
Update #3254.
```

**Comment 74**

1. **Sebastian Huber**, Tue, 16 Jan 2018 09:44:27 GMT

In 47cc206/rtems:

```
bsps/powerpc: Move BSP specific file to BSP
Update #3254.
```

**Comment 75**

1. **Sebastian Huber**, Mon, 22 Jan 2018 06:06:19 GMT

In d898f6e/rtems:

```
bsp/gen5200: Fix i2c.h and i2cdrv.h installation
Install these files only as and .
Update #3254.
```

**Comment 76**

1. **Sebastian Huber**, Mon, 22 Jan 2018 09:38:31 GMT

In 17fd0ff/rtems:

```
bsps: Move wd80x3.h to libchip/wd80x3.h
This header is used also by the motorola_powerpc BSP.
Update #3254.
```

**Comment 77**1. **Sebastian Huber**, Mon, 22 Jan 2018 12:17:07 GMT

In e79bb0c3/rtems:

bsp/gen5200: Use public include path  
Update #3254.

**Comment 78**1. **Chris Johns**, Thu, 25 Jan 2018 09:17:03 GMT

In 2afb22b/rtems:

Remove make preinstall

A speciality of the RTEMS build system was the make preinstall step. It copied header files from arbitrary locations into the build tree. The header files were included via the `-Bsome/build/tree/path` GCC command line option.

This has at least seven problems:

The make preinstall step itself needs time and disk space. Errors in header files show up in the build tree copy. This makes it hard for editors to open the right file to fix the error. There is no clear relationship between source and build tree header files. This makes an audit of the build process difficult. The visibility of all header files in the build tree makes it difficult to enforce API barriers. For example it is discouraged to use BSP-specifics in the cpukit. An introduction of a new build system is difficult. Include paths specified by the `-B` option are system headers. This may suppress warnings. The parallel build had sporadic failures on some hosts. This patch removes the make preinstall step. All installed header files are moved to dedicated include directories in the source tree. Let `@RTEMS_CPU@` be the target architecture, e.g. arm, powerpc, sparc, etc. Let `@RTEMS_BSP_FAMILIY@` be a BSP family base directory, e.g. erc32, imx, qoriq, etc.

The new cpukit include directories are:

cpukit/include cpukit/score/cpu/@RTEMS\_CPU@/include cpukit/libnetworking

The new BSP include directories are:

bsps/include bsp/@RTEMS\_CPU@/include bsp/@RTEMS\_CPU@/@RTEMS\_BSP\_FAMILIY@/include

There are build tree include directories for generated files.

The include directory order favours the most general header file, e.g. it is not possible to override general header files via the include path order.

The "bootstrap -p" option was removed. The new "bootstrap -H" option should be used to regenerate the "headers.am" files.

Update #3254.

**Comment 79**1. **Sebastian Huber**, Fri, 09 Mar 2018 07:44:27 GMT

In 16f4661f/rtems:

network: Optionally install network headers

Install the network headers only if `--enable-networking` is specified.

Update #3254.

**Comment 80**1. **Sebastian Huber**, Wed, 21 Mar 2018 06:59:00 GMT2. **status**: changed from **new** to **closed**3. **resolution**: set to **fixed**

The header reorganization is complete.

**Comment 81**1. **Sebastian Huber**, Wed, 28 Mar 2018 05:21:29 GMT

In fc9db4c/rtems-docs:

user: Do not mention "bootstrap -p"

It is now obsolete and was never necessary for an RTEMS users.

Update #3254.

**Comment 82**1. **Chris Johns**, Wed, 11 Apr 2018 03:28:15 GMT

In b8c59353/rtems:

build: Fix make clean.



Update #3254.

**Comment 83**1. **Sebastian Huber**, Thu, 08 Nov 2018 15:26:52 GMT

In edc4ff6/rtems-docs:

user: Remove obsolete bootstrap -p step

Update #3254.

**Comment 84**1. **Sebastian Huber**, Fri, 14 Dec 2018 06:04:11 GMT

In 6b0a729b/rtems:

build: Remove ampolish3

Update #3254.

**3255 - Warnings on 64-bit targets**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3255">https://devel.rtems.org/ticket/3255</a> ( <a href="https://devel.rtems.org/ticket/3255">https://devel.rtems.org/ticket/3255</a> )
<b>Id</b>	3255
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	29 November 2017 19:02:22
<b>Modified</b>	30 November 2017 06:12:12
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 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: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=]
```

**Comment 1**1. **Joel Sherrill**, Wed, 29 Nov 2017 19:02:35 GMT2. **owner:** set to **Sebastian Huber**3. **status:** changed from **new** to **assigned****Comment 2**1. **Sebastian Huber**, Thu, 30 Nov 2017 06:12:12 GMT2. **status:** changed from **assigned** to **closed**3. **resolution:** set to **duplicate**

This is a duplicate of #3156.

**3256 - Ada run-time needs support for self-contained POSIX synchronization objects**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3256">https://devel.rtems.org/ticket/3256</a> ( <a href="https://devel.rtems.org/ticket/3256">https://devel.rtems.org/ticket/3256</a> )
<b>Id</b>	3256
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	1 December 2017 10:29:59
<b>Modified</b>	5 December 2017 06:18:26
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Object types are hard coded in gcc/ada/s-osinte-rtems.ads.

#### Attachments:

- 
- 1 **Sebastian Huber, Fri, 01 Dec 2017 11:04:53 GMT**  
**attach:** set to [0001-RTEMS-Ada-Fix-some-POSIX-types.patch](https://devel.rtems.org/ticket/3256/0001-RTEMS-Ada-Fix-some-POSIX-types.patch) (<https://devel.rtems.org/ticket/3256/0001-RTEMS-Ada-Fix-some-POSIX-types.patch>)
  - 2 **Sebastian Huber, Mon, 04 Dec 2017 08:41:47 GMT**  
**attach:** set to [v2-0001-RTEMS-Ada-Fix-some-POSIX-types.patch](https://devel.rtems.org/ticket/3256/v2-0001-RTEMS-Ada-Fix-some-POSIX-types.patch) (<https://devel.rtems.org/ticket/3256/v2-0001-RTEMS-Ada-Fix-some-POSIX-types.patch>)
- 

#### Comment 1

1. **Sebastian Huber**, Fri, 01 Dec 2017 13:09:37 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In d60799b/rtems-source-builder:

```
5: Ada: Fix some POSIX types
Close #3256.
```

#### Comment 2

1. **Sebastian Huber**, Mon, 04 Dec 2017 14:18:33 GMT

In 7034d65/rtems-source-builder:

```
5: Ada: Fix more POSIX types
Update #3256.
```

#### Comment 3

1. **Sebastian Huber**, Tue, 05 Dec 2017 06:18:26 GMT

In fd5471b/rtems:

```
ada: Check C and POSIX types
Update #3256.
```

---

## **3260 - libpci depends on BSP-specific header files**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3260">https://devel.rtems.org/ticket/3260</a> ( <a href="https://devel.rtems.org/ticket/3260">https://devel.rtems.org/ticket/3260</a> )
<b>Id</b>	3260
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 December 2017 07:46:12
<b>Modified</b>	4 January 2018 06:21:50
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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_{dst|}\{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 .

### Comment 1

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:11 GMT

In 7190005/rtems:

```
sparc: Move
Update #3254. Update #3260.
```

### Comment 2

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:23 GMT

In 3b392b6/rtems:

```
sparc: Remove BSP specifics from
Update #3254. Update #3260.
```

### Comment 3

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:36 GMT

In 569fd50/rtems:

```
sparc: Remove BSP specifics from
Update #3254. Update #3260. Update #3269.
```

### Comment 4

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:20:49 GMT

In 4e100058/rtems:

```
sparc: Remove from PCI shell command
```

Update #3254. Update #3260.

#### Comment 5

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:21:50 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

See also #3269.

---

### 3261 - A couple of documentation typos

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3261">https://devel.rtems.org/ticket/3261</a> ( <a href="https://devel.rtems.org/ticket/3261">https://devel.rtems.org/ticket/3261</a> )
<b>Id</b>	3261
<b>Reporter</b>	Frédéric Jouault
<b>Created</b>	13 December 2017 10:24:32
<b>Modified</b>	4 January 2019 10:11:28
<b>Owner</b>	Frédéric Jouault <f.jouault@...>
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

This patch includes a couple of typo corrections in the C User Manual.

#### Attachments:

- 
- 1 **Frédéric Jouault**, Wed, 13 Dec 2017 10:25:27 GMT  
**attach**: set to [0001-fixed-couple-of-typos.patch](https://devel.rtems.org/ticket/3261/0001-fixed-couple-of-typos.patch) (<https://devel.rtems.org/ticket/3261/0001-fixed-couple-of-typos.patch>)
- 

#### Comment 1

1. **Sebastian Huber**, Fri, 04 Jan 2019 10:00:38 GMT
2. **version**: set to **5**
3. **milestone**: set to **5.1**

#### Comment 2

1. **Frédéric Jouault**, Fri, 04 Jan 2019 10:11:28 GMT
2. **owner**: set to **Frédéric Jouault** <f.jouault@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 4de0da1/rtems-docs:

```
c-user: Fix typos
```

```
Close #3261.
```

---

### 3264 - Add monotonic watchdog based on uptime

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3264">https://devel.rtems.org/ticket/3264</a> ( <a href="https://devel.rtems.org/ticket/3264">https://devel.rtems.org/ticket/3264</a> )
<b>Id</b>	3264
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 December 2017 12:41:55
<b>Modified</b>	5 February 2018 10:39:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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).

**Comment 1**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:20:36 GMT

In 89c0313/rtems:

```
score: Optimize watchdog tickle
Avoid unnecessary lock acquire/release operations. Get realtime via timecounter only if necessary.
Update #3264.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:20:48 GMT

In 3a4e044/rtems:

```
score: Rename _Watchdog_Realtime_from_*()
Rename _Watchdog_Realtime_from_*() to _Watchdog_Ticks_from_*().
Update #3264.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:21:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9480815a/rtems:

```
score: Introduce new monotonic clock
Rename PER_CPU_WATCHDOG_MONOTONIC to PER_CPU_WATCHDOG_TICKS. Add new PER_CPU_WATCHDOG_MONOTONIC which is based on the system uptime
(measured by timecounter).
Close #3264.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 05 Feb 2018 10:39:52 GMT

In a0633c5/rtems-libbsd:

```
SLEEPQUEUE(9): Update due to API changes
Update #3264.
```

---

**3265 - Use second one based uptime for CLOCK\_MONOTONIC for FreeBSD compatibility**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3265">https://devel.rtems.org/ticket/3265</a> ( <a href="https://devel.rtems.org/ticket/3265">https://devel.rtems.org/ticket/3265</a> )
<b>Id</b>	3265
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	22 December 2017 12:39:56
<b>Modified</b>	2 February 2018 14:21:12
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

This simplifies the CLOCK\_MONOTONIC based time services. It is potentially important for libbsd.

#### Comment 1

1. **Sebastian Huber**, Fri, 02 Feb 2018 14:21:12 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8fa4549/rtems:

```
posix: Use one second based CLOCK_MONOTONIC
```

```
This simplifies the CLOCK_MONOTONIC based time services. It is potentially important for libbsd.
```

```
Close #3265.
```

### 3266 - cpukit/libpci references BSP headers.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3266">https://devel.rtems.org/ticket/3266</a> ( <a href="https://devel.rtems.org/ticket/3266">https://devel.rtems.org/ticket/3266</a> )
<b>Id</b>	3266
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 December 2017 04:03:35
<b>Modified</b>	2 January 2018 06:23:05
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

On the no-preinstall branch of <https://git.rtems.org/chrisj/rtems.git/> the build fails with:

```
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 $depbasedir/pci_access.o -o pci_access.o /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pci_access.c &&\
mv -f $depbasedir/pci_access.o $depbasedir/pci_access.o
In file included from /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/pci.h:23:0,
                 from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pci_access.c:10:
/opt/work/chris/rtems/kernel/rtems.git/cpukit/include/pci/access.h:16:10: fatal error: libcpu/byteorder.h: No such file or directory
#include
^~~~~~
```

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
```

#### Comment 1

1. **Joel Sherrill**, Sun, 24 Dec 2017 20:09:09 GMT

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

#### Comment 2

1. **Chris Johns**, Tue, 26 Dec 2017 21:59:42 GMT

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.

#### Comment 3

1. **Sebastian Huber**, Tue, 02 Jan 2018 06:22:44 GMT

This is a duplicate of #3260.

#### Comment 4

1. **Sebastian Huber**, Tue, 02 Jan 2018 06:23:05 GMT

2. **status:** changed from **new** to **closed**

3. **resolution:** set to **duplicate**

### 3267 - rtems/status-checks.h calls printf without including the needed header.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3267">https://devel.rtems.org/ticket/3267</a> ( <a href="https://devel.rtems.org/ticket/3267">https://devel.rtems.org/ticket/3267</a> )
<b>Id</b>	3267
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 December 2017 02:22:40
<b>Modified</b>	21 March 2018 06:49:56
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

```
/opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:74:7: warning: implicit declaration of function 'printf';
did you mean 'printf'? [-Wimplicit-function-declaration]
  printf( fmt, ##_VA_ARGS_ )
  ^
/opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:86:3: note: in expansion of macro 'RTEMS_SYSLOG_PRINT'
  RTEMS_SYSLOG_PRINT( "%s: " fmt, __func__, ##_VA_ARGS_ )
  ^~~~~~
/opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:107:3: note: in expansion of macro 'RTEMS_SYSLOG'
  RTEMS_SYSLOG( "Error: " fmt, ##_VA_ARGS_ )
  ^~~~~~
/opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:113:3: note: in expansion of macro 'RTEMS_SYSLOG_ERROR'
  RTEMS_SYSLOG_ERROR( "SC = %i: %s\n", (int) sc, msg);
  ^~~~~~
/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'
  RTEMS_SYSLOG_ERROR_WITH_SC( sc, msg); \
  ^~~~~~
/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'
  RTEMS_CHECK_SC(sc, "create GPIO device");
  ^~~~~~
```

#### Comment 1

1. **Chris Johns**, Wed, 27 Dec 2017 02:55:00 GMT

<https://git.rtems.org/chrisj/rtems.git/commit/?h=no-preinstall&id=8d355aaf02669edec4e4d2f5d1100b4253637af5>

#### Comment 2

1. **Sebastian Huber**, Wed, 21 Mar 2018 06:49:56 GMT

2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

**3268 - PowerPC BSP include naming mess.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3268">https://devel.rtems.org/ticket/3268</a> ( <a href="https://devel.rtems.org/ticket/3268">https://devel.rtems.org/ticket/3268</a> )
<b>Id</b>	3268
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 January 2018 00:01:11
<b>Modified</b>	22 January 2018 11:32:08
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 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 .

**Comment 1**

1. **Chris Johns**, Mon, 01 Jan 2018 00:01:31 GMT
2. **component:** changed from **admin** to **arch/powerpc**

**Comment 2**

1. **Chris Johns**, Mon, 01 Jan 2018 01:16:31 GMT

Add on to the list i2c.h in the mpc5200.

**Comment 3**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:19:59 GMT

In e1c0d67/rtems:

```
bsp/mpc55xxevb: Move
Update #3254. Update #3268.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 04 Jan 2018 06:21:02 GMT

In fb01816b/rtems:

```
bsps/powerpc: Move shared irq.h
This header file is only used by motorola_powerpc, so not shared.
Update #3254. Update #3268.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 22 Jan 2018 11:32:08 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

This problem was fixed by [d898f6e18ec2e84977edb5024052ecca64cf39f3/rtems].

---

**3270 - Remove unused support for MPC505**



<b>Link</b>	<a href="https://devel.rtems.org/ticket/3270">https://devel.rtems.org/ticket/3270</a> ( <a href="https://devel.rtems.org/ticket/3270">https://devel.rtems.org/ticket/3270</a> )
<b>Id</b>	3270
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 January 2018 14:37:28
<b>Modified</b>	5 February 2018 11:13:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

There is some support for MPC505 in libcpu, however, I cannot find a BSP for this code. Remove this apparently dead code.

**Comment 1**

1. **Sebastian Huber**, Mon, 05 Feb 2018 11:13:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0f4a7391/rtems:

```
bsps/powerpc: Remove support for mpc505
Close #3270.
```

---

**3277 - QorIQ: Add MAC-less DPAA driver to libbsd**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3277">https://devel.rtems.org/ticket/3277</a> ( <a href="https://devel.rtems.org/ticket/3277">https://devel.rtems.org/ticket/3277</a> )
<b>Id</b>	3277
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 January 2018 13:54:06
<b>Modified</b>	5 February 2018 10:41:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

The SDK Linux DPAA driver supports a so called MAC-less interface driver. This driver allows Ethernet communication between guest systems of a hypervisor.

**Comment 1**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:00 GMT

In fe05886/rtems-libbsd:

```
linux/compiler.h: Define cold
Update #3277.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:09 GMT

In 583216a/rtems-libbsd:

```
linux/smp.h: Avoid function call overhead
```

Update #3277.

### **Comment 3**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:19 GMT

In 066b536/rtems-libbsd:

```
linux/sort.h: New file
Update #3277.
```

### **Comment 4**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:28 GMT

In 0d421d8/rtems-libbsd:

```
linux/of.h: Add of_n_addr_cells()
Update #3277.
```

### **Comment 5**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:38 GMT

In 26ce2ac/rtems-libbsd:

```
linux/of.h: Add of_n_size_cells()
Update #3277.
```

### **Comment 6**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:47 GMT

In 44fca38/rtems-libbsd:

```
linux/of.h: Add of_read_number()
Update #3277.
```

### **Comment 7**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:57:57 GMT

In 81fc57d/rtems-libbsd:

```
linux/of.h: Add of_find_node_by_path()
Update #3277.
```

### **Comment 8**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:58:06 GMT

In 0f1d2f6/rtems-libbsd:

```
linux/of_address.h: Add of_translate_address()
Update #3277.
```

### **Comment 9**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:58:16 GMT

In e4923c8/rtems-libbsd:

```
linux/of_address.h: of_address_to_resource()
Translate address in of_address_to_resource().
Update #3277.
```

**Comment 10**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:58:25 GMT

In cfc149b/rtems-libbsd:

```
linux/of_irq.h: Generalize of_irq_to_resource()
Determine interrupt cells via device tree.
Update #3277.
```

**Comment 11**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:58:35 GMT

In 2fba1e4/rtems-libbsd:

```
dpaa: Remove unused configuration defines
Update #3277.
```

**Comment 12**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:58:44 GMT

In bdf99316/rtems-libbsd:

```
dpaa: Disable unused bman_pool members
Update #3277.
```

**Comment 13**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:58:54 GMT

In 34b7ccc/rtems-libbsd:

```
dpaa: Support FQ_TYPE_RX_PCD
Update #3277.
```

**Comment 14**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:59:03 GMT

In 1342fad/rtems-libbsd:

```
dpaa: Add and use SDK_DPAA_COMPAT_STATIC
Update #3277.
```

**Comment 15**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:59:12 GMT

In 95fe5b1/rtems-libbsd:

```
dpaa: Use device tree throughout in BMan init
Update #3277.
```

**Comment 16**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:59:22 GMT

In a7d252c/rtems-libbsd:

```
dpaa: Add and use bman_new_pool_for_bpid()
Update #3277.
```

**Comment 17**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:59:32 GMT

In 0f6ff4a/rtems-libbsd:

```
dpaa: QMan portal only initialization
Update #3277.
```

### **Comment 18**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:59:41 GMT

In f5ed3aa/rtems-libbsd:

```
sdk_dpaa: Import from QorIQ SDK Linux
http://git.freescale.com/git/cgit.cgi/ppc/sdk/linux.git
Commit 1ae843c08261402b2c35d83422e4fa1e313611f4 (fsl-sdk-v2.0-1703).
Update #3277.
```

### **Comment 19**

1. **Sebastian Huber**, Tue, 23 Jan 2018 13:59:51 GMT

In d62a3df/rtems-libbsd:

```
sdk_dpaa: Port to RTEMS
Update #3277.
```

### **Comment 20**

1. **Sebastian Huber**, Tue, 23 Jan 2018 14:00:00 GMT

In 327f4e1/rtems-libbsd:

```
sdk_dpaa: What to do with tail queue drop?
The issue is this:
static int dpaa_eth_macless_probe(struct platform_device *_of_dev) { [...]
```

```
INIT_LIST_HEAD(&priv->dpa_fq_list);
```

```
err = dpa_fq_probe_macless(dev, &priv->dpa_fq_list, RX); if (!err)
```

```
    err = dpa_fq_probe_macless(dev, &priv->dpa_fq_list,
                                TX);
```

```
if (err < 0)
```

```
    goto fq_probe_failed;
```

[...]

```
/* Add the FQs to the interface, and make them active */ /* For MAC-less devices we only get here for RX frame queues
```

```
initialization, which are the TX queues of the other partition. It is safe to rely on one partition to set the FQ taildrop threshold for
the TX queues of the other partition because the ERN notifications will be received by the partition doing qman_enqueue.
*/
```

```
err = dpa_fqs_init(dev, &priv->dpa_fq_list, true); if (err < 0)
```

```
    goto fq_alloc_failed;
```

[...]

The priv->dpa\_fq\_list contains a list of FQ\_TYPE\_RX\_PCD and FQ\_TYPE\_TX items. I don't understand what the "For MAC-less devices we only get here for RX frame queues initialization" means in this context. The td\_enable == true in dpa\_fqs\_init(). So, we have:

```
int dpa_fq_init(struct dpa_fq *dpa_fq, bool td_enable) { [...]
```

```
    if (dpa_fq->fq_type == FQ_TYPE_TX
        dpa_fq->fq_type == FQ_TYPE_TX_CONFIRM
        dpa_fq->fq_type == FQ_TYPE_TX_CONF_MQ) {
```

[...]

```
initfq.we_mask |= QM_INITFQ_WE_OAC;
```

```
[...]
```

```
}
```

```
if (td_enable) {
    initfq.we_mask |= QM_INITFQ_WE_TDTHRESH; qm_fqd_taildrop_set(&initfq.fqd.td,
        DPA_FQ_TD, 1);
    initfq.fqd.fq_ctrl = QM_FQCTRL_TDE;
}
```

The `td_enable == true` && `dpa_fq->fq_type == FQ_TYPE_TX` causes later:

```
int qman_init_fq(struct qman_fq *fq, u32 flags, struct qm_mcc_initfq *opts) { [...]
```

```
if (opts && (opts->we_mask & QM_INITFQ_WE_OAC)) {
    /* And can't be set at the same time as TDTHRESH */ if (opts->we_mask & QM_INITFQ_WE_TDTHRESH)
        return -EINVAL;
}
```

This aborts the initialization of the MAC-less driver. I don't understand why this path doesn't happen on the SDK Linux system.

Update #3277.

#### Comment 21

1. **Sebastian Huber**, Mon, 05 Feb 2018 10:41:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

### 3278 - bsp-builder has incorrect print (%s in output)

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3278">https://devel.rtems.org/ticket/3278</a> ( <a href="https://devel.rtems.org/ticket/3278">https://devel.rtems.org/ticket/3278</a> )
<b>Id</b>	3278
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 January 2018 21:18:19
<b>Modified</b>	31 January 2018 23:52:37
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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
```

#### Comment 1

1. **Joel Sherrill**, Tue, 23 Jan 2018 21:18:35 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Wed, 31 Jan 2018 23:52:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 005f995/rtems-tools:

```
rtems-bsp-builder: Remove stray %s from the run log message.
Close #3278
```

**3281 - Add epiphany support to GDB 8.0.0**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3281">https://devel.rtems.org/ticket/3281</a> ( <a href="https://devel.rtems.org/ticket/3281">https://devel.rtems.org/ticket/3281</a> )
<b>Id</b>	3281
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 January 2018 08:06:09
<b>Modified</b>	5 February 2018 10:43:30
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description****Attachments:**

- 1 **Sebastian Huber**, Fri, 26 Jan 2018 08:06:50 GMT  
**attach**: set to [gdb-8.0.0-epiphany.patch](https://devel.rtems.org/ticket/3281/gdb-8.0.0-epiphany.patch) (<https://devel.rtems.org/ticket/3281/gdb-8.0.0-epiphany.patch>)

**Comment 1**

1. **Sebastian Huber**, Mon, 05 Feb 2018 10:43:30 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**

GDB is support for ephiphany is not integrated in the FSF GDB. Adapteva didn't respond to e-mails.

**3283 - Bad URL in OpenOCD/Xilinx\_Zynq Wiki Page**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3283">https://devel.rtems.org/ticket/3283</a> ( <a href="https://devel.rtems.org/ticket/3283">https://devel.rtems.org/ticket/3283</a> )
<b>Id</b>	3283
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 January 2018 15:10:31
<b>Modified</b>	31 January 2018 00:11:55
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

[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>

**Comment 1**

1. **Joel Sherrill**, Fri, 26 Jan 2018 15:10:44 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Wed, 31 Jan 2018 00:11:55 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Wiki page links have been updated.

**3284 - RSB uses hard coded GCC binary paths**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3284">https://devel.rtems.org/ticket/3284</a> ( <a href="https://devel.rtems.org/ticket/3284">https://devel.rtems.org/ticket/3284</a> )
<b>Id</b>	3284
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 January 2018 09:36:36
<b>Modified</b>	1 February 2018 06:14:47
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
source-builder/defaults.mc: __cc:          exe,      required, '/usr/bin/gcc'
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.

**Comment 1**

1. **Chris Johns**, Wed, 31 Jan 2018 00:03:21 GMT

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 01 Feb 2018 06:14:47 GMT
2. **owner:** set to **Sebastian Huber <sebastian.huber@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 2a5c9da/rtems-source-builder:

Avoid hard coded GCC binary paths

In order to build a tool chain with Ada support a native GCC with Ada support of the same version as the cross compiler is required. The RSB used hard coded paths for the gcc and g++ programs. This forced the RSB user to change the main GCC installation of the machine to build a particular RTEMS tool chain. This is undesired/infeasible in most situations.

Close #3284.

**3285 - Reorganize BSP source directory**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3285">https://devel.rtems.org/ticket/3285</a> ( <a href="https://devel.rtems.org/ticket/3285">https://devel.rtems.org/ticket/3285</a> )
<b>Id</b>	3285
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 January 2018 09:48:03
<b>Modified</b>	3 August 2018 12:15:34
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Now, that all BSP header files are in

- `bsps/include`
- `bsps/@RTEMS_CPU@/include`
- `bsps/@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 `bsps/@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.

**Comment 1**

1. **Sebastian Huber**, Wed, 31 Jan 2018 11:51:51 GMT

In 4cf93658/rtems:

```
bsps: Rework cache manager implementation

The previous cache manager support used a single source file (cache_manager.c) which included an implementation header (cache_h). This required the use of specialized include paths to find the right header file. Change this to include a generic implementation header (cacheimpl.h) in specialized source files.

Use the following directories and files:
  bsp/shared/cache bsp/@RTEMS_CPU@/shared/cache bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/start/cache.c
Update #3285.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 31 Jan 2018 11:53:45 GMT
2. **description:** modified (diff)

**Comment 3**

1. **Sebastian Huber**, Fri, 02 Feb 2018 06:09:05 GMT

In 5f0a6376/rtems:

```
bsp/leon3: Do not use internal cache API
Update #3285.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 05 Feb 2018 10:42:12 GMT
2. **milestone:** changed from 5.1 to 6.1



**Comment 5**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:06:40 GMT

In a4570829/rtems:

```
bsps: Remove unused memcpy() implementations
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:06:50 GMT

In 4c83f292/rtems:

```
bsps: Remove unused RTEMS_CPU_MODEL
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:07:00 GMT

In 961e2ef/rtems:

```
bsps/mips: Remove Mongoose-V README
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 8**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:07:11 GMT

In b6755af/rtems:

```
bsps/mips: Move libcpu content to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 9**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:07:22 GMT

In c4905d8d/rtems:

```
bsps/arm: Move libcpu content to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 10**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:07:32 GMT

In 8b5778e/rtems:

```
sparc: Move libcpu content to cpukit
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 11**

1. **Sebastian Huber**, Tue, 13 Mar 2018 07:07:42 GMT

In 7633f5b/rtems:

sparc64: Move libcpu content to cpukit

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 12**

1. **Sebastian Huber**, Mon, 19 Mar 2018 12:12:49 GMT

In ac04bb85/rtems:

bsps/powerpc: Move legacy IRQ support

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 13**

1. **Sebastian Huber**, Mon, 19 Mar 2018 12:13:00 GMT

In 7dbc43d/rtems:

bsps/powerpc: Move basic support to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 14**

1. **Sebastian Huber**, Mon, 19 Mar 2018 12:13:10 GMT

In ff3b9aa/rtems:

bsps/powerpc: Remove unused files

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 15**

1. **Sebastian Huber**, Mon, 19 Mar 2018 12:13:21 GMT

In bd150801/rtems:

bsps/powerpc: Move exceptions support to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 16**

1. **Sebastian Huber**, Mon, 19 Mar 2018 12:13:32 GMT

In 09dd82a/rtems:

bsp/ss555: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 17**

1. **Sebastian Huber**, Thu, 22 Mar 2018 06:02:34 GMT

In a7fa9e91/rtems:

bsp/pc386: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 18**

1. **Sebastian Huber**, Thu, 22 Mar 2018 06:02:44 GMT

In f3a51d62/rtems:

bsp/powerpc: Remove bsp\_timer\_internal\_clock

The only consumer of this variable was the ppc403 clock driver used by the haleakala, virtex, and virtex4 BSPs which set bsp\_timer\_internal\_clock unconditionally to true.

Update #3285.

#### **Comment 19**

1. **Sebastian Huber**, Thu, 22 Mar 2018 06:02:55 GMT

In bb22a3f3/rtems:

bsp/powerpc: Move libcpu timer to bsp

Use only one timer driver variant based on the standard PowerPC time base.

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 20**

1. **Sebastian Huber**, Thu, 22 Mar 2018 07:42:45 GMT

In 3f3f246a/rtems:

bsp/mpc55xx: Remove unused files

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 21**

1. **Sebastian Huber**, Thu, 22 Mar 2018 07:42:55 GMT

In dc1ea01/rtems:

bsp/mpc55xx: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 22**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:09:58 GMT

In b1b7390/rtems:

bsp/pc386: Fix build

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 23**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:10:08 GMT

In 96400050/rtems:

bsp/pc386: Remove unused RTEMS\_CPU\_MODEL

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 24**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:10:19 GMT

In e2bd1f6/rtems:

bsp/bfin: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 25**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:10:29 GMT

In 0cab067/rtems:

bsp/powerpc: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 26**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:10:40 GMT

In a12dcff8/rtems:

bsp/mpc8260: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 27**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:10:51 GMT

In b8c468b/rtems:

bsp/tqm8xx: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 28**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:11:01 GMT

In 11fe8c59/rtems:

bsp/powerpc: Move MMU support to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 29**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:11:12 GMT

In d813d9aa/rtems:

bsp/powerpc: Move dec clock driver to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 30**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:11:22 GMT

In 4fd1ff0f/rtems:

bsp/powerpc: Move AltiVec? support to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 31**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:11:32 GMT

In d7c232f/rtems:

```
bsps/powerpc: Remove unused files  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 32**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:11:43 GMT

In 2d33672a/rtems:

```
bsps/powerpc: Move ppc403 clock driver to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 33**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:11:53 GMT

In 6882be7/rtems:

```
bsps/powerpc: Remove libcpu/powerpc  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 34**

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:12:04 GMT

In 5f59e2a/rtems:

```
bsps/powerpc: Move dec timer driver  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 35**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:33:24 GMT

In f8e4755f/rtems:

```
bsps/m68k: Use namespace header  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 36**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:33:35 GMT

In 1e23c47/rtems:

```
bsps/m68k: Remove unused define  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 37**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:33:46 GMT

In fc2ec62/rtems:

```
bsps/m68k: Move libcpu content to bsp  
This patch is a part of the BSP source reorganization.
```

**Comment 38**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:33:57 GMT

In 3cf2bf63/rtems:

bsps/m68k: Move fsp support to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 39**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:34:08 GMT

In 2190bc6/rtems:

bsps/mcf5206elite: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 40**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:34:19 GMT

In ddf3ea2/rtems:

bsps/csb360: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 41**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:34:30 GMT

In 945095d/rtems:

bsps/genmcf548x: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 42**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:34:53 GMT

In b54558ac/rtems:

bsps/mcf5225x: Move libcpu content to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 43**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:35:04 GMT

In 5d39512/rtems:

bsps/m68k: Remove libcpu/m68k

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 44**

1. **Sebastian Huber**, Mon, 26 Mar 2018 13:35:15 GMT

In 699fee43/rtems:

bsps: Remove libcpu

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 45**

1. **Sebastian Huber**, Wed, 04 Apr 2018 11:51:10 GMT

In 66b99a1/rtems:

bsps: Add RTEMS\_BSP to bspopts.h

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 46**

1. **Sebastian Huber**, Wed, 04 Apr 2018 11:51:21 GMT

In ce0ea6f/rtems:

bsps: Add shared-sources.am

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 47**

1. **Sebastian Huber**, Wed, 04 Apr 2018 11:51:33 GMT

In 4f0dca3a/rtems:

bsps: Move version.c and use bspopts.h

This patch is a part of the BSP source reorganization.

Update #3285. Update #3375.

#### **Comment 48**

1. **Sebastian Huber**, Wed, 04 Apr 2018 11:51:45 GMT

In 8621ed38/rtems:

bsps: Move config macros to RTEMS\_BSP\_CONFIGURE

Provide HAS\_NETWORKING and HAS\_SMP Automake conditionals for all BSPs.

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 49**

1. **Sebastian Huber**, Wed, 04 Apr 2018 11:51:56 GMT

In 27de4e1f/rtems:

bsps: Move libchip to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 50**

1. **Sebastian Huber**, Thu, 05 Apr 2018 05:27:30 GMT

In 82bc976/rtems:

bsps/bfin: Rename shared.am to shared-sources.am

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 51**

1. **Sebastian Huber**, Thu, 05 Apr 2018 05:27:40 GMT

In 0f0f249c/rtems:

bsps/m68k: Rename fbsp.am to fbsp-sources.am  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 52**

1. **Sebastian Huber**, Thu, 05 Apr 2018 05:27:51 GMT

In 6799a78/rtems:

bsps/powerpc: Rename to exceptions-sources.am  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 53**

1. **Sebastian Huber**, Thu, 05 Apr 2018 05:28:01 GMT

In d03ec77d/rtems:

bsps/powerpc: Rename to shared-sources.am  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 54**

1. **Sebastian Huber**, Mon, 09 Apr 2018 05:12:18 GMT

In 671c31fc/rtems:

bsp: Move umon support to bsp  
The umon support is only used by the csb337 BSP.  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 55**

1. **Sebastian Huber**, Mon, 09 Apr 2018 05:12:38 GMT

In 814eccb4/rtems:

bsps: Move VME support to bsp  
The VME support is only used by powerpc BSPs.  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 56**

1. **Sebastian Huber**, Mon, 09 Apr 2018 05:12:54 GMT

In 4b28d3c/rtems:

bsps: Move shmdr to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 57**



1. **Sebastian Huber**, Mon, 09 Apr 2018 05:13:09 GMT

In d584269/rtems:

```
bsps: Remove librtemsbsp.a wrapup
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 58**

1. **Sebastian Huber**, Mon, 09 Apr 2018 05:13:25 GMT

In 9b7c456/rtems:

```
bsps: Move generic IRQ support to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 59**

1. **Sebastian Huber**, Mon, 09 Apr 2018 09:38:23 GMT

In 01d34a3/rtems:

```
bsp/csb337: Fix umon support
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 60**

1. **Sebastian Huber**, Mon, 09 Apr 2018 09:41:33 GMT

In b606998/rtems:

```
bsp/genmcf548x: Fix IRQ support
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 61**

1. **Sebastian Huber**, Tue, 10 Apr 2018 05:19:34 GMT

In 1ce4a9e/rtems:

```
bsps: Fix typo in MPCIE support
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 62**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:17:10 GMT

In f0bcae38/rtems:

```
bsps: Remove unused console_select_simple.c
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 63**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:17:20 GMT

In b43ea9f/rtems:

```
bsps: Move legacy console driver to bsp
This patch is a part of the BSP source reorganization.
```

**Comment 64**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:17:41 GMT

In b46f943c/rtems:

```
bsp/motorola_powerpc: Move polled_io.c
This file was used by this BSP only. Avoid RTEMS_RELLDFLAGS.
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 65**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:18:02 GMT

In 6c4140c/rtems:

```
bsps: Avoid line continuation in Makefile.am
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 66**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:18:12 GMT

In b78b814/rtems:

```
bsps: Avoid source variables in Makefile.am
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 67**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:18:25 GMT

In b10caf8/rtems:

```
bsps: Remove headers from librtemsbsp_a_SOURCES
This was used by the not supported "make dist".
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 68**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:18:36 GMT

In 4359c43/rtems:

```
bsps: Simplify source file path in Makefile.am
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 69**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:18:47 GMT

In c5fe4431/rtems:

```
bsps: Move bootcard.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 70**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:18:58 GMT

In ff24c90d/rtems:

```
bsps: Remove empty gnatinstallhandler.c
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 71**

1. **Sebastian Huber**, Fri, 13 Apr 2018 07:45:53 GMT

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.

#### **Comment 72**

1. **Joel Sherrill**, Fri, 13 Apr 2018 12:36:21 GMT

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.

#### **Comment 73**

1. **Chris Johns**, Sat, 14 Apr 2018 04:30:25 GMT

I suggest we move away from make to config. Make is an implementation.

Can we please create a doc type file in the bsp to list the directories we allow?

#### **Comment 74**

1. **Sebastian Huber**, Tue, 17 Apr 2018 05:06:11 GMT

In 90013f59/rtems:

```
bsps: Move tod.c to bsp and rename
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 75**

1. **Sebastian Huber**, Tue, 17 Apr 2018 05:06:23 GMT

In 1cba1de/rtems:

```
bsps: Move bsp-fdt.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 76**

1. **Sebastian Huber**, Tue, 17 Apr 2018 05:06:33 GMT

In 9d44ae7/rtems:

```
bsps: Move bsp-uboot-board-info.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

#### **Comment 77**

1. **Sebastian Huber**, Tue, 17 Apr 2018 05:06:44 GMT

In 0a09ac58/rtems:

bsps: Move stackalloc.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 78**

1. **Sebastian Huber**, Tue, 17 Apr 2018 05:06:54 GMT

In 223e22f/rtems:

bsps: Move uart-output-char.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 79**

1. **Sebastian Huber**, Tue, 17 Apr 2018 09:02:22 GMT
2. **description:** modified (diff)

#### **Comment 80**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:04:46 GMT

In 300cc68/rtems-docs:

bsp-howto: Update BSP source code structure

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 81**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:24:24 GMT

In 4826858/rtems:

motorola\_powerpc: Remove headers from \*\_SOURCES

This was used by the not supported "make dist".

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 82**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:24:35 GMT

In 43bda786/rtems:

bsps: Move bspclean.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 83**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:24:46 GMT

In 554e39c/rtems:

bsps: Move bspreset.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 84**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:24:58 GMT

In 0736410/rtems:

bsps: Move bspreset\_loop.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 85**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:25:09 GMT

In 0b93d4f8/rtems:

bsps: Move bspstart.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 86**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:25:32 GMT

In 5a06b187/rtems:

bsps: Move bspgetworkarea.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 87**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:25:43 GMT

In a884df3/rtems:

bsp/motorola\_powerpc: Move bspstart.c to bsp

This shared powerpc file was only used by this BSP.

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 88**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:26:04 GMT

In 0510cd50/rtems:

bsps: Move doxygen.h files to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 89**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:26:15 GMT

In f923901/rtems:

bsps: Move pci\_bus\_count.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 90**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:26:25 GMT

In 9ec8cfc5/rtems:

bsps: Move pci\_find\_device.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 91**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:26:36 GMT

In 8d04f18/rtems:

```
bsps: Remove unused rtems-stub-glue.c
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 92**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:26:47 GMT

In 4b9015c/rtems:

```
bsps: Remove unused irq.h template file
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 93**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:26:57 GMT

In d6fb37a/rtems:

```
bsps: Move shared btimer support to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 94**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:27:09 GMT

In ef78454/rtems:

```
bsps: Move gpio.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 95**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:27:20 GMT

In 79b9fe6/rtems:

```
bsps: Move getentropy-cpucounter.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 96**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:27:30 GMT

In 7806d9c0/rtems:

```
bsps: Move shared CPU counter support to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 97**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:27:42 GMT

In a442939/rtems:

bsps: Move sbrk.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 98**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:27:53 GMT

In bc010a8d/rtems:

bsps: Move setvec.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 99**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:28:04 GMT

In 2584f5b/rtems:

bsps: Move bspmp.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 100**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:28:16 GMT

In 5c5b021/rtems:

bsps: Move bspmpgetcurrentprocessor.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 101**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:28:28 GMT

In 7632906/rtems:

bsps: Move clock drivers to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 102**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:28:40 GMT

In 58adad4/rtems:

bsps/powerpc: Move shared btimer support

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 103**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:28:54 GMT

In d7d66d7/rtems:

bsps: Move console drivers to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 104**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:29:08 GMT

In fbcd7c8f/rtems:

```
bsps: Move start files to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 105**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:29:22 GMT

In 9964895/rtems:

```
bsps: Move startup files to bsp  
Adjust build support files to new directory layout.  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 106**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:29:35 GMT

In e0dd8a5a/rtems:

```
bsps: Move benchmark timer to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 107**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:29:47 GMT

In 28b4c7ac/rtems:

```
sparc: Move _CPU_Trap_slot_template  
The definition of _CPU_Trap_slot_template is BSP-independent. A potential para-virtualization support may use .  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 108**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:29:57 GMT

In c49896f/rtems:

```
sparc: Move irq_asm.S  
This file is BSP-independent.  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 109**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:30:09 GMT

In d60d303c/rtems:

```
bsps/sparc: Move shared files to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 110**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:30:20 GMT

In b15cb636/rtems:



bsps/sparc: Move network drivers to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.

#### **Comment 111**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:30:30 GMT

In 1efa1c8/rtems:

bsps: Move MPCIE support to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.

#### **Comment 112**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:30:40 GMT

In 96faf12/rtems:

bsps/sparc: Move gnatsupp to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.

#### **Comment 113**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:30:51 GMT

In 67e472c/rtems:

bsps/leon2: Move PCI driver to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.

#### **Comment 114**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:31:01 GMT

In 13091dc4/rtems:

bsps/leon3: Move AMBA support to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.

#### **Comment 115**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:35:45 GMT

In 4b70ed9/rtems:

bsps/mvme147s: Fix Makefile.am  
This patch is a part of the BSP source reorganization.  
Update #3285.

#### **Comment 116**

1. **Sebastian Huber**, Mon, 23 Apr 2018 05:54:44 GMT

In 676d3d5/rtems-docs:

bsp-howto: Avoid :file: role with \${...}  
The curly braces have a special meaning in the :file: role.  
This patch is a part of the BSP source reorganization.  
Update #3285.

**Comment 117**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:16:02 GMT

In 1645deb/rtems-source-builder:

```
bootstrap: Do not generate acinclude.m4 files
Do not generate files which are part of the Git repository.  These files should be maintained manually in the future.
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 118**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:19:00 GMT

In 37dc047/rtems:

```
bsps: Remove AC_CONFIG_SRCDIR()
This AC_CONFIG_SRCDIR() is just a sanity check in this insane build system.  Since all content of
c/src/lib/libbsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@ is bound to be moved it makes no sense to keep it.
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 119**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:19:11 GMT

In adb85dd/rtems:

```
bsps: Move make/custom/* files to bsp
Adjust various build files.  Remove automatic generation of the c/src/lib/libbsp/*/acinclude.m4 files from bootstrap script.
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 120**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:19:21 GMT

In f004ace/rtems:

```
bsp/altera-cyclone-v: Move hwlib to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 121**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:19:32 GMT

In 54aabb7/rtems:

```
bsp/atsam: Move libraries to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 122**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:19:43 GMT

In a0f04d6/rtems:

```
bsp/gen5200: Move bestcomm to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 123**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:19:53 GMT

In a62c75c1/rtems:

```
bsp/tms570: Move more start to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 124**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:20:05 GMT

In 3bd30f4/rtems:

```
bsp/arm: Remove unused stm32f* files  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 125**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:20:16 GMT

In a2dad96/rtems:

```
bsp: Move I2C drivers to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 126**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:20:26 GMT

In 276afd2b/rtems:

```
bsp: Move SPI drivers to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 127**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:20:37 GMT

In 8f8ccee/rtems:

```
bsp: Move interrupt controller support to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 128**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:20:48 GMT

In 031df391/rtems:

```
bsp: Move legacy network drivers to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 129**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:20:59 GMT

In 4fb1b79/rtems:

```
bsp: Move RTC drivers to bsp  
This patch is a part of the BSP source reorganization.
```

**Comment 130**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:21:13 GMT

In 142175ef/rtems:

```
bsps/sparc64: Move helenos to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 131**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:21:27 GMT

In 4ccbac63/rtems:

```
bsps/v850: Move crt1.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 132**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:21:40 GMT

In fd67814/rtems:

```
bsps: Move GDB stubs to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 133**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:21:52 GMT

In b4de37fd/rtems:

```
bsps/sh: Move bsphwinit.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 134**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:22:03 GMT

In e617455/rtems:

```
bsps/sh: Move setvec.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 135**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:22:14 GMT

In 6e1cf37/rtems:

```
bsps/sh: Move console.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 136**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:22:24 GMT

In 5a4e3dc0/rtems:

bsps: Move PCI drivers to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 137**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:22:35 GMT

In fc79b26/rtems:

bsps: Move ATA drivers to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 138**

1. **Sebastian Huber**, Mon, 23 Apr 2018 13:22:45 GMT

In 21978523/rtems:

bsps/lm32: Move shared drivers to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 139**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:25:02 GMT

In 56bd37bf/rtems:

bsps: Remove unmaintained times files

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 140**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:25:12 GMT

In c99e4f4e/rtems:

bsps: Remove obsolete documentation

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 141**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:25:22 GMT

In 65e59cc/rtems:

bsps/arm: Move bsp\_memory\_management\_initialize()

This function is only used by the raspberrypi BSP.

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 142**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:25:33 GMT

In 0180acf2/rtems:

bsps/arm: Remove unused shared/comm/uart.c

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 143**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:25:43 GMT

In 03e1d837/rtems:

```
bsps/powerpc: Move bootloader to bsp  
This bootloader is only used by the motorola_powerpc BSP.  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 144**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:25:54 GMT

In 2101f54/rtems:

```
bsps: Move uboot_getenv.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 145**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:26:04 GMT

In 670f104/rtems:

```
bsps: Move uboot_dump_bdfinfo.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 146**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:26:15 GMT

In 1163f502/rtems:

```
bsps: Move tictac.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 147**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:26:26 GMT

In b8777d9/rtems:

```
bsps: Move memcpy.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 148**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:26:36 GMT

In 7091461/rtems:

```
bsps: Move ppc-exc-handler-table.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 149**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:26:47 GMT

In 1cc69e1/rtems:

bsps: Move showbats.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 150**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:26:57 GMT

In 173e157/rtems:

bsps: Move residual.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 151**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:27:08 GMT

In 499385e/rtems:

bsps: Move motorola.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 152**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:27:18 GMT

In afa90ee5/rtems:

bsps: Move vpd.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 153**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:27:29 GMT

In b5d4c80/rtems:

bsps: Move flash.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 154**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:27:41 GMT

In ff04935/rtems:

bsps: Move intelFlash.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 155**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:27:53 GMT

In fe077b3/rtems:

bsps: Move spansionFlash.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 156**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:28:04 GMT

In c7410f17/rtems:

```
bsps/m68k: Remove unused files
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 157**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:28:16 GMT

In 7a8e71b/rtems:

```
bsps/i386: Move shared files to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 158**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:28:27 GMT

In c3a44343/rtems:

```
bsps: Move bspreset.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 159**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:28:38 GMT

In d7a9eb90/rtems:

```
bsps: Move armv7m-cpucounter.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 160**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:28:49 GMT

In e2f63219/rtems:

```
bsps: Move arm-a9mpcore-clock-config.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 161**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:28:59 GMT

In 1ded97b9/rtems:

```
bsps: Move arm-generic-timer-clock-config.c to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 162**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:29:10 GMT

In bbedc47b/rtems:



bsps: Move arm-pl111-fb.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 163**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:29:20 GMT

In 3ad74cba/rtems:

bsps: Move arm-pl011.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 164**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:29:31 GMT

In fc6d8c2/rtems:

bsps: Move arm-pl050.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 165**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:29:41 GMT

In 864e72e/rtems:

bsps: Move arm-a9mpcore-smp.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 166**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:29:52 GMT

In aa705fe/rtems:

bsps: Move arm-cp15-set-exception-handler.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 167**

1. **Sebastian Huber**, Tue, 24 Apr 2018 08:30:02 GMT

In 891754f7/rtems:

bsps: Move arm-cp15-set-ttb-entries.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 168**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:32:10 GMT

In b07da56e/rtems:

bsp/gensh4: Move hw\_init.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

#### **Comment 169**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:32:21 GMT

In 8bf101c/rtems:

```
bsp/virtex4: Move mmu.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 170**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:32:32 GMT

In 25787041/rtems:

```
bsp/virtex5: Move mmu.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 171**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:32:43 GMT

In 8f12ee32/rtems:

```
bsp/mvme5500: Move source files to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 172**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:32:54 GMT

In bf16ee5/rtems:

```
bsp/mvme3100: Move flashcfg.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 173**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:33:05 GMT

In 8266fb5/rtems:

```
bsp/beatnik: Move source files to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 174**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:33:16 GMT

In 95d5426c/rtems:

```
bsp/haleakala: Move mmu_405.c to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

#### **Comment 175**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:33:27 GMT

In 64d4fc7/rtems:

```
bsp/gen5200: Move source files to bsp  
This patch is a part of the BSP source reorganization.
```

**Comment 176**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:33:38 GMT

In 100c972/rtems:

```
bsp/mrm332: Move spinit.c to bsp
```

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 177**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:33:50 GMT

In 0e15ba3/rtems:

```
bsp/mrm332: Move interr.c to bsp
```

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 178**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:34:03 GMT

In a79d650/rtems:

```
bsp/mcf5206elite: Move nvram.c to bsp
```

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 179**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:34:16 GMT

In 4183b711/rtems:

```
bsp/tms570: Move cpucounterread.c to bsp
```

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 180**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:34:29 GMT

In ede0eb3/rtems:

```
bsp/smdk2410: Move smc.c to bsp
```

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 181**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:34:43 GMT

In fc1bdb83/rtems:

```
bsp/raspberrypi: Move source files to bsp
```

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 182**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:34:54 GMT

In 43250167/rtems:

bsp/lpc32xx: Move source files to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

### **Comment 183**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:35:06 GMT

In 74df15c/rtems:

bsp/lpc24xx: Move source files to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

### **Comment 184**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:35:18 GMT

In e945b049/rtems:

bsp/lpc176x: Move source files to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

### **Comment 185**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:35:29 GMT

In 82bfda92/rtems:

bsp/lm3s69xx: Move ssi.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

### **Comment 186**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:35:40 GMT

In 720ebc0/rtems:

bsp/gumstix: Move fb.c to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

### **Comment 187**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:35:51 GMT

In 531d160/rtems:

bsp/beagle: Move source files to bsp

This patch is a part of the BSP source reorganization.

Update #3285.

### **Comment 188**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:36:02 GMT

In f7eaf316/rtems:

bsp: Remove unused u-boot-generic-board-info.h

This patch is a part of the BSP source reorganization.

Update #3285.

**Comment 189**

1. **Sebastian Huber**, Wed, 25 Apr 2018 12:36:13 GMT

In 1913eb16/rtems:

```
bsps/arm: Remove unused files  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 190**

1. **Sebastian Huber**, Wed, 25 Apr 2018 13:28:56 GMT
2. **milestone**: changed from **6.1** to **5.1**

**Comment 191**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:18:30 GMT

In 0b60c54/rtems:

```
bsp/haleakala: Move assembler files to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 192**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:18:40 GMT

In b80be135/rtems:

```
bsp/psim: Move align_h.S to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 193**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:18:51 GMT

In 3460c522/rtems:

```
bsps/powerpc: Move bsp-start-zero.S to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 194**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:19:02 GMT

In a5bf9b6/rtems:

```
bsps/mips: Move liblnk to bsp  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 195**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:19:12 GMT

In 1554415/rtems:

```
bsp/sparc64: Move asm.S to bsp and rename  
This patch is a part of the BSP source reorganization.  
Update #3285.
```

**Comment 196**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:19:23 GMT

In 8eb264d3/rtems:

```
bsps: Remove unmaintained times files
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 197**

1. **Sebastian Huber**, Thu, 26 Apr 2018 05:19:35 GMT

In eb36d11/rtems:

```
bsps: Move documentation, etc. files to bsp
This patch is a part of the BSP source reorganization.
Update #3285.
```

**Comment 198**

1. **Sebastian Huber**, Fri, 27 Apr 2018 10:50:26 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In cb0f55a/rtems-docs:

```
Update due to BSP source reorganization
This patch is a part of the BSP source reorganization.
Close #3285.
```

**Comment 199**

1. **Sebastian Huber**, Fri, 03 Aug 2018 12:15:34 GMT

In 32ccc01/rtems:

```
bsps: Fix the generic IRQ support
The genmcf548x partly uses its own implementation of the interrupt extension API for libbsd support.
This patch is a part of the BSP source reorganization.
Update #3285.
```

**3290 - Add device tree support to Altera/Intel Cyclone V BSP**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3290">https://devel.rtems.org/ticket/3290</a> ( <a href="https://devel.rtems.org/ticket/3290">https://devel.rtems.org/ticket/3290</a> )
<b>Id</b>	3290
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 February 2018 12:54:38
<b>Modified</b>	6 February 2018 09:03:13
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Mon, 05 Feb 2018 12:55:45 GMT

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

In 3454179/rtems:

```
bsp/altera-cyclone-v: Add device tree support
Update #3290.
```

### Comment 2

1. **Sebastian Huber**, Tue, 06 Feb 2018 09:03:13 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c30fa94/rtems-libbsd:

```
Add device tree support for Altera/Intel? Cyclone V
Close #3290.
```

## **3294 - gcc version report for released tools is wrong.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3294">https://devel.rtems.org/ticket/3294</a> ( <a href="https://devel.rtems.org/ticket/3294">https://devel.rtems.org/ticket/3294</a> )
<b>Id</b>	3294
<b>Reporter</b>	Chris Johns
<b>Created</b>	7 February 2018 04:25:48
<b>Modified</b>	7 February 2018 21:48:28
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

The release gcc version string has the RTEMS release and not the actual release.

### Comment 1

1. **Chris Johns**, Wed, 07 Feb 2018 21:48:28 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 858b648/rtems-source-builder:

```
gcc: Use the RSB release for released tools.
Using the RSB release version for the gcc version string means the tools have a version string that matches the release.
Close #3294
```

## **3298 - dlerror non-conformance**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3298">https://devel.rtems.org/ticket/3298</a> ( <a href="https://devel.rtems.org/ticket/3298">https://devel.rtems.org/ticket/3298</a> )
<b>Id</b>	3298
<b>Reporter</b>	Chris Johns
<b>Created</b>	8 February 2018 03:37:08
<b>Modified</b>	8 February 2019 23:08:07
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	2747

---

**Description**

This is a port of the 4.11 patches from #2747 to master. Please refer to that ticket for details.

**Comment 1**

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:07 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In e2f13430/rtems:

```
libdl: Fix dlerror non-conformance
Closes #3298
```

---

**3305 - Add paravirtualization support to ARM**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3305">https://devel.rtems.org/ticket/3305</a> ( <a href="https://devel.rtems.org/ticket/3305">https://devel.rtems.org/ticket/3305</a> )
<b>Id</b>	3305
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 February 2018 17:15:35
<b>Modified</b>	13 March 2018 15:15:20
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The Arm port does not currently have paravirtualization support.

**Comment 1**

1. **Joel Sherrill**, Fri, 16 Feb 2018 17:15:56 GMT
2. **owner:** set to **Joel Sherrill**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Tue, 13 Mar 2018 15:15:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

<https://git.rtems.org/rtems/commit?id=c0443b4ce943fa891839c7b7be21d8ebd4370de1>

---

**3306 - Add paravirtualization support to PowerPC**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3306">https://devel.rtems.org/ticket/3306</a> ( <a href="https://devel.rtems.org/ticket/3306">https://devel.rtems.org/ticket/3306</a> )
<b>Id</b>	3306
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 February 2018 17:17:37
<b>Modified</b>	13 March 2018 15:01:44
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	enhancement
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The PowerPC port does not currently have paravirtualization support.

**Comment 1**

1. **Joel Sherrill**, Tue, 13 Mar 2018 15:01:44 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 0a7a30d/rtems:

```
Add PowerPC paravirtualization support
Cannot read or write MSR when executing in user mode. This is used when RTEMS_PARAVIRT is defined.
Provide alternate methods to disable/enable interrupts
Closes #3306.
```

---

**3307 - PowerPC linkcmds.base missing wildcards on some sections**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3307">https://devel.rtems.org/ticket/3307</a> ( <a href="https://devel.rtems.org/ticket/3307">https://devel.rtems.org/ticket/3307</a> )
<b>Id</b>	3307
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 February 2018 17:21:14
<b>Modified</b>	17 September 2018 11:47:40
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Some sections were missing sections. Wildcards needed to be added.

**Comment 1**

1. **Joel Sherrill**, Fri, 16 Feb 2018 17:21:29 GMT
2. **owner:** set to **Joel Sherrill**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Mon, 19 Feb 2018 19:12:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 40c623a8/rtems:

powerpc/shared/startup/linkcmds.base: Add wildcards on some sections  
Closes #3307.

**Comment 3**

1. **Sebastian Huber**, Wed, 07 Mar 2018 09:48:06 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

I reverted [40c623a8/rtems] and built the qoriq\_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 [1fccdd639ee38a990e629fdaa670eeda9faae9beb/rtems].

**Comment 4**

1. **Sebastian Huber**, Fri, 18 May 2018 08:45:56 GMT

In 7bf072b/rtems:

```
bsp/powerpc: Remove wildcards in linkcmds.base
This reverts commit 40c623a883da5dd80e4599cf4cd14097834706bd.
The use of postfix wildcards, e.g. of the form "*.x" is dangerous since it circumvents the standard matching rules for sections.
Unknown input sections should be added explicitly to the desired output section via "x.*" wildcards.
Update #3307.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 17 Sep 2018 11:47:24 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

Is probably fixed.

**3309 - rtems\_task\_create's initial\_mode SMP update**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3309">https://devel.rtems.org/ticket/3309</a> ( <a href="https://devel.rtems.org/ticket/3309">https://devel.rtems.org/ticket/3309</a> )
<b>Id</b>	3309
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 February 2018 02:26:07
<b>Modified</b>	14 October 2018 01:11:23
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Sun, 14 Oct 2018 01:11:23 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

**3312 - RSB macro calls such as define fail on unicode keys.**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3312">https://devel.rtems.org/ticket/3312</a> ( <a href="https://devel.rtems.org/ticket/3312">https://devel.rtems.org/ticket/3312</a> )
<b>Id</b>	3312
<b>Reporter</b>	Chris Johns
<b>Created</b>	23 February 2018 00:34:09
<b>Modified</b>	25 February 2018 21:33:37
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3313
<b>Blocked by</b>	

---

**Description**

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:

```
cd rtems-source-builder-4.11.3/rtems
./source-builder/sb-set-builder --prefix=/home/user/rtems/4.11 --log=arm.txt --without-rtems 4.11/rtems-arm
Traceback (most recent call last):
  File "../source-builder/sb-set-builder", line 29, in
    setbuilder.run()
  File "../source-builder/sb/setbuilder.py", line 526, in run
    opts = options.load(sys.argv, optargs)
  File "../source-builder/sb/options.py", line 668, in load
    version.load_release_settings(o.defaults)
  File "../source-builder/sb/version.py", line 123, in load_release_settings
    sources.hash((hs[0], hash[0], hs[1]), macros, setting_error)
  File "../source-builder/sb/sources.py", line 105, in hash
    macros.define(file, '%s %s' % (args[0], args[2]))
  File "../source-builder/sb/macros.py", line 439, in define
    raise TypeError('bad key type: %s' % (type(key)))
TypeError: bad key type:
```

**Comment 1**

1. **Chris Johns**, Fri, 23 Feb 2018 01:27:27 GMT
2. **blocking**: set to **3313**

**Comment 2**

1. **Chris Johns**, Sun, 25 Feb 2018 21:33:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d255e81/rtems-source-builder:

```
sb: Convert any unicode keys to strings
Closes #3312
```

**3315 - Move expat's home site to github from SF.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3315">https://devel.rtems.org/ticket/3315</a> ( <a href="https://devel.rtems.org/ticket/3315">https://devel.rtems.org/ticket/3315</a> )
<b>Id</b>	3315
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 March 2018 00:21:26
<b>Modified</b>	4 March 2018 21:31:03
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3316, 3317
<b>Blocked by</b>	

---

**Description**

Move expat's home site from SF to github:

<https://libexpat.github.io/>

**Comment 1**

1. **Chris Johns**, Fri, 02 Mar 2018 00:23:24 GMT
2. **blocking**: set to **3316**

**Comment 2**

1. **Chris Johns**, Fri, 02 Mar 2018 00:24:24 GMT
2. **blocking**: changed from **3316** to **3316, 3317**

**Comment 3**

1. **Chris Johns**, Sun, 04 Mar 2018 21:31:03 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4b3e0f8/rtems-source-builder:

The libexpat project has moved to github. Fetch expat from github.

Close #3315

**3318 - Improve INTERNAL\_ERROR\_THREAD\_EXITTED to show the id and thread name**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3318">https://devel.rtems.org/ticket/3318</a> ( <a href="https://devel.rtems.org/ticket/3318">https://devel.rtems.org/ticket/3318</a> )
<b>Id</b>	3318
<b>Reporter</b>	Matthew J Fletcher
<b>Created</b>	2 March 2018 10:12:31
<b>Modified</b>	8 March 2018 05:56:53
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

It might be more helpful in 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 }
```

**Comment 1**

1. **Sebastian Huber**, Wed, 07 Mar 2018 06:50:44 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**
4. **version**: set to **5**
5. **component**: changed from **rtems** to **bsps**
6. **milestone**: set to **5.1**

**Comment 2**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Thu, 08 Mar 2018 05:56:53 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In d39cc068/rtems:

```
bsps: More verbose bsp_fatal_extension()
Close #3318.
```

### 3320 - Add a simple task console driver

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3320">https://devel.rtems.org/ticket/3320</a> ( <a href="https://devel.rtems.org/ticket/3320">https://devel.rtems.org/ticket/3320</a> )
<b>Id</b>	3320
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 March 2018 07:07:36
<b>Modified</b>	29 June 2018 09:53:37
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	enhancement
<b>Component</b>	dev/serial
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

```
.. index:: CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER
.. CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER:
CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER
-----
CONSTANT:
  ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER``
DATA TYPE:
  Boolean feature macro.
RANGE:
  Defined or undefined.
DEFAULT VALUE:
  This is not defined by default.
DESCRIPTION:
  ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER`` is defined if
  the application wishes to include the Simple Task Console Device Driver.
NOTES:
  This device driver is responsible for providing the :file:/dev/console`
  device file. This device is used to initialize the standard input, output,
  and error file descriptors.
  This device driver reads via getchar().
  This device driver writes into a write buffer. The count of characters
  written into the write buffer is returned. It might be less than the
  requested count, in case the write buffer is full. The write is
  non-blocking and may be called from interrupt context. A dedicated task
  reads from the write buffer and outputs the characters via
  rtems_putc(). This task runs with the least important priority. The
  write buffer size is 2047 characters and it is not configurable.
  Use fsync(STDOUT_FILENO) or fdatsync(STDOUT_FILENO) to drain the
  write buffer.
  The Termios framework is not used. There is no support to change device
  settings, e.g. baud, stop bits, parity, etc.
  The
  * ``CONFIGURE_APPLICATION_NEEDS_CONSOLE_DRIVER``,
  * ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_CONSOLE_DRIVER``, and
  * ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER``
  configuration options are mutually exclusive.
```

#### Comment 1

1. **Sebastian Huber**, Tue, 06 Mar 2018 10:46:54 GMT

In f6c6c8b/rtems-docs:

```
CONFIGURE_*_SIMPLE_TASK_CONSOLE_DRIVER
Update #3320.
```

#### Comment 2

1. **Sebastian Huber**, Tue, 06 Mar 2018 11:32:27 GMT
2. **owner**: set to **Sebastian Huber** <sebastian.huber@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 337a186/rtems:

Add a simple task console driver  
Close #3320.

### Comment 3

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:53:37 GMT

In 196ce18/rtems:

console: Add missing return status  
Update #3320.

---

## **3323 - mhttpd's http etag can result in invalid caching in a browser.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3323">https://devel.rtems.org/ticket/3323</a> ( <a href="https://devel.rtems.org/ticket/3323">https://devel.rtems.org/ticket/3323</a> )
<b>Id</b>	3323
<b>Reporter</b>	Chris Johns
<b>Created</b>	8 March 2018 04:11:03
<b>Modified</b>	11 April 2018 02:47:25
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3324
<b>Blocked by</b>	

---

### **Description**

The mhttpd'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.

### Comment 1

1. **Chris Johns**, Thu, 08 Mar 2018 04:12:12 GMT
2. **blocking**: set to **3324**

### Comment 2

1. **Chris Johns**, Wed, 11 Apr 2018 02:47:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d13a624/rtems:

cpukit/mhttpd: Add a callback to generate a per file HTTP etag  
Close #3323.

---

## **3325 - Simplify clustered scheduler configuration**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3325">https://devel.rtems.org/ticket/3325</a> ( <a href="https://devel.rtems.org/ticket/3325">https://devel.rtems.org/ticket/3325</a> )
<b>Id</b>	3325
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 March 2018 06:02:28
<b>Modified</b>	12 March 2018 06:14:56
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 08 Mar 2018 06:47:33 GMT

In bf78123/rtems-docs:

```
c-user: Rework scheduler algorithm config defs
Update #3325.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 08 Mar 2018 07:05:33 GMT

In 0231ebc/rtems:

```
config: Remove RTEMS prefix from internal defines
Update #3325.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 12 Mar 2018 06:02:46 GMT

In 2ef85b1/rtems:

```
config: Simplify clustered scheduler configuration
Do not use names derived from scheduler implementation details. Instead use names derived from the scheduler configuration or
documentation.
Provide defines for backward compatibility.
Update #3325.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 12 Mar 2018 06:02:56 GMT

In 6fad7a/rtems:

```
config: Use new scheduler configuration defines
Update #3325.
```

**Comment 5**

1. **Sebastian Huber**, Mon, 12 Mar 2018 06:14:56 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 154fb0f9/rtems-docs:

c-user: Simplify clustered scheduler configuration  
 Close #3325.

### 3327 - Eliminate score/cpu/&#42;/.../types.h

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3327">https://devel.rtems.org/ticket/3327</a> ( <a href="https://devel.rtems.org/ticket/3327">https://devel.rtems.org/ticket/3327</a> )
<b>Id</b>	3327
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	8 March 2018 17:22:23
<b>Modified</b>	21 March 2018 06:51:40
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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

#### Comment 1

1. **Joel Sherrill**, Mon, 12 Mar 2018 19:30:07 GMT

In c2282d6d/rtems:

```
sparc/include/rtems/score/types.h: Eliminate this file
Updates #3327.
```

#### Comment 2

1. **Sebastian Huber**, Wed, 21 Mar 2018 06:51:40 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

### 3328 - bootstrap uses non-POSIX compliant echo -e

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3328">https://devel.rtems.org/ticket/3328</a> ( <a href="https://devel.rtems.org/ticket/3328">https://devel.rtems.org/ticket/3328</a> )
<b>Id</b>	3328
<b>Reporter</b>	Amaan Cheval
<b>Created</b>	9 March 2018 16:59:21
<b>Modified</b>	9 March 2018 19:26:18
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Joel Sherrill
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

On certain shells, the "-e" option is not supported, and causes echo to output the flag along with the quoted text.

```
-> % sh
$ echo -e "foo bar"
-e foo bar
$
```





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>

#### Attachments:

##### 1 Amaan Cheval, Fri, 09 Mar 2018 17:00:08 GMT

**attach:** set to [0001-bootstrap-Use-printf-instead-of-echo-e-for-POSIX-she.patch](https://devel.rtems.org/ticket/3328/0001-bootstrap-Use-printf-instead-of-echo-e-for-POSIX-she.patch) (<https://devel.rtems.org/ticket/3328/0001-bootstrap-Use-printf-instead-of-echo-e-for-POSIX-she.patch>)

#### Comment 1

1. Joel Sherrill, Fri, 09 Mar 2018 19:10:16 GMT
2. **description:** modified (diff)

#### Comment 2

1. Joel Sherrill, Fri, 09 Mar 2018 19:26:18 GMT
2. **status:** changed from **new** to **closed**
3. **version:** set to **5**
4. **resolution:** set to **fixed**
5. **milestone:** set to **5.1**

This didn't close automatically on the commit.

<http://git.rtems.org/rtems/commit/?id=4dfeba3a0e53d4b697b07f9c10783c411e43ccdf>

## 3329 - Trac Login Failure (bad password) Causes Internal Error

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3329">https://devel.rtems.org/ticket/3329</a> ( <a href="https://devel.rtems.org/ticket/3329">https://devel.rtems.org/ticket/3329</a> )
<b>Id</b>	3329
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 March 2018 19:14:46
<b>Modified</b>	20 October 2018 16:08:31
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	tool/website
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Behavior is as expected with a bad user name.

Try to login to Trac with a bad password:

Oops...  
 Trac detected an internal error: ProgrammingError?: (1064, "You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sid='joel.sherrill' AND authenticated=1 AND name='failed\_logins\_count\_\_' at line 1")  
 There was an internal error in Trac. It is recommended that you notify your local Trac administrator with the information needed to reproduce the issue.  
 To that end, you could anonymous ProgrammingError?: (1064, "You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sid='joel.sherrill' AND authenticated=1 AND name='failed\_logins\_count\_\_' at line 1") ===== How to Reproduce =====

While doing a POST operation on /login, Trac issued an internal error.

\_\_(please provide additional details here)\_\_

Request parameters:

```
{'u'_FORM_TOKEN': u'0dc25ae350c181046ceae015',
'u'_password': u'XXX',
'u'_referer': u'https://devel.rtems.org/ticket/3328',
'u'_user_locked': False,
'u'_username': u'joel.sherrill'}
```

User agent: Mozilla/5.0 (X11; Linux x86\_64) KHTML/4.14.8 (like Gecko) Konqueror/4.14 Fedora/4.14.8-6.el7\_3

System Information

\_\_System information not available\_\_

## Enabled Plugins

\_\_Plugin information not available\_\_

## Interface Customization

\_\_Interface customization information not available\_\_

## Python Traceback

```

Traceback (most recent call last):
  File "/data/src/trac/trac/web/main.py", line 620, in _dispatch_request
    dispatcher.dispatch(req)
  File "/data/src/trac/trac/web/main.py", line 220, in dispatch
    chosen_handler = self._pre_process_request(req, chosen_handler)
  File "/data/src/trac/trac/web/main.py", line 429, in _pre_process_request
    chosen_handler = filter._pre_process_request(req, chosen_handler)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/api.py", line 478, in pre_process_request
    if not req.session.authenticated or \
  File "/data/src/trac/trac/web/api.py", line 491, in __getattr__
    value = self.callbacks[name](self)
  File "/data/src/trac/trac/web/main.py", line 354, in _get_session
    return Session(self.env, req)
  File "/data/src/trac/trac/web/session.py", line 243, in __init__
    if req.authname == 'anonymous':
  File "/data/src/trac/trac/web/api.py", line 491, in __getattr__
    value = self.callbacks[name](self)
  File "/data/src/trac/trac/web/main.py", line 172, in authenticate
    authname = authenticator.authenticate(req)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/util.py", line 81, in wrap
    return func(self, *args, **kwargs)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/web_ui.py", line 395, in authenticate
    guard.failed_count(f_user, req.remote_addr)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/guard.py", line 107, in failed_count
    set_user_attribute(self.env, user, key, count)
  File "/data/trac/plugins/TracAccountManager-0.5.dev0-py2.7.egg/acct_mgr/model.py", line 509, in set_user_attribute
    (value, username, attribute)
  File "/data/src/trac/trac/db/util.py", line 128, in execute
    cursor.execute(query, params if params is not None else [])
  File "/data/src/trac/trac/db/util.py", line 72, in execute
    return self.cursor.execute(sql_escape_percent(sql), args)
  File "/usr/local/lib/python2.7/site-packages/MySQLdb/cursors.py", line 205, in execute
    self.errorhandler(self, exc, value)
  File "/usr/local/lib/python2.7/site-packages/MySQLdb/connections.py", line 36, in defaulterrorhandler
    raise errorclass, errorvalue
ProgrammingError: (1064, "You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'sid='joel.sherrill' AND authenticated=1 AND name='failed_logins_count'' at line 1")
" Create a ticket.
The action that triggered the error was:
POST: /login
TracGuide - The Trac User and Administration Guide

```

**Comment 1**

1. **Amar Takhar**, Fri, 09 Mar 2018 22:40:22 GMT
2. **owner:** set to **Amar Takhar**
3. **status:** changed from **new** to **accepted**
4. **type:** changed from **defect** to **infra**

Sigh this is a part of why upgrading trac is so annoying anytime I fix something another part breaks I really need to redo the entire system.

Thanks for the report I've put it on the list since it's not critical I'm not worried about it.

**Comment 2**

1. **Amar Takhar**, Sat, 20 Oct 2018 16:08:31 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** set to **5.1**

I upgraded TracAccountManager? this should no longer happen.

**3334 - deadlock in \_once()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3334">https://devel.rtems.org/ticket/3334</a> ( <a href="https://devel.rtems.org/ticket/3334">https://devel.rtems.org/ticket/3334</a> )
<b>Id</b>	3334
<b>Reporter</b>	Stavros Passas
<b>Created</b>	13 March 2018 13:17:56
<b>Modified</b>	18 February 2019 07:34:12
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

#### Attachments:

---

##### 1 Stavros Passas, Tue, 13 Mar 2018 13:19:22 GMT

**attach:** set to [Add-test-executing-interlocking-pthread\\_once\\_patch \(https://devel.rtems.org/ticket/3334/Add-test-executing-interlocking-pthread\\_once\\_patch\)](https://devel.rtems.org/ticket/3334/Add-test-executing-interlocking-pthread_once_patch)

##### 2 Stavros Passas, Tue, 13 Mar 2018 13:28:56 GMT

**attach:** set to [3334-Fix-pthread\\_once-deadlock\\_patch \(https://devel.rtems.org/ticket/3334/3334-Fix-pthread\\_once-deadlock\\_patch\)](https://devel.rtems.org/ticket/3334/3334-Fix-pthread_once-deadlock_patch)

---

#### Comment 1

##### 1. Stavros Passas, Tue, 13 Mar 2018 13:22:26 GMT

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."

#### Comment 2

##### 1. Stavros Passas, Tue, 13 Mar 2018 13:34:02 GMT

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`.

#### Comment 3

##### 1. Sebastian Huber, Tue, 13 Mar 2018 14:12:26 GMT

##### 2. 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` ). 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 instead of .

#### Comment 4

##### 1. Chris Johns, Sun, 14 Oct 2018 01:12:03 GMT

What is happening with this ticket?

#### Comment 5

##### 1. Chris Johns, Sun, 14 Oct 2018 01:13:12 GMT

##### 2. version: changed from 4.11 to 5

#### Comment 6

##### 1. Chris Johns, Sun, 14 Oct 2018 20:27:03 GMT

##### 2. status: changed from new to assigned

##### 3. version: changed from 5 to 6

##### 4. milestone: changed from 5.1 to Indefinite

#### Comment 7

##### 1. Sebastian Huber, Mon, 15 Oct 2018 05:05:17 GMT

##### 2. owner: set to Sebastian Huber

#### Comment 8

##### 1. Sebastian Huber, Tue, 12 Feb 2019 12:20:52 GMT

##### 2. status: changed from assigned to accepted

##### 3. version: changed from 6 to 5

4. **milestone:** changed from **Indefinite** to **5.1**

#### Comment 9

1. **Sebastian Huber**, Mon, 18 Feb 2019 06:26:41 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In e4ad14cc/rtems:

```
score: Avoid some deadlocks in _Once()

Recursive usage of the same pthread_once_t results now in a deadlock. Previously, an error of EINVAL was returned. This usage scenario is
invalid according to the POSIX pthread_once() specification.

Close #3334.
```

#### Comment 10

1. **Sebastian Huber**, Mon, 18 Feb 2019 07:34:12 GMT

In 3d65f45/rtems:

```
psxtests/psxonce01: Fix typo

Update #3334.
```

### **3339 - Several PowerPC linker commands do not support constructors/destructors with priority**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3339">https://devel.rtems.org/ticket/3339</a> ( <a href="https://devel.rtems.org/ticket/3339">https://devel.rtems.org/ticket/3339</a> )
<b>Id</b>	3339
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2018 18:45:58
<b>Modified</b>	20 December 2019 06:17:26
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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
```

#### Comment 1

1. **Sebastian Huber**, Fri, 16 Mar 2018 14:12:46 GMT

In 9860cc7/rtems:

```
bsps/powerpc: Fix linker command files

Update #3339.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 16 Mar 2018 14:12:56 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>

3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 2e5cf7f/rtems:

```
bsps/powerpc: Use shared linker command file
Close #3339.
```

#### Comment 3

1. **Sebastian Huber**, Sat, 17 Mar 2018 10:08:19 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted
4. **summary:** changed from **qemuppc fails to link spglobalcon02** to **Several PowerPC linker commands do not support constructors/destructors with priority**

#### Comment 4

1. **Sebastian Huber**, Mon, 26 Mar 2018 09:12:25 GMT

In 1048a165/rtems:

```
bsp/tqm8xx: Use shared linker command file
Update #3339.
```

#### Comment 5

1. **Sebastian Huber**, Wed, 25 Apr 2018 18:36:17 GMT

In b3e5aa5/rtems:

```
bsp/qemuppc: Install linkcmds.base
Update #3339. Close #3411.
```

#### Comment 6

1. **Sebastian Huber**, Tue, 07 May 2019 08:32:35 GMT

In 30d61a6/rtems:

```
bsps/powerpc: Fix constructors with priority
Update #3339.
```

#### Comment 7

1. **Sebastian Huber**, Fri, 20 Dec 2019 06:17:26 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 86abbb6e/rtems:

```
bsps/powerpc: Support constructors with priority
Close #3339.
```

---

### 3340 - gen83xx warning for macros redefined

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3340">https://devel.rtems.org/ticket/3340</a> ( <a href="https://devel.rtems.org/ticket/3340">https://devel.rtems.org/ticket/3340</a> )
<b>Id</b>	3340
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2018 21:06:00
<b>Modified</b>	16 March 2018 13:24:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```
log/powerpc-hsc_cm01.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/powerpc/gen83xx/include/bsp/hwreg_vals.h:244:0: 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:

```
=====
/* fpga BCSR register */
#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) __
=====
```

**Comment 1**

1. **Joel Sherrill**, Wed, 14 Mar 2018 21:06:25 GMT
2. **owner:** changed from **sebastian** to **Sebastian Huber**

**Comment 2**

1. **Sebastian Huber**, Fri, 16 Mar 2018 13:24:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9b61342/rtems:

```
bsp/gen83xx: Fix define redefinitions
Close #3340.
```

---

**3341 - sparc64: Macro Redefined**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3341">https://devel.rtems.org/ticket/3341</a> ( <a href="https://devel.rtems.org/ticket/3341">https://devel.rtems.org/ticket/3341</a> )
<b>Id</b>	3341
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2018 21:08:54
<b>Modified</b>	23 March 2018 16:35:50
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	arch/sparc64
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

log/sparc64-usiii.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/sparc64/include/arch/stack.h:56:0: warning: "STACK\_BIAS" redefined  
 This is defined in two header files with the same value. Not sure what the proper fix is.

**Comment 1**

1. **Joel Sherrill**, Wed, 14 Mar 2018 21:09:39 GMT
2. **owner:** set to **Gedare Bloom**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Gedare Bloom**, Fri, 23 Mar 2018 16:35:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In d7fd3bc/rtems:

```
sparc64: remove header file with duplicated macros

The boot/stack.h header contains duplicated macros that are redundant to arch/stack.h. Delete the boot/stack.h and replace its one use by the arch/stack.h.

Closes #3341.
```

**3342 - pthread\_setschedparam() has incorrect prototype**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3342">https://devel.rtems.org/ticket/3342</a> ( <a href="https://devel.rtems.org/ticket/3342">https://devel.rtems.org/ticket/3342</a> )
<b>Id</b>	3342
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2018 22:32:00
<b>Modified</b>	24 July 2018 07:06:52
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

```
)
```

**Comment 1**

1. **Joel Sherrill**, Wed, 14 Mar 2018 22:32:12 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Tue, 20 Mar 2018 18:45:49 GMT

Change pushed to newlib. I have a patch pending for RTEMS pending a tool bump.

**Comment 3**

1. **Sebastian Huber**, Fri, 06 Jul 2018 05:27:12 GMT

In 77fbbd6/rtems:

```
posix: Check for new prototypes
Update #3342. Update #3343.
```

**Comment 4**

1. **Sebastian Huber**, Tue, 24 Jul 2018 07:06:52 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In dc6b940/rtems-source-builder:

```
5: Update Newlib
Update RISC-V GCC to a GCC 9 branch commit.
Close #3342. Close #3343. Update #3452.
```

**3343 - pthread\_mutex\_getprioceiling() has incorrect prototype**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3343">https://devel.rtems.org/ticket/3343</a> ( <a href="https://devel.rtems.org/ticket/3343">https://devel.rtems.org/ticket/3343</a> )
<b>Id</b>	3343
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 March 2018 22:34:01
<b>Modified</b>	24 July 2018 07:06:52
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

```
)
```

**Comment 1**

1. **Joel Sherrill**, Wed, 14 Mar 2018 22:34:10 GMT
2. **owner**: changed from **joel** to **Joel Sherrill**

**Comment 2**

1. **Joel Sherrill**, Tue, 20 Mar 2018 18:45:55 GMT

Change pushed to newlib. I have a patch pending for RTEMS pending a tool bump.



**Comment 3**

1. **Sebastian Huber**, Fri, 06 Jul 2018 05:27:12 GMT

In 77fbbd6/rtems:

```
posix: Check for new prototypes
Update #3342. Update #3343.
```

**Comment 4**

1. **Sebastian Huber**, Tue, 24 Jul 2018 07:06:52 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In dc6b940/rtems-source-builder:

```
5: Update Newlib
Update RISC-V GCC to a GCC 9 branch commit.
Close #3342. Close #3343. Update #3452.
```

**3344 - mcf5272/mcf5272.h Timer3 Duplicate Definition**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3344">https://devel.rtems.org/ticket/3344</a> ( <a href="https://devel.rtems.org/ticket/3344">https://devel.rtems.org/ticket/3344</a> )
<b>Id</b>	3344
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 14:44:25
<b>Modified</b>	16 March 2018 13:51:04
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/m68k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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/bbps/m68k/include/mcf5272/mcf5272.h
+++ b/bbps/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)
```

**Comment 1**

1. **Joel Sherrill**, Thu, 15 Mar 2018 14:44:32 GMT

2. **owner**: set to **Joel Sherrill**

3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Fri, 16 Mar 2018 13:51:04 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

<https://git.rtems.org/rtems/commit/?id=0c70535d54d27f95c25ad221f2ed8ba23c52ac4b>

**3345 - mvme3100 spaces needed around quote in macro definitions in bsp.h**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3345">https://devel.rtems.org/ticket/3345</a> ( <a href="https://devel.rtems.org/ticket/3345">https://devel.rtems.org/ticket/3345</a> )
<b>Id</b>	3345
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 14:48:10
<b>Modified</b>	16 March 2018 13:50:16
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Various BSP\_I2c\_XXX\_DEV\_NAME macros have a stray " at the end of the first parameter.

**Comment 1**

1. **Joel Sherrill**, Thu, 15 Mar 2018 22:17:14 GMT
2. **summary:** changed from **mvme3100 extra quote in macro definitions in bsp.h** to **mvme3100 spaces needed around quote in macro definitions in bsp.h**

**Comment 2**

1. **Joel Sherrill**, Fri, 16 Mar 2018 13:50:16 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

<https://git.rtems.org/rtems/commit?id=dce920aea8f2fa286e014ad95f74a4ddb7854469>

---

**3346 - bf533.h**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3346">https://devel.rtems.org/ticket/3346</a> ( <a href="https://devel.rtems.org/ticket/3346">https://devel.rtems.org/ticket/3346</a> )
<b>Id</b>	3346
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 14:53:55
<b>Modified</b>	16 March 2018 13:49:57
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/bfin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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/bfin/TLL6527M/include/bsp.h:28:0,

```
from ../rtems/c/src/libchip/display/disp_hcms29xx.c:26:
```

/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/bfin/include/bf52x.h:43:0: warning: "TIMER\_STATUS" redefined

```
#define TIMER_STATUS 0xffc00648
```

---

**Comment 1**

1. **Joel Sherrill**, Fri, 16 Mar 2018 13:49:57 GMT
2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

<https://git.rtems.org/rtems/commit/?id=74fe9ceda52c5749f341f57cb9f064276ca3532b>

---

**3348 - beatnick:spaces needed around quote in macro definitions in bsp.h**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3348">https://devel.rtems.org/ticket/3348</a> ( <a href="https://devel.rtems.org/ticket/3348">https://devel.rtems.org/ticket/3348</a> )
<b>Id</b>	3348
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 22:18:58
<b>Modified</b>	16 March 2018 13:49:20
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Macros need spaces around ","

**Comment 1**

1. **Joel Sherrill**, Fri, 16 Mar 2018 13:49:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

<https://git.rtems.org/rtems/commit/?id=8307723dd3f4f282d1847b17ae7ac9db35af8784>

---

**3349 - pc386 edid.h invalid macro names**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3349">https://devel.rtems.org/ticket/3349</a> ( <a href="https://devel.rtems.org/ticket/3349">https://devel.rtems.org/ticket/3349</a> )
<b>Id</b>	3349
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 22:20:20
<b>Modified</b>	16 March 2018 13:38:44
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
```

**Comment 1**

1. **Joel Sherrill**, Fri, 16 Mar 2018 13:38:44 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In be3d7d7/rtems:

```
pc386/include/edid.h: Fix macro name to use _ not -
Closes #3349.
```

---

**3350 - sptimecounter02 warning due to defining \_KERNEL and disabling part of <sys/time.h>**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3350">https://devel.rtems.org/ticket/3350</a> ( <a href="https://devel.rtems.org/ticket/3350">https://devel.rtems.org/ticket/3350</a> )
<b>Id</b>	3350
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2018 22:32:28
<b>Modified</b>	16 March 2018 07:22:01
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The bottom of 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:323:0,`

```
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 ); ~
```

**Comment 1**

1. **Joel Sherrill**, Thu, 15 Mar 2018 22:32:44 GMT
2. **owner:** changed from **sebastian** to **Sebastian Huber**

**Comment 2**

1. **Sebastian Huber**, Fri, 16 Mar 2018 07:22:01 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 478dc89/rtems:

```
imfs: Use most efficient way to get the time
As a side-effect, this fixes some warnings.
Close #3350.
```

**3352 - Warning in all Ipc176x variants**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3352">https://devel.rtems.org/ticket/3352</a> ( <a href="https://devel.rtems.org/ticket/3352">https://devel.rtems.org/ticket/3352</a> )
<b>Id</b>	3352
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 March 2018 16:50:30
<b>Modified</b>	21 March 2018 06:43:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

`bsp/arm/lpc176x/include/bsp.h` defines `OPERATION_COUNT` in an attempt to override the autoconf generated constant. This conflicts and results in this warning:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

/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.

#### Comment 1

1. **Joel Sherrill**, Fri, 16 Mar 2018 16:51:10 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**
4. **version:** set to **5**
5. **component:** changed from **admin** to **arch/arm**
6. **milestone:** set to **5.1**

#### Comment 2

1. **Sebastian Huber**, Mon, 19 Mar 2018 06:05:39 GMT

This BSP is not from me. It was added with a promise to merge into the lpc24xx BSP. I tend to remove it.

#### Comment 3

1. **Sebastian Huber**, Mon, 19 Mar 2018 06:11:31 GMT

<https://lists.rtems.org/pipermail/devel/2014-June/007110.html>

Maybe we should just consider this BSP as unmaintained.

#### Comment 4

1. **Sebastian Huber**, Wed, 21 Mar 2018 06:43:55 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 26623e3/rtems:

```
bsp/lpc176x: Remove blunt OPERATION_COUNT define
BSP-specific test customization needs a more sophisticated approach.
Close #3352.
```

## 3354 - PowerPC BSPs duplicate PAGE\_MASK, etc redefinition

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3354">https://devel.rtems.org/ticket/3354</a> ( <a href="https://devel.rtems.org/ticket/3354">https://devel.rtems.org/ticket/3354</a> )
<b>Id</b>	3354
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	16 March 2018 18:29:45
<b>Modified</b>	29 March 2018 14:12:26
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

The following BSPs:

```
powerpc-beatnik
powerpc-mcp750
powerpc-mtx603e
powerpc-mvme2100
powerpc-mvme2307
powerpc-mvme5500
powerpc-qemuprep-altivec
powerpc-qemuprep
```



In c4d35fb/rtems:

```
libchip: Use rtems_blkdev_create()
```

```
Update #3358.
```

### Comment 3

1. **Sebastian Huber**, Fri, 18 May 2018 08:45:45 GMT

In 70502b48/rtems:

```
libtests/block05: Use rtems_blkdev_create()
```

```
Update #3358.
```

### Comment 4

1. **Sebastian Huber**, Mon, 06 Aug 2018 07:05:18 GMT
2. **blocking**: set to **3485**

### Comment 5

1. **Sebastian Huber**, Mon, 06 Aug 2018 07:06:35 GMT
2. **version**: set to **5**
3. **milestone**: changed from **6.1** to **5.1**

### Comment 6

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:40:22 GMT

In 24b94c4/rtems:

```
ramdisk: Use rtems_blkdev_create()
```

```
Update #3358.
```

### Comment 7

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:40:32 GMT

In 16f3f10/rtems:

```
nvdisk: Use rtems_blkdev_create()
```

```
Update #3358.
```

### Comment 8

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:40:42 GMT

In 0fe7133/rtems:

```
flashdisk: Use rtems_blkdev_create()
```

```
Update #3358.
```

### Comment 9

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:40:53 GMT

In 1dec54f9/rtems:

```
bps/lm32: Use rtems_blkdev_create()
```

```
Update #3358.
```

### Comment 10

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:41:03 GMT

In d279e74/rtems:

```
bsp/smdk2410: Use rtems_blkdev_create()
Update #3358.
```

#### **Comment 11**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:41:13 GMT

In 6782771/rtems:

```
libtests/block05: Avoid uninitialized variable
Update #3358.
```

#### **Comment 12**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:41:24 GMT

In bde8be2/rtems:

```
libtests/block06: Use rtems_blkdev_create()
Update #3358.
```

#### **Comment 13**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:41:34 GMT

In 117f7b1/rtems:

```
libtests/block08: Use rtems_blkdev_create()
Update #3358.
```

#### **Comment 14**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:41:44 GMT

In 5005bfc/rtems:

```
libtests/block09: Use rtems_blkdev_create()
Update #3358.
```

#### **Comment 15**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:41:55 GMT

In 6f34f13/rtems:

```
libtests/block10: Use rtems_blkdev_create()
Update #3358.
```

#### **Comment 16**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:42:06 GMT

In 5e4bab7/rtems:

```
libtests/block12: Use rtems_blkdev_create()
Update #3358.
```

#### **Comment 17**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:42:16 GMT

In 3278d20/rtems:

```
libtests/block13: Use rtems_blkdev_create()
Update #3358.
```



**Comment 18**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:42:27 GMT

In fa12e06d/rtems:

```
libtests/block14: Use rtems_blkdev_create()
Update #3358.
```

**Comment 19**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:42:37 GMT

In bf80279/rtems:

```
libtests/block15: Use rtems_blkdev_create()
Update #3358.
```

**Comment 20**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:42:47 GMT

In 698093d/rtems:

```
libblock: Use rtems_blkdev_create_partition()
Update #3358.
```

**Comment 21**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:42:57 GMT

In f7cecc33/rtems:

```
libchip/ata: Use rtems_blkdev_create()
Update #3358.
```

**Comment 22**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:43:08 GMT

In 1836c6a/rtems:

```
bsp/gen5200: Avoid deprecated routine
Update #3358.
```

**Comment 23**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:43:18 GMT

In dd66fda/rtems:

```
tests: Avoid deprecated rtems_disk_io_initialize()
Update #3358.
```

**Comment 24**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:43:28 GMT

In ab96aec/rtems:

```
dosfs: Avoid deprecated routine
Update #3358.
```

**Comment 25**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:43:38 GMT

In b152d33/rtems:

```
fileio: Avoid deprecated rtems_disk_obtain()
Update #3358.
```

**Comment 26**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:43:49 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0b038bd4/rtems:

```
libblock: Add RTEMS_DEPRECATED
Close #3358.
```

**Comment 27**

1. **Sebastian Huber**, Thu, 06 Sep 2018 05:05:10 GMT

In ccdce9d8/rtems:

```
libchip/ata: Fix ATA_DRIVER_TABLE_ENTRY
Drop unused and deprecated functions from the ATA_DRIVER_TABLE_ENTRY.
Update #3358. Close #3510.
```

**Comment 28**

1. **Sebastian Huber**, Tue, 27 Nov 2018 11:46:37 GMT

In 06331e4/rtems:

```
dosfs: Fix device identifier
Update #3358.
```

**3374 - rtems-test does not honor --mail-from argument**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3374">https://devel.rtems.org/ticket/3374</a> ( <a href="https://devel.rtems.org/ticket/3374">https://devel.rtems.org/ticket/3374</a> )
<b>Id</b>	3374
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 March 2018 23:18:07
<b>Modified</b>	14 October 2018 01:07:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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@... --
mail-to=build@... /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 "
```

**Comment 1**

1. **Joel Sherrill**, Mon, 26 Mar 2018 23:18:18 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Sun, 14 Oct 2018 01:07:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

**3375 - Remove command line pre-processor defines**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3375">https://devel.rtems.org/ticket/3375</a> ( <a href="https://devel.rtems.org/ticket/3375">https://devel.rtems.org/ticket/3375</a> )
<b>Id</b>	3375
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2018 05:19:46
<b>Modified</b>	15 October 2018 05:29:18
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
c/src/lib/libbsp/mips/hurricane/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -DRM52XX
c/src/lib/libbsp/mips/rbt4938/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -DTX49
c/src/lib/libbsp/mips/jmr3904/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -DTX39
cpukit/pppd/Makefile.am:libpppd_a_CPPFLAGS = $(AM_CPPFLAGS) -D_BSD_VISIBLE -I$(srcdir)/../libmd
cpukit/libfs/Makefile.am:libjffs2_a_CPPFLAGS += -D_ECOS
cpukit/libfs/Makefile.am:libjffs2_a_CPPFLAGS += '-DKBUILD_MODNAME="JFFS2"'
cpukit/mghttpd/Makefile.am:# libmghttpd_a_CPPFLAGS += -DHAVE_MD5
cpukit/mghttpd/Makefile.am:libmghttpd_a_CPPFLAGS += -DNO_SSL -DNO_POPEN -DNO_CGI -DUSE_WEBSOCKET
cpukit/librpc/Makefile.am:librpc_CPPFLAGS = -D_RPC read=read -D_RFC write=write -D_RPC_close=close \
cpukit/libnetworking/Makefile.am:libnetworking_CPPFLAGS = -DINET -DNFS \
cpukit/libnetworking/Makefile.am:libc_CPPFLAGS = -DNO_POLL -DNO_SELECT -D_BSD_VISIBLE -D_THREAD_SAFE
cpukit/libnetworking/Makefile.am:lib_CPPFLAGS = -DNO_POLL -DNO_SELECT
cpukit/libnetworking/Makefile.am:lib_a_CPPFLAGS = $(AM_CPPFLAGS) $(lib_CPPFLAGS) -D_BSD_VISIBLE
cpukit/libdl/Makefile.am:libdl_a_CPPFLAGS = $(AM_CPPFLAGS) -DRTEMS_RTL_RAP_LOADER=1 -DRTEMS_RTL_ELF_LOADER=1
```

**Comment 1**

1. **Chris Johns**, Tue, 27 Mar 2018 06:15:31 GMT

What are you thinking of doing?

**Comment 2**

1. **Sebastian Huber**, Tue, 27 Mar 2018 06:18:03 GMT

Move the defines to a header file.

**Comment 3**

1. **Joel Sherrill**, Tue, 27 Mar 2018 23:09:52 GMT

For places where the source comes from other places (e.g. JFFS2, etc), what's the approach that doesn't modify the upstream source?

**Comment 4**

1. **Sebastian Huber**, Wed, 28 Mar 2018 05:02:03 GMT

We just have to be careful to avoid potential conflicts with upstream merges. JFFS2 is the only area with an active upstream.

**Comment 5**

1. **Chris Johns**, Wed, 28 Mar 2018 23:25:38 GMT

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.

**Comment 6**

1. **Sebastian Huber**, Wed, 04 Apr 2018 11:51:33 GMT

In 4f0dca3a/rtems:

```
bsps: Move version.c and use bspopts.h
This patch is a part of the BSP source reorganization.
Update #3285. Update #3375.
```

**Comment 7**

1. **Sebastian Huber**, Mon, 30 Apr 2018 06:08:38 GMT

In 6ac6a5c8/rtems:

```
jffs2: Do not use command line defines
Update #3375.
```

**Comment 8**

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:36:43 GMT

In cb68253/rtems:

```
network: Use kernel/user space header files
Add and use and similar to the libbsd to avoid command line defines and defines scattered throught the code base.
Simplify cpukit/libnetworking/Makefile.am.
Update #3375.
```

**Comment 9**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:16 GMT

In e069f7fe/rtems:

```
rpc: Use configuration header file
Update #3375.
```

**Comment 10**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:27 GMT

In 06060da/rtems:

```
pppd: Simplify Makefile.am
Update #3375.
```

**Comment 11**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:37 GMT

In 2e77151/rtems:

```
mghttpd: Add configuration to source file
Update #3375.
```

**Comment 12**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:47 GMT

In f373bdc0/rtems:

```
libdl: Avoid command line defines
Update #3375.
```

**Comment 13**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:58 GMT

In 2d17e88/rtems:

```
bsps/mips: Remove unused command line defines
Update #3375.
```

**Comment 14**

1. **Sebastian Huber**, Wed, 10 Oct 2018 11:59:34 GMT

In 6cdaa85/rtems:

```
shell: Use #include "." for local header files
Update #3375.
```

**Comment 15**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:52:24 GMT

How much is left to do on this ticket?

**Comment 16**

1. **Sebastian Huber**, Mon, 15 Oct 2018 05:29:18 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In fb12215/rtems:

```
build: Remove specialized CPPFLAGS
Close #3375.
```

**3376 - Remove cklength program**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3376">https://devel.rtems.org/ticket/3376</a> ( <a href="https://devel.rtems.org/ticket/3376">https://devel.rtems.org/ticket/3376</a> )
<b>Id</b>	3376
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2018 05:47:55
<b>Modified</b>	15 June 2018 05:16:11
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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

```
awk 'length($0) > 80' < file
```

performs a similar task. Remove it.

**Comment 1**

1. **Chris Johns**, Thu, 26 Apr 2018 02:39:38 GMT

OK to remove.

**Comment 2**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:16:11 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In f4fee72b/rtems:

tools: Remove cklength

This program has no license information and is unused in the RTEMS build. General usability is questionable, for example a

```
awk 'length($0) > 80' < file
```

performs a similar task. Remove it.

Close #3376.

## **3377 - Remove eolstrip program**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3377">https://devel.rtems.org/ticket/3377</a> ( <a href="https://devel.rtems.org/ticket/3377">https://devel.rtems.org/ticket/3377</a> )
<b>Id</b>	3377
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2018 05:52:26
<b>Modified</b>	15 June 2018 05:16:21
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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

```
sed -i 's/[[:space:]]*$/' file
```

performs a similar task. Remove it.

### **Comment 1**

1. **Chris Johns**, Thu, 26 Apr 2018 02:39:48 GMT

OK to remove.

### **Comment 2**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:16:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 64fa76bb/rtems:

tools: Remove eolstrip

This program has no license information and is unused in the RTEMS build. General usability is questionable, for example a

```
sed -i 's/[[:space:]]*$_' file __
```

performs a similar task. Remove it.

Close #3377.

## **3378 - Remove unhex program**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3378">https://devel.rtems.org/ticket/3378</a> ( <a href="https://devel.rtems.org/ticket/3378">https://devel.rtems.org/ticket/3378</a> )
<b>Id</b>	3378
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2018 05:57:58
<b>Modified</b>	15 June 2018 05:16:31
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 26 Apr 2018 02:39:59 GMT

OK to remove.

**Comment 2**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:16:31 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 31f0eb9e/rtems:

```
tools: Remove unhex
```

```
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.
```

```
Close #3378.
```

**3379 - Remove packhex program**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3379">https://devel.rtems.org/ticket/3379</a> ( <a href="https://devel.rtems.org/ticket/3379">https://devel.rtems.org/ticket/3379</a> )
<b>Id</b>	3379
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2018 06:08:39
<b>Modified</b>	15 June 2018 05:42:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

```

***** P A C K H E X . C *****
*
* Packhex is a hex-file compaction utility. It attempts to concatenate
* hex records to produce more size-efficient packaging.
*
* Limitations: Input files must be correctly formatted. This utility
* is not robust enough to detect hex-record formatting
* errors.
*
* Published: May 1993 Embedded Systems Programming magazine
* "Creating Faster Hex Files"
*
* URL: ESP magazine: http://www.embedded.com
* Source Code: ftp://ftp.mfi.com/pub/espmag/1993/pakhex.zip
*
* Author: Mark Gringrich
*
* Compiler: Microsoft C 6.0
* cl /F 1000 pakhex.c
*
*****/

```

Move it to rtems-tools.

#### Comment 1

1. **Chris Johns**, Thu, 26 Apr 2018 02:40:11 GMT

OK to remove.

#### Comment 2

1. **Sebastian Huber**, Thu, 07 Jun 2018 05:03:34 GMT

2. **summary**: changed from **Move unhex program to rtems-tools** to **Move packhex program to rtems-tools**

#### Comment 3

1. **Sebastian Huber**, Thu, 14 Jun 2018 09:45:24 GMT

2. **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.

#### Comment 4

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:17:12 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In e8b28ba/rtems:

```
tools: Remove packhex
```

All tools should be removed from the RTEMS source repository at some point in time. Tools with a BSD-style license will be moved to the RTEMS tools repository. Unfortunately, this tool has no license information.

Remove all uses of this tool from the code base. Users of HEX files should consider to use ELF instead.

```
Close #3379.
```

#### Comment 5

1. **Joel Sherrill**, Fri, 15 Jun 2018 05:27:50 GMT

Users of this tool cannot use ELF because this is used with boards where you must download in hex formats.

#### Comment 6

1. **Chris Johns**, Fri, 15 Jun 2018 05:42:25 GMT

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.

### 3380 - Move rtems-bin2c program to rtems-tools



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3380">https://devel.rtems.org/ticket/3380</a> ( <a href="https://devel.rtems.org/ticket/3380">https://devel.rtems.org/ticket/3380</a> )
<b>Id</b>	3380
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 March 2018 06:12:10
<b>Modified</b>	15 June 2018 05:16:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 26 Apr 2018 02:40:24 GMT

OK to move.

**Comment 2**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:04:57 GMT

In 1cd75c4/rtems-tools:

```
bin2c: Import from RTEMS
Corresponding RTEMS commit is 75933d5d25cd50f80162b7a0d2f66a5534e1763f.
Update #3380.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:05:04 GMT

In 1a89c3d/rtems-tools:

```
bin2c: Fix warnings
Update #3380.
```

**Comment 4**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:12:37 GMT

In 528ee18/rtems-source-builder:

```
5: Update tools to ship rtems-bin2c
Update #3380.
```

**Comment 5**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:16:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ea092ccc/rtems:

```
tools: Remove rtems-bin2c
This tool is now included in the RTEMS tools repository.
Close #3380.
```

---

**3381 - rtems-test command line documentation appears to be out of date**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3381">https://devel.rtems.org/ticket/3381</a> ( <a href="https://devel.rtems.org/ticket/3381">https://devel.rtems.org/ticket/3381</a> )
<b>Id</b>	3381
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	27 March 2018 19:25:53
<b>Modified</b>	28 April 2020 05:27:54
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

<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.

#### Comment 1

1. **Joel Sherrill**, Tue, 27 Mar 2018 19:26:10 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**
4. **component**: changed from **tool** to **doc**

#### Comment 2

1. **Gedare Bloom**, Sat, 04 Apr 2020 20:52:10 GMT

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.

#### Comment 3

1. **Chris Johns**, Tue, 28 Apr 2020 05:22:16 GMT

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.

#### Comment 4

1. **Chris Johns**, Tue, 28 Apr 2020 05:27:54 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 8bf866b/rtems-docs:

```
user/tester: Remove command line help as output
Closes #3381
```

---

## **3382 - Testsuite Makefile merge to one per group of tests**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3382">https://devel.rtems.org/ticket/3382</a> ( <a href="https://devel.rtems.org/ticket/3382">https://devel.rtems.org/ticket/3382</a> )
<b>Id</b>	3382
<b>Reporter</b>	Chris Johns
<b>Created</b>	5 April 2018 02:46:39
<b>Modified</b>	19 October 2018 00:30:39
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Chris Johns**, Mon, 09 Apr 2018 22:36:29 GMT

In 18f77699/rtems:

```
testsuite: Autoconf test check support.
```

```
The autoconf function checks the state of a test for the BSP and controls the building of the test.
```

```
This change is part of the testsuite Makefile.am reorganisation.
```

```
Update #3382
```

#### Comment 2

1. **Chris Johns**, Mon, 09 Apr 2018 22:36:39 GMT

In 32f2629b/rtems:

```
testsuite/benchmarks: Merged nested Makefile.am files into one Makefile.am
```

```
This change is part of the testsuite Makefile.am reorganization.
```

```
Update #3382
```

#### Comment 3

1. **Chris Johns**, Mon, 09 Apr 2018 22:36:49 GMT

In 5c65b98/rtems:

```
testsuite/libtests: Merged nested Makefile.am files into one Makefile.am
```

```
This change is part of the testsuite Makefile.am reorganization.
```

```
Update #3382
```

#### Comment 4

1. **Chris Johns**, Mon, 09 Apr 2018 22:37:00 GMT

In 8967e5f/rtems:

```
testsuite/fstests: Merged nested Makefile.am files into one Makefile.am
```

```
This change is part of the testsuite Makefile.am reorganization.
```

```
Update #3382
```

#### Comment 5

1. **Chris Johns**, Mon, 09 Apr 2018 22:37:12 GMT

In 3206879f/rtems:

testsuite/mptests: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 6**

1. **Chris Johns**, Mon, 09 Apr 2018 22:37:24 GMT

In 2a99a6a/rtems:

testsuite/psxtests: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 7**

1. **Chris Johns**, Mon, 09 Apr 2018 22:37:46 GMT

In dfc57eb/rtems:

testsuite/psxtmtests: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 8**

1. **Chris Johns**, Mon, 09 Apr 2018 22:38:07 GMT

In 590a5809/rtems:

testsuite/irhealstone: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 9**

1. **Chris Johns**, Mon, 09 Apr 2018 22:38:22 GMT

In d027e6bb/rtems:

testsuite/samples: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 10**

1. **Chris Johns**, Mon, 09 Apr 2018 22:38:39 GMT

In 8074fa0b/rtems:

testsuite/smptests: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 11**

1. **Chris Johns**, Mon, 09 Apr 2018 22:38:55 GMT

In bc06753/rtems:

testsuite/sptests: Merged nested Makefile.am files into one Makefile.am  
This change is part of the testsuite Makefile.am reorganization.  
Update #3382

#### **Comment 12**

1. **Chris Johns**, Mon, 09 Apr 2018 22:39:06 GMT

In cc14545e/rtems:

```
testsuite/tmtests: Merged nested Makefile.am files into one Makefile.am
This change is part of the testsuite Makefile.am reorganization.
Update #3382
```

#### **Comment 13**

1. **Chris Johns**, Mon, 09 Apr 2018 22:39:17 GMT

In ee3d7dcb/rtems:

```
testsuites: Remove the test check from the subdir support.
Leave the parallel support so each test group builds in parallel.
Update #3382
```

#### **Comment 14**

1. **Chris Johns**, Mon, 09 Apr 2018 22:39:28 GMT

In cb7b4dc4/rtems:

```
bsp/lpc24xx: Exclude iconv POSIX tests.
These are now built to executables and are too large for this BSP.
This change is part of the testsuite Makefile.am reorganization.
Update #3382
```

#### **Comment 15**

1. **Sebastian Huber**, Tue, 10 Apr 2018 10:39:13 GMT

In 2eaea422/rtems:

```
sptestests: Fix AM_CONDITIONAL
Update #3382.
```

#### **Comment 16**

1. **Chris Johns**, Fri, 19 Oct 2018 00:30:39 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

This task is finished.

### **3383 - Require --enable-rtemsbsp with --enable-smp or --enable-multiprocessor**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3383">https://devel.rtems.org/ticket/3383</a> ( <a href="https://devel.rtems.org/ticket/3383">https://devel.rtems.org/ticket/3383</a> )
<b>Id</b>	3383
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 April 2018 06:06:41
<b>Modified</b>	9 April 2018 22:47:28
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

**Comment 1**

1. **Joel Sherrill**, Mon, 09 Apr 2018 13:44:55 GMT
2. **summary:** changed from **Require --enable-rtemsbsb with --enable-smp or --enable-multiprocessor** to **Require --enable-rtemsbsp with --enable-smp or --enable-multiprocessor**

**Comment 2**

1. **Chris Johns**, Mon, 09 Apr 2018 22:47:28 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

See e1664027/rtems for the changeset.

**3384 - Prefer int for int32\_t**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3384">https://devel.rtems.org/ticket/3384</a> ( <a href="https://devel.rtems.org/ticket/3384">https://devel.rtems.org/ticket/3384</a> )
<b>Id</b>	3384
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 April 2018 06:09:46
<b>Modified</b>	13 December 2019 06:07:28
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Common systems like Linux and FreeBSD define `int32_t` to `int`. This means a lot of third party code works well in these cases:

```
#include
void f(int32_t);
void f(int);
void g(int32_t *);
void h(void)
{
    int i;
    g(&i);
}
```

On RTEMS you get however in C

```
test.c:5:6: error: conflicting types for 'f'
void f(int);
      ^
test.c:3:6: note: previous declaration of 'f' was here
void f(int32_t);
      ^
test.c: In function 'h':
test.c:12:4: warning: passing argument 1 of 'g' from incompatible pointer type [-Wincompatible-pointer-types]
    g(&i);
      ^
test.c:7:6: note: expected 'int32_t * {aka long int *}' but argument is of type 'int *'
void g(int32_t *);
```

and C++

```
test.c: In function 'void h()':
test.c:12:4: error: invalid conversion from 'int*' to 'int32_t* {aka long int*}' [-fpermissive]
    g(&i);
      ^
test.c:7:6: note: initializing argument 1 of 'void g(int32_t*)'
void g(int32_t *);
      ^
```

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:

```
diff --git a/gcc/config/rtems.h b/gcc/config/rtems.h
index 439199d4cbb..9b1408efe6f 100644
--- a/gcc/config/rtems.h
+++ b/gcc/config/rtems.h
@@ -48,3 +48,7 @@
 -latomic -lc -lgcc --end-group %(!qno-linkcmds: -T linkcmds%s)
 }
 }"
 #define TARGET_POSIX_IO
+
+/* Use int for int32_t (see stdint-newlib.h). */
+#undef STDINT_LONG32
+#define STDINT_LONG32 0
```

**Comment 1**

1. **Joel Sherrill**, Mon, 09 Apr 2018 13:39:53 GMT

Just to keep it clean, what if int is 16 bits on the target?

#### Comment 2

1. **Sebastian Huber**, Mon, 09 Apr 2018 13:46:46 GMT

See newlib-stdint.h in GCC sources:

```
[...]  
#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)`  
[...]
```

So, 16-bit targets should not use this option.

#### Comment 3

1. **Sebastian Huber**, Thu, 14 Jun 2018 05:21:24 GMT

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>

#### Comment 4

1. **Sebastian Huber**, Thu, 14 Jun 2018 05:23:35 GMT
2. **summary:** changed from **Change int32\_t to int** to **Prefer int for int32\_t**

#### Comment 5

1. **Sebastian Huber**, Tue, 11 Dec 2018 07:39:39 GMT

In b4e80fb/rtems-source-builder:

```
5: Update GCC 7.3.0 to 7.4.0  
Update #3384.
```

#### Comment 6

1. **Sebastian Huber**, Thu, 13 Dec 2018 10:34:46 GMT

In 258129e/rtems-source-builder:

```
5: Fix x86_64 GCC 7.4.0 build  
Update #3384.
```

#### Comment 7

1. **Sebastian Huber**, Tue, 29 Jan 2019 08:22:22 GMT

In 4f3a253/rtems:

```
psxtmtests: Fix format warnings  
Update #3384.
```

#### Comment 8

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:11:05 GMT

Can this be closed?

#### Comment 9

1. **Sebastian Huber**, Fri, 13 Dec 2019 06:07:14 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

#### Comment 10

1. **Sebastian Huber**, Fri, 13 Dec 2019 06:07:28 GMT
2. **version:** set to **5**

**3385 - Generate an error if RTEMS's gcc is not found when the user runs configure**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3385">https://devel.rtems.org/ticket/3385</a> ( <a href="https://devel.rtems.org/ticket/3385">https://devel.rtems.org/ticket/3385</a> )
<b>Id</b>	3385
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 April 2018 06:15:46
<b>Modified</b>	9 April 2018 22:22:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Generate an error when the user runs configure if one cannot be found in the path.

**Comment 1**

1. **Chris Johns**, Mon, 09 Apr 2018 06:16:38 GMT
2. **description:** modified (diff)
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**

**Comment 2**

1. **Chris Johns**, Mon, 09 Apr 2018 22:22:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9f6f026/rtems:

```
Generate an error if no valid gcc is found when configure runs.
```

```
Close #3385.
```

---

**3386 - Trac's git changeset browsing is suspect.**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3386">https://devel.rtems.org/ticket/3386</a> ( <a href="https://devel.rtems.org/ticket/3386">https://devel.rtems.org/ticket/3386</a> )
<b>Id</b>	3386
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 April 2018 23:11:19
<b>Modified</b>	20 October 2018 21:15:43
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

It is critical this interface works because we have moved to Trac for release notes and the release notes contain links to the changesets because we reference the tickets in the commits.

Some requests work:

- 900c40730dbec34cd7a6f1c03c80896951bf1b9c/rtems
- d8defb9dbe4ab1ef375ecce55e8bfb1028c5dd13/rtems
- 9704efb4ec088a472842cbc9bc46392685ebc806/rtems

and others do not:

- 2afb22b7e1ebcbe40373ff7e0efae7d207c655a9/rtems

Notes:



- items 2. and 3. are either side of the changeset a. in the commit history of RTEMS.
- Clicking on 3. and then the Next Changeset link also fails.

**Comment 1**

1. **Amar Takhar**, Sat, 20 Oct 2018 21:15:43 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **invalid**

This is a known issue and will only be fixed by upgrading to Trac 1.3 The diff is just too large and Apache times out before it's done. You can use [git.rtems.org](https://git.rtems.org) to view it as it's written in C and not some kludgy python:

<https://git.rtems.org/rtems/commit?id=2afb22b7e1ebcbe40373ff7e0efae7d207c655a9>

**3387 - Add subdir-objects to automake flags**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3387">https://devel.rtems.org/ticket/3387</a> ( <a href="https://devel.rtems.org/ticket/3387">https://devel.rtems.org/ticket/3387</a> )
<b>Id</b>	3387
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 April 2018 05:59:45
<b>Modified</b>	19 December 2019 08:14:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

This will be fixed by the new build system, see #3818.

**Comment 1**

1. **Chris Johns**, Wed, 11 Apr 2018 01:58:07 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In aa567bc1/rtems:

```
configure: Add subdir-objects to all automake flags.
```

```
This option silences warning with automake-1.16.1 allowing us to upgrade to that version.
```

```
This change has been tested with automake-1.12.6 and automake-1.16.1. It seems version 1.16.1 configures slower than 1.12.6 for the same source and BSP. The newer versions is 6 second slower.
```

```
Close #3387.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 11 Apr 2018 05:21:30 GMT

I am not sure, but I think this breaks the BSP build. We have now for example in the build tree:

```

pwd
sparc-rtems5/c/erc32/lib/libbsp/sparc/erc32
make clean
test -z "" || rm -f
test -z "librtemsbsp.a" || rm -f librtemsbsp.a
rm -f *.o
rm -f ../../../../../../bsp/shared/*.o
rm -f ../../../../../../bsp/shared/cache/*.o
rm -f ../../../../../../bsp/shared/dev/display/*.o
rm -f ../../../../../../bsp/shared/dev/flash/*.o
rm -f ../../../../../../bsp/shared/dev/i2c/*.o
rm -f ../../../../../../bsp/shared/dev/ide/*.o
rm -f ../../../../../../bsp/shared/dev/rtc/*.o
rm -f ../../../../../../bsp/shared/dev/serial/*.o
rm -f ../../../../../../bsp/shared/irq/*.o
rm -f ../../../../../../bsp/shared/net/*.o
rm -f ../../../../../../bsp/shared/shmhdr/*.o
rm -f ../../../../../../bsp/shared/start/*.o
rm -f ../shared/*.o
rm -f ./shared/*.o
rm -f ./shared/irq/*.o
rm -f ./shared/startup/*.o
rm -f clock/*.o
rm -f console/*.o
rm -f erc32sonic/*.o
rm -f gnatsupp/*.o
rm -f startup/*.o
rm -f timer/*.o

```

This assumes that the build and source tree have the same layout. However, this is not the case. For example:

```

pwd
sparc-rtems5/c/erc32/lib/libbsp/sparc/erc32
ls ../../../../../../
at697f bsp c erc32 gr712rc gr740 leon2 leon3 ut699 ut700

```

The critical issue is that the bsp directory is not BSP-specific.

### Comment 3

1. **Sebastian Huber**, Wed, 11 Apr 2018 05:21:40 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

### Comment 4

1. **Chris Johns**, Wed, 11 Apr 2018 06:04:13 GMT

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?

### Comment 5

1. **Sebastian Huber**, Wed, 11 Apr 2018 06:07:22 GMT

The problem is that we are right in between a move of the BSP sources from one tree to another.

### Comment 6

1. **Chris Johns**, Wed, 11 Apr 2018 06:11:10 GMT

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?

### Comment 7

1. **Sebastian Huber**, Wed, 11 Apr 2018 06:21:34 GMT

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?

### Comment 8

1. **Chris Johns**, Wed, 11 Apr 2018 06:41:40 GMT

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?

**Comment 9**

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:55:53 GMT

In 4ff09d5b/rtems:

```
build: Remove subdir-objects from BSP configure.ac
The subdir-objects do not work currently due to BSP sources in bsp and c and the existing build tree layout.
Update #3387.
```

**Comment 10**

1. **Sebastian Huber**, Thu, 12 Apr 2018 09:14:04 GMT
2. **owner**: changed from **Chris Johns** to **Sebastian Huber**
3. **status**: changed from **reopened** to **assigned**

**Comment 11**

1. **Sebastian Huber**, Fri, 20 Apr 2018 13:31:12 GMT

In 234f0a2d/rtems:

```
build: Remove subdir-objects from Ada tests
Somehow it does not work. With this Automake option you get:
gmake[6]: Entering directory '/build/sparc-rtems5/c/erc32/testsuites/ada/sptests' Making all-am in sp01 gmake[7]: Entering directory
'/build/sparc-rtems5/c/erc32/testsuites/ada/sptests/sp01' gmake[7]: ___* No rule to make target 'init.o', needed by 'ada_sp01.exe'. Stop.
Update #3387.
```

**Comment 12**

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:13:52 GMT

Is this ticket "won't fix" with the move to the new build system?

**Comment 13**

1. **Sebastian Huber**, Fri, 13 Dec 2019 06:05:12 GMT

Yes, provided we move to the new build system.

**Comment 14**

1. **Chris Johns**, Fri, 13 Dec 2019 12:53:29 GMT

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.

**Comment 15**

1. **Sebastian Huber**, Thu, 19 Dec 2019 08:14:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **wontfix**
4. **description**: modified (diff)

**3388 - rtems-tester: possible parsing error for gemuprep-altivec on exclude SMP configuration**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3388">https://devel.rtems.org/ticket/3388</a> ( <a href="https://devel.rtems.org/ticket/3388">https://devel.rtems.org/ticket/3388</a> )
<b>Id</b>	3388
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	11 April 2018 22:30:55
<b>Modified</b>	6 April 2020 05:09:31
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	rtems-tester
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

These failures have persisted across all the autoconf changes:

Failures:

powerpc/qemuprep-altivec: <pre>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!</pre>
powerpc/qemuprep-altivec: <pre>configure --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!</pre>
powerpc/qemuprep-altivec: <pre>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!</pre>
powerpc/qemuprep-altivec: <pre>configure --target=powerpc-rtems5 --enable-rtemsbsp=qemuprep-altivec\ --prefix=/home/joel/rtems-work/bsps --enable-smp ld/collect2:0 error: no error message found!</pre>

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..

### Comment 1

1. **Chris Johns**, Fri, 19 Oct 2018 00:34:17 GMT

This should be fixed in a recent rtems-tools. Please test and closed fixed if it is fixed.

### Comment 2

1. **Chris Johns**, Fri, 19 Oct 2018 00:35:16 GMT

Why rtems-tester in the subject line?

### Comment 3

1. **Gedare Bloom**, Mon, 06 Apr 2020 05:09:31 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

## **3389 - Warning flags have disappeared with recent autoconf changes**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3389">https://devel.rtems.org/ticket/3389</a> ( <a href="https://devel.rtems.org/ticket/3389">https://devel.rtems.org/ticket/3389</a> )
<b>Id</b>	3389
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	11 April 2018 23:47:13
<b>Modified</b>	14 October 2018 00:50:39
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 12 Apr 2018 00:28:12 GMT

Are you able to git bisect and find the commit?

**Comment 2**

1. **Joel Sherrill**, Wed, 18 Apr 2018 13:44:07 GMT

I was unable to pin down the commit with a git bisect.

**Comment 3**

1. **Sebastian Huber**, Mon, 17 Sep 2018 11:32:44 GMT

Fixed by [32481371e9e9e33aabf5e8634750ecd697c85531/rtems].

**Comment 4**

1. **Chris Johns**, Sun, 14 Oct 2018 00:50:39 GMT
  2. **status**: changed from **new** to **closed**
  3. **resolution**: set to **fixed**
- 

**3390 - NFS: Remove support for cexp**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3390">https://devel.rtems.org/ticket/3390</a> ( <a href="https://devel.rtems.org/ticket/3390">https://devel.rtems.org/ticket/3390</a> )
<b>Id</b>	3390
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 April 2018 05:08:31
<b>Modified</b>	12 April 2018 05:17:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

There is some support for cexp and tests in the NFS client directory:

```
cpukit/libfs/src/nfsclient/src/cexp.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>

### Comment 1

1. **Sebastian Huber**, Thu, 12 Apr 2018 05:17:00 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 9e36910/rtems:

```
NFS: Remove support for cexp
Avoid use of RTEMS_RELLDFLAGS.
Close #3390.
```

---

## **3392 - infinite loop in RSB's path when a prefix path is not writable**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3392">https://devel.rtems.org/ticket/3392</a> ( <a href="https://devel.rtems.org/ticket/3392">https://devel.rtems.org/ticket/3392</a> )
<b>Id</b>	3392
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 April 2018 03:05:53
<b>Modified</b>	13 April 2018 03:10:08
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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.

### Comment 1

1. **Chris Johns**, Fri, 13 Apr 2018 03:06:15 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **accepted**
4. **component**: changed from **admin** to **tool/rsb**

### Comment 2

1. **Chris Johns**, Fri, 13 Apr 2018 03:10:08 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In cabaff8/rtems-source-builder:

```
sb/path: Walk up to root checking if a path is writable.
A dirname of / is / so the path will never have a length of 0.
Close #3392
```

---

## **3395 - rtems-ld does not remove executable when there is an output error**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3395">https://devel.rtems.org/ticket/3395</a> ( <a href="https://devel.rtems.org/ticket/3395">https://devel.rtems.org/ticket/3395</a> )
<b>Id</b>	3395
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 April 2018 03:29:54
<b>Modified</b>	14 April 2018 04:17:57
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Sat, 14 Apr 2018 03:30:09 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Chris Johns**, Sat, 14 Apr 2018 04:17:57 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 82c8788/rtems-tools:

```
rtemstoolkit/rtl-file: Remove a file on close if requested
Close #3395
```

**3396 - rtems-ld does not handle R\_ARM\_V4BX relocation records**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3396">https://devel.rtems.org/ticket/3396</a> ( <a href="https://devel.rtems.org/ticket/3396">https://devel.rtems.org/ticket/3396</a> )
<b>Id</b>	3396
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 April 2018 01:54:13
<b>Modified</b>	16 April 2018 01:57:46
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Mon, 16 Apr 2018 01:57:46 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ec419a0/rtems-tools:

```
rtemstoolkit/rap: Ignore R_ARM_V4BX relocation records
```

Note, this removes the details needed to alter the instruction for an ARMv4 instruction set. Currently this type of record is not handled in the RAP format loader and the RTL loader ignores it.

Close #3396

## 3397 - The register keyword is deprecated in C++11

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3397">https://devel.rtems.org/ticket/3397</a> ( <a href="https://devel.rtems.org/ticket/3397">https://devel.rtems.org/ticket/3397</a> )
<b>Id</b>	3397
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 April 2018 05:22:14
<b>Modified</b>	17 April 2018 05:06:01
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The following code gives a warning with GCC and `-std=c++17`:

```
void f(void)
{
    register int i;
}
```

```
test.cc: In function 'void f()':
test.cc:3:15: warning: ISO C++1z does not allow 'register' storage class specifier [-Wregister]
    register int i;
                ^
```

Remove the use of the register keyword at least in the public header files for C++ compatibility.

### Comment 1

1. **Sebastian Huber**, Tue, 17 Apr 2018 05:06:01 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In f35c3be9/rtems:

Remove register keyword from public header files

The following code

```
void f(void) {
    register int i;
}
```

gives a warning with GCC and `-std=c++17`

```
test.cc: In function 'void f()': test.cc:3:15: warning: ISO C++1z does not allow 'register' storage class specifier [-Wregister]
```

```
    register int i;
```

and clang with `-std=c++14`

```
test.cc:3:3: warning: 'register' storage class specifier is deprecated and incompatible with C++1z [-Wdeprecated-register]
```

```
    register int i;
```

```
1 warning generated.
```

Remove the use of the register keyword at least in the public header files for C++ compatibility.

Close #3397.



**3401 - dl06: tms570s3137 Mixed LSB/MSB Error**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3401">https://devel.rtems.org/ticket/3401</a> ( <a href="https://devel.rtems.org/ticket/3401">https://devel.rtems.org/ticket/3401</a> )
<b>Id</b>	3401
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	17 April 2018 13:54:23
<b>Modified</b>	14 October 2018 22:06:16
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3402

---

**Description**

```
ld-arm-tms570s3137_hdk-rtems/arm-rtems5/c/tms570s3137_hdk/testsuites/libtests'
rtems-ld -r /home/joel/rtems-work/rtems-testing/rtems/build-arm-tms570s3137_hdk-rtems/arm-rtems5/c/tms570s3137_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).
```

**Comment 1**

1. **Joel Sherrill**, Tue, 17 Apr 2018 13:55:00 GMT
2. **owner:** set to **chrisj@...**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Wed, 18 Apr 2018 01:29:19 GMT
2. **blockedby:** set to **3402**

**Comment 3**

1. **Joel Sherrill**, Sun, 14 Oct 2018 21:57:35 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 632bb17/rtems:

```
libtests/Makefile.am: Add CPU_CFLAGS to rtems-ld invocation
closes #3401, #3402.
```

**Comment 4**

1. **Joel Sherrill**, Sun, 14 Oct 2018 21:59:18 GMT

In 36fde51/rtems-tools:

```
rtemstoolkit/rld-cc.cpp: Accept -EL, -EB, and -Gn machine flags
closes #3401, #3402, #3424.
```

**Comment 5**

1. **Joel Sherrill**, Sun, 14 Oct 2018 22:06:16 GMT

In 8992d20/rtems-source-builder:

```
rtems-tools-5-1.cfg: Bump to latest
closes #3401, #3402, #3424.
```

**3402 - dl06: mips hurricane Mixed Endian Error**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3402">https://devel.rtems.org/ticket/3402</a> ( <a href="https://devel.rtems.org/ticket/3402">https://devel.rtems.org/ticket/3402</a> )
<b>Id</b>	3402
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	17 April 2018 13:57:15
<b>Modified</b>	14 October 2018 22:06:16
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3401
<b>Blocked by</b>	

---

**Description**

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).
```

**Comment 1**

1. **Chris Johns**, Wed, 18 Apr 2018 01:15:58 GMT

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.

**Comment 2**

1. **Chris Johns**, Wed, 18 Apr 2018 01:28:13 GMT

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.

**Comment 3**

1. **Chris Johns**, Wed, 18 Apr 2018 01:29:19 GMT

2. **blocking**: set to **3401**

**Comment 4**

1. **Joel Sherrill**, Sun, 14 Oct 2018 21:57:35 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 632bb17/rtems:

```
libtests/Makefile.am: Add CPU_CFLAGS to rtems-ld invocation
closes #3401, #3402.
```

**Comment 5**

1. **Joel Sherrill**, Sun, 14 Oct 2018 21:59:18 GMT

In 36fde51/rtems-tools:

```
rtemstoolkit/rld-cc.cpp: Accept -EL, -EB, and -Gn machine flags
closes #3401, #3402, #3424.
```

**Comment 6**

1. **Joel Sherrill**, Sun, 14 Oct 2018 22:06:16 GMT

In 8992d20/rtems-source-builder:

```
rtems-tools-5-1.cfg: Bump to latest
closes #3401, #3402, #3424.
```

### 3403 - RSB RTEMS tool set build is irreproducible

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3403">https://devel.rtems.org/ticket/3403</a> ( <a href="https://devel.rtems.org/ticket/3403">https://devel.rtems.org/ticket/3403</a> )
<b>Id</b>	3403
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 April 2018 05:17:25
<b>Modified</b>	18 April 2018 08:07:30
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 18 Apr 2018 08:07:30 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 50593d4/rtems-source-builder:

```
5: Use a specific RTEMS tools version
Download via cgit archive.
Close #3403.
```

### 3407 - Move Gaisler.org and Gaisler.se hosted RSB patches to rtems.org

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3407">https://devel.rtems.org/ticket/3407</a> ( <a href="https://devel.rtems.org/ticket/3407">https://devel.rtems.org/ticket/3407</a> )
<b>Id</b>	3407
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	24 April 2018 22:58:15
<b>Modified</b>	23 October 2018 21:48:12
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Chris Johns**, Wed, 25 Apr 2018 02:21:41 GMT

Please avoid personal directories on ftp.rtems.org. There are no other accessible paths on that host.

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

You can use a ticket and attachments. I cannot see a way to get a txt version of our mailing list archives.

#### Comment 2

1. **Chris Johns**, Fri, 19 Oct 2018 00:19:07 GMT
2. **owner: chrisj@...** deleted

Can someone else please handle this?

#### Comment 3

1. **Joel Sherrill**, Tue, 23 Oct 2018 17:05:31 GMT

I only see this one patch referencing Jiri's servers:

```
./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.

```
%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?

#### Comment 4

1. **Chris Johns**, Tue, 23 Oct 2018 21:48:12 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

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.

### **3409 - Strip down configure checks to the bare minimum**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3409">https://devel.rtems.org/ticket/3409</a> ( <a href="https://devel.rtems.org/ticket/3409">https://devel.rtems.org/ticket/3409</a> )
<b>Id</b>	3409
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 April 2018 13:40:20
<b>Modified</b>	19 December 2019 08:14:40
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 02 May 2018 07:58:46 GMT

In b422aa3f/rtems:

```
tests: Remove configure feature checks
Update #3409.
```

#### Comment 2

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:37 GMT

In 3cf12c9/rtems:

```
Remove strlcat(), strlcpy(), strsep(), readdir_r()
These functions are provided by Newlib since 2002.
Update #3409.
```

#### Comment 3

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:40 GMT

In 87a9900f/rtems:

```
Remove isatty()
These functions are provided by Newlib since 2000.
Update #3409.
```

#### **Comment 4**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:44 GMT

In 658ec75/rtems:

```
Remove assert()
This function is provided by Newlib since 2000.
Update #3409.
```

#### **Comment 5**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:47 GMT

In e161767e/rtems:

```
Remove ttyname()
This function is provided by Newlib since 2000.
Update #3409.
```

#### **Comment 6**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:51 GMT

In 79d145a7/rtems:

```
Remove optional getrusage() declaration
Declaration provided by Newlib since 2014.
Update #3409.
```

#### **Comment 7**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:54 GMT

In f59edebf/rtems:

```
Remove getcwd()
This function is provided by Newlib since 2000.
Update #3409.
```

#### **Comment 8**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:58 GMT

In 167654e/rtems:

```
Remove checks for flockfile(), etc. declarations
Declarations provided by Newlib since 2002.
Update #3409.
```

#### **Comment 9**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:03:02 GMT

In 6da1bb0/rtems:

```
Remove superfluous configure checks
The results of these checks are unused, covered by other checks or check obvious things.
```

**Comment 10**

1. **Sebastian Huber**, Tue, 30 Oct 2018 12:34:10 GMT

In 7e2aabd7/rtems:

config: Fix check networking

This Autoconf macro used cache variables which are not longer present.

Update #3409.

**Comment 11**

1. **Sebastian Huber**, Thu, 19 Dec 2019 08:14:40 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

This will be fixed by the new build system, see #3818.

**3410 - Remove bin2boot program used by i386 BSPs**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3410">https://devel.rtems.org/ticket/3410</a> ( <a href="https://devel.rtems.org/ticket/3410">https://devel.rtems.org/ticket/3410</a> )
<b>Id</b>	3410
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 April 2018 13:55:39
<b>Modified</b>	27 April 2018 05:13:31
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

For which boot loader is this? Can it be removed?

The sources have no copyright information.

**Comment 1**

1. **Sebastian Huber**, Fri, 27 Apr 2018 05:13:31 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3d703f4/rtems:

bsp/pc386: Remove bin2boot support

Update #3408. Close #3410.

**3411 - qemuppc does not install linkcmds.base**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3411">https://devel.rtems.org/ticket/3411</a> ( <a href="https://devel.rtems.org/ticket/3411">https://devel.rtems.org/ticket/3411</a> )
<b>Id</b>	3411
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	25 April 2018 14:51:14
<b>Modified</b>	25 April 2018 18:36:17
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

examples-v2 fail to compile qemuppc because linkcmds.base is not installed.  
They build OK for sparc/erc32. This must be a minor glitch from the build system changes.

**Comment 1**

1. **Joel Sherrill**, Wed, 25 Apr 2018 14:51:45 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Wed, 25 Apr 2018 18:36:17 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In b3e5aa5/rtems:

```
bsp/qemuppc: Install linkcmds.base
Update #3339. Close #3411.
```

**3413 - examples-v2 both \_hello and triple\_period fail to build**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3413">https://devel.rtems.org/ticket/3413</a> ( <a href="https://devel.rtems.org/ticket/3413">https://devel.rtems.org/ticket/3413</a> )
<b>Id</b>	3413
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	25 April 2018 21:47:30
<b>Modified</b>	19 December 2019 13:47:44
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

examples-v2 doesn't build for qemuppc. 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 `wrapThread_Life_action_handler':
/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc: /home/joel/rtems-work/examples-v2/build/powerpc-rtems5-qemuppc/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

**Comment 1**

1. **Chris Johns**, Thu, 26 Apr 2018 03:33:03 GMT

The score thread definition files have not been updated after a change in the score:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

<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](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 libdwf 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.

#### **Comment 2**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:09:45 GMT

In 7045cc3/rtems-tools:

```
linkers: Remove _Thread_Life_action_handler
This is a static function.
Update #3413.
```

#### **Comment 3**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:14:21 GMT

In f484118/rtems-source-builder:

```
5: Update rtems-tools
Update #3413.
```

#### **Comment 4**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:23:53 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

I was able to build the examples with these patches.

#### **Comment 5**

1. **Joel Sherrill**, Thu, 19 Dec 2019 13:47:44 GMT

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.

## **3415 - Add examples and tests as components**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3415">https://devel.rtems.org/ticket/3415</a> ( <a href="https://devel.rtems.org/ticket/3415">https://devel.rtems.org/ticket/3415</a> )
<b>Id</b>	3415
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	25 April 2018 23:53:32
<b>Modified</b>	13 October 2018 22:27:53
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

It seems as if we should have tests and examples as components.

#### **Comment 1**

1. **Joel Sherrill**, Wed, 25 Apr 2018 23:54:01 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**



**Comment 2**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:27:53 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Test and examples have been added.

**3416 - Update Ubuntu RSB Instructions for 17.10**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3416">https://devel.rtems.org/ticket/3416</a> ( <a href="https://devel.rtems.org/ticket/3416">https://devel.rtems.org/ticket/3416</a> )
<b>Id</b>	3416
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 April 2018 18:29:05
<b>Modified</b>	12 December 2019 22:24:30
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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)

**Attachments:****1 Marçal Comajoan Cara, Sun, 11 Nov 2018 16:47:43 GMT**

**attach**: set to [0001-Update-list-of-required-packages-for-building-on-Ubu\\_patch](https://devel.rtems.org/ticket/3416/0001-Update-list-of-required-packages-for-building-on-Ubu_patch) ([https://devel.rtems.org/ticket/3416/0001-Update-list-of-required-packages-for-building-on-Ubu\\_patch](https://devel.rtems.org/ticket/3416/0001-Update-list-of-required-packages-for-building-on-Ubu_patch))

**Comment 1**

1. **Chris Johns**, Sun, 14 Oct 2018 01:08:44 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **accepted**

**Comment 2**

1. **Chris Johns**, Fri, 19 Oct 2018 00:25:12 GMT
2. **owner**: **Chris Johns** deleted
3. **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.

**Comment 3**

1. **Marçal Comajoan Cara**, Sun, 11 Nov 2018 16:47:06 GMT

I tried building RTEMS on Ubuntu 18.04 and it worked great with the packages installed by using only this command:

`__ Error: Failed to load processor bash__`

```
No macro or processor named 'bash' found
```

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.

**Comment 4**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Joel Sherrill**, Thu, 12 Dec 2019 22:24:13 GMT

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.

#### Comment 5

1. **Joel Sherrill**, Thu, 12 Dec 2019 22:24:30 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 9316722/rtems-docs:

```
user/hosts/posix.rst: Update Ubuntu instructions.
```

Note that the ticket has instructions for what to do if the error message "Error :: You must put some 'source' URIs in your sources.list" is 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.

```
closes #3416.
```

---

## 3417 - Add libdwarf to elftoolchain and provide a C++ wrapper

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3417">https://devel.rtems.org/ticket/3417</a> ( <a href="https://devel.rtems.org/ticket/3417">https://devel.rtems.org/ticket/3417</a> )
<b>Id</b>	3417
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 April 2018 01:58:27
<b>Modified</b>	19 October 2018 00:23:15
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Update the elftoolchain and add libdwarf.

Provide a C++ framework to create reusable access to libdwarf.

#### Comment 1

1. **Chris Johns**, Sun, 29 Apr 2018 01:58:46 GMT
2. **type:** changed from **defect** to **enhancement**

#### Comment 2

1. **Chris Johns**, Sun, 29 Apr 2018 02:10:28 GMT

In 0c5db2d/rtems-tools:

```
rtemstoolkit: Update elftoolchain to the latest code.
```

```
The update is taken from https://github.com/elftoolchain/elftoolchain.
```

```
Update #3417
```

#### Comment 3

1. **Chris Johns**, Mon, 30 Apr 2018 05:51:44 GMT

In 771e7f1/rtems-tools:

```
rtemstoolkit: Update elftoolchain to the latest code.
```

```
The update is taken from:
```

```
https://svn.code.sf.net/p/elftoolchain/code/trunk
```

```
Update #3417
```

**Comment 4**

1. **Chris Johns**, Mon, 30 Apr 2018 05:51:55 GMT

In 4bb3996/rtems-tools:

rtemstoolkit: Add libdwarf from elftoolchain.

The code is taken from:

```
https://svn.code.sf.net/p/elftoolchain/code/trunk
```

Update #3417

**Comment 5**

1. **Chris Johns**, Tue, 19 Jun 2018 03:42:41 GMT

In 558cab8/rtems-tools:

rtemstoolkit: Add libdwarf C++ interface.

Provide a C++ interface to libdwarf to:

Manage DWARF debug data Manage CU Manage DIE Handle CU line addresses Handle CU source files  
Update #3417

**Comment 6**

1. **Chris Johns**, Fri, 19 Oct 2018 00:23:15 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

The wrapper has been added to rtems-tools.

**3418 - Remove difftest and sorttimes test tools**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3418">https://devel.rtems.org/ticket/3418</a> ( <a href="https://devel.rtems.org/ticket/3418">https://devel.rtems.org/ticket/3418</a> )
<b>Id</b>	3418
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 April 2018 06:12:18
<b>Modified</b>	2 May 2018 07:58:57
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Evaluation of test results and report generation should move to somewhere else, e.g. the RTEMS tester.

**Comment 1**

1. **Sebastian Huber**, Wed, 02 May 2018 07:58:57 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 397df7a/rtems:

tests: Remove difftest and sorttimes tools

Close #3418.

**3419 - Always build network services (tftpfs, ftpfs, ftpd, telnetd, libdebugger)**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3419">https://devel.rtems.org/ticket/3419</a> ( <a href="https://devel.rtems.org/ticket/3419">https://devel.rtems.org/ticket/3419</a> )
<b>Id</b>	3419
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 April 2018 07:15:30
<b>Modified</b>	8 May 2018 06:07:02
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Always build network services (tftps, 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.

**Comment 1**

1. **Sebastian Huber**, Wed, 02 May 2018 07:59:18 GMT

In dd8e4b7/rtems:

```
libdebugger: Move to separate library
```

Always build remote TCP support since it depends only on the POSIX socket API. It works with the legacy network stack and libbsd. Move it to a separate libdebugger.a library to allow an easy use with libbsd via "-ldebugger -lbsd" otherwise we would have a cyclic dependency between libbsd.a and librtemscpu.a.

Update #3419.

**Comment 2**

1. **Sebastian Huber**, Wed, 02 May 2018 07:59:28 GMT

In c3bab73b/rtems:

```
tftps: Always build TFTP client
```

Move TFTP client filesystem to separate library libtftps.a. Conditionally use legacy network stack features, e.g. BOOTP support.

Update #3419.

**Comment 3**

1. **Sebastian Huber**, Wed, 02 May 2018 07:59:39 GMT

In fea9a7a/rtems:

```
ftpfs: Always build FTP client
```

Move FTP client filesystem to separate library libftpfs.a.

Update #3419.

**Comment 4**

1. **Sebastian Huber**, Wed, 02 May 2018 07:59:49 GMT

In bf76d5f/rtems:

```
network: Import latest from FreeBSD
```

Update #3419.

**Comment 5**

1. **Sebastian Huber**, Wed, 02 May 2018 08:00:00 GMT

In 4fed5ac/rtems:

```
ftpd: Fairplay with libbsd
```

Update #3419.

#### Comment 6

1. **Sebastian Huber**, Wed, 02 May 2018 08:00:10 GMT

In 32b5b23/rtems:

```
ftpd: Use floating-point tasks due to syslog()
Update #3419.
```

#### Comment 7

1. **Sebastian Huber**, Wed, 02 May 2018 08:00:20 GMT

In b771cb4/rtems:

```
ftpd: Always build FTP daemon
Add support for libbsd initialization.
Update #3419.
```

#### Comment 8

1. **Sebastian Huber**, Wed, 02 May 2018 08:00:31 GMT

In b80b34c3/rtems:

```
telnetd: Always build telnet daemon
Add support for libbsd initialization.
Update #3419.
```

#### Comment 9

1. **Sebastian Huber**, Wed, 02 May 2018 08:00:41 GMT

In 8d52a0e2/rtems:

```
telnetd: Use syslog() instead of printk()
Update #3419.
```

#### Comment 10

1. **Sebastian Huber**, Wed, 02 May 2018 08:01:29 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 443a058/rtems-libbsd:

```
Use network services from RTEMS
Close #3419.
```

#### Comment 11

1. **Sebastian Huber**, Wed, 02 May 2018 08:37:00 GMT

In 634b3bf/rtems-libbsd:

```
rtems-debugger: Remove files
They are now in the main RTEMS sources.
Update #3419.
```

#### Comment 12

1. **Chris Johns**, Thu, 03 May 2018 02:21:40 GMT

Does this change require user applications update their list of libraries linked to use the services moved to separate libraries?

**Comment 13**

1. **Sebastian Huber**, Thu, 03 May 2018 05:25:55 GMT

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.

**Comment 14**

1. **Chris Johns**, Thu, 03 May 2018 05:39:58 GMT

Thank you. I just wanted this noted for the release notes.

**Comment 15**

1. **Christian Mauderer**, Fri, 04 May 2018 05:16:48 GMT

In dd35ec5/rtems-libbsd:

```
waf: Allow to add libs per test.
Update #3419.
```

**Comment 16**

1. **Sebastian Huber**, Tue, 08 May 2018 06:07:02 GMT

In eaa1709/rtems:

```
ftpd: Fix infinite recursion in yield()
Update #3419.
```

**3421 - New Trac components for Coverage and Trace**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3421">https://devel.rtems.org/ticket/3421</a> ( <a href="https://devel.rtems.org/ticket/3421">https://devel.rtems.org/ticket/3421</a> )
<b>Id</b>	3421
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 April 2018 23:21:24
<b>Modified</b>	13 October 2018 22:29:02
<b>Owner</b>	chrisj@...
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:29:02 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **wontfix**

These should be filed as tool with an appropriate keyword.

**3423 - examples-v2: m68k/powerpc BSPs undefined reference to \_Thread\_Life\_action\_handler**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3423">https://devel.rtems.org/ticket/3423</a> ( <a href="https://devel.rtems.org/ticket/3423">https://devel.rtems.org/ticket/3423</a> )
<b>Id</b>	3423
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	1 May 2018 14:36:26
<b>Modified</b>	2 May 2018 00:30:39
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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-qorig_e6500_64
powerpc-ss555
```

```
[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
/home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: /tmp/ccIRjaaa.o: In function `__wrap_Thread_Life_action_handler':
/home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: /tmp/cckrhaaa.c:1248: undefined reference to `__Thread_Life_action_handler'
/home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: collect2: error: ld returned 1 exit status
error: linking: Linker error
```

**Comment 1**

1. **Chris Johns**, Wed, 02 May 2018 00:24:47 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Chris Johns**, Wed, 02 May 2018 00:29:00 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **duplicate**

This is the a duplicate of #3413 so I am closing it. The solution is in that ticket.

**Comment 3**

1. **Joel Sherrill**, Wed, 02 May 2018 00:30:39 GMT

#3413 should be updated with the list of BSPs which fail.

---

**3424 - examples-v2: no MIPS BSPs pass configuration step**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3424">https://devel.rtems.org/ticket/3424</a> ( <a href="https://devel.rtems.org/ticket/3424">https://devel.rtems.org/ticket/3424</a> )
<b>Id</b>	3424
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	1 May 2018 14:44:24
<b>Modified</b>	14 October 2018 22:06:16
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	examples
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

```

Checking for program 'ar' : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar
Checking for program 'g++, c++' : /home/joel/rtems-work/tools/5/bin/mips-rtems5-g++
Checking for program 'ar' : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar
Checking for program 'gas, gcc' : /home/joel/rtems-work/tools/5/bin/mips-rtems5-gcc
Checking for program 'ar' : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar
Compiler version (mips-rtems5-gcc) : 7.3.0 20180125 (RTEMS 5, RSB 6d9c77c77d271d1fc2dfe8493d6713930b52a6dd, Newlib 3.0.0)
Checking for RTEMS CPU options header : started
-> processing test results : 1 test failed
One of the tests has failed, read config.log for more information
(complete log in /data/home/joel/rtems-work/examples-v2/build/config.log)
+ check fatal 1 'failed waf configure - examples-v2 on rbtx4925'

```

### Comment 1

1. **Chris Johns**, Wed, 02 May 2018 00:31:06 GMT

The check for RTEMS CPU options header fails. Does the BSP install rtems/score/cpuopts.h?

### Comment 2

1. **Chris Johns**, Wed, 02 May 2018 00:33:52 GMT
2. **description:** modified (diff)

Also the output says to read config.log for more information. Could you please report what it says is failing?

### Comment 3

1. **Joel Sherrill**, Sat, 13 Oct 2018 22:34:50 GMT
2. **owner:** set to **Joel Sherrill**
3. **status:** changed from **new** to **assigned**
4. **component:** changed from **admin** to **examples**

### Comment 4

1. **Joel Sherrill**, Sun, 14 Oct 2018 20:52:58 GMT

With the Makefile.inc system, all tests build successfully and this is the command sequence for hello\_world\_c

```

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
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:

```

./waf configure --rtems=/home/joel/rtems-work/tools/5/bsp-install \
--rtems-tools=/home/joel/rtems-work/tools/5 --rtems-bsps=mips/rbtx4925

```

The test probe gcc is this:

```

['/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.l.o',
'-o/home/joel/rtems-work/examples-v2/build/.conf_check_2580b0f878d416be57b9cf3634e02230/testbuild/testprog', '-Wl,-Bstatic', '-Wl,-
Bdynamic']
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.

### Comment 5

1. **Joel Sherrill**, Sun, 14 Oct 2018 21:16:34 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**



In 2fec1c5/rtems\_waf:

```
rtems.py: Pass -EL, -EB, and -Gn to link phase
closes #3424.
```

**Comment 6**1. **Joel Sherrill**, Sun, 14 Oct 2018 21:20:39 GMT

In 5e3264d/examples-v2:

```
rtems_waf: Update to get #3424
```

**Comment 7**1. **Joel Sherrill**, Sun, 14 Oct 2018 22:06:16 GMT

In 8992d20/rtems-source-builder:

```
rtems-tools-5-1.cfg: Bump to latest
closes #3401, #3402, #3424.
```

**3425 - examples-v2: PowerPC fails to build fat\_ramdisk**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3425">https://devel.rtems.org/ticket/3425</a> ( <a href="https://devel.rtems.org/ticket/3425">https://devel.rtems.org/ticket/3425</a> )
<b>Id</b>	3425
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	1 May 2018 14:57:39
<b>Modified</b>	11 June 2018 12:48:21
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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

```
[5/7] Compiling build/powerpc-rtems5-beatnik/filesystem/fat_ramdisk/fs-root.tar
In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/libcpu/powerpc-utility.h:40:0,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp/vectors.h:40,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp.h:27,
                 from ../../gdb/overwrite/rtems_init.c:7:
/home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU
Model"
#error "Unsupported CPU Model"
~~~~~
In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/libcpu/powerpc-utility.h:40:0,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp/vectors.h:40,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp.h:27,
                 from ../../hello/hello_world_c/test.c:21:
/home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU
Model"
#error "Unsupported CPU Model"
~~~~~
Waf: Leaving directory `/data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-beatnik'
Build failed
```

**Comment 1**1. **Chris Johns**, Wed, 02 May 2018 00:38:16 GMT2. **description**: modified (diff)

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?

**Comment 2**1. **Joel Sherrill**, Wed, 02 May 2018 17:09:51 GMT

From waf -v

```
[1/7] Compiling hello/hello_world_c/test.c
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.l.o']
[2/7] Compiling gdb/overwrite/rtems_init.c
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.l.o']
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 .../hello/hello_world_c/test.c:21:
/home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
#error "Unsupported CPU Model"
~~~~~
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/powerpc.h:283:2: error: #error "Unsupported CPU Model"
#error "Unsupported CPU Model"
~~~~~
Waf: Leaving directory `data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-mpc5566evb'
Build failed
-> task in 'hello.exe' failed with exit status 1:
(task 21579488: c test.c -> test.c.l.o)
[! /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.l.o']
-> task in 'overwrite.exe' failed with exit status 1:
(task 21579848: c rtems_init.c -> rtems_init.c.l.o)
[! /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.l.o']
```

Looks like the -D option from the CPU\_CFLAGS is missing and many of the options are duplicated.

```
CPU_CFLAGS = -mcpu=8540 -meabi -msdata=sysv -fno-common $(CPU_CFLAGS_FLOAT) \
-D ppc generic -mstrict-align
```

### Comment 3

1. **Chris Johns**, Thu, 03 May 2018 02:25:09 GMT

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.

### Comment 4

1. **Joel Sherrill**, Mon, 07 May 2018 20:07:13 GMT

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/powerpc.h:283:2: error: #error "Unsupported CPU Model"
```

```
#error "Unsupported CPU Model"
```

My solution is to move the -D in impacted PowerPC BSPs from CFLAGS (or CPU\_CFLAGS) to bsp.h

### Comment 5

1. **Chris Johns**, Mon, 07 May 2018 21:04:02 GMT

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.

### Comment 6

## 1. Sebastian Huber, Tue, 08 May 2018 07:37:02 GMT

There are a couple of BSPs which use -D flags:

```
grep -- -D bsp*/**/config/*
bsp/arm/rtl22xx/config/rtl22xx_t.cfg:#CPU_CFLAGS += -mthumb-interwork -D __THUMB_INTERWORK__ -mthumb
bsp/arm/rtl22xx/config/rtl22xx_t.cfg:#CPU_ASFLAGS += -D __THUMB_INTERWORK__ -mthumb-interwork
bsp/arm/smdk2410/config/smdk2410.cfg:CPU_CFLAGS = -mcpu=arm920t -DCPU_S3C2410
bsp/powerpc/beatnik/config/beatnik.cfg:CPU_CFLAGS = -mcpu=7400 -D __ppc_generic
bsp/powerpc/haleakala/config/haleakala.cfg:CPU_CFLAGS = -mcpu=405 -Dppc405
bsp/powerpc/motorola_powerpc/config/mcp750.cfg:CPU_CFLAGS = -mcpu=750 -Dmpc750
bsp/powerpc/motorola_powerpc/config/mtx603e.cfg:CPU_CFLAGS = -mcpu=603e -Dppc603e
bsp/powerpc/motorola_powerpc/config/mvme2100.cfg:CPU_CFLAGS = -mcpu=603e -Dppc603e
bsp/powerpc/motorola_powerpc/config/qemuprep-altivec.cfg:CPU_CFLAGS = -mcpu=7400 -mmultiple -mstring -mstrict-align -D __ppc_generic
bsp/powerpc/motorola_powerpc/config/qemuprep.cfg:CPU_CFLAGS = -mcpu=powerpc -mmultiple -mstring -mstrict-align -D __ppc_generic
bsp/powerpc/mpc55xxevb/config/mpc55xx.inc: -D __ppc_generic -mstrict-align
bsp/powerpc/mpc8260ads/config/mpc8260ads.cfg:CPU_CFLAGS = -mcpu=603e -mstrict-align -Dmpc8260 \
bsp/powerpc/mvme3100/config/mvme3100.cfg:CPU_CFLAGS = -mcpu=powerpc -msoft-float -D __ppc_generic
bsp/powerpc/mvme5500/config/mvme5500.cfg:CPU_CFLAGS = -mcpu=7450 -mtune=7450 -Dmpc7455
bsp/powerpc/psim/config/psim.cfg:CPU_CFLAGS = -meabi -mcpu=603e -msdata=sysv -fno-common -Dppc603e
bsp/powerpc/qemuppc/config/qemuppc.cfg:CPU_CFLAGS = -mcpu=603e -Dppc603e
bsp/powerpc/qoriq/config/qoriq_e6500_32.cfg: -D __ppc_generic
bsp/powerpc/qoriq/config/qoriq_e6500_64.cfg: -D __ppc_generic
bsp/powerpc/qoriq/config/qoriq.inc: -D __ppc_generic
bsp/powerpc/ss555/config/ss555.cfg:CPU_CFLAGS = -mcpu=$(GCC_CPU_MODEL) -Dmpc555
bsp/powerpc/t32mppc/config/t32mppc.cfg: -D __ppc_generic
bsp/powerpc/tqm8xx/config/tqm8xx.inc:CPU_CFLAGS = -mcpu=860 -Dmpc860 \
bsp/powerpc/virtex4/config/virtex4.cfg:CPU_CFLAGS = -mcpu=405 -Dppc405
bsp/powerpc/virtex5/config/virtex5.cfg:CPU_CFLAGS = -mcpu=440 -Dppc440 -msoft-float
bsp/powerpc/virtex/config/virtex.cfg:CPU_CFLAGS = -mcpu=403 -Dppc405 -meabi -msdata=sysv -fno-common
bsp/sparc64/niagara/config/niagara.cfg:CPU_CFLAGS = -mcpu=niagara -DSUN4V
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:

```
#undef CPP_OS_DEFAULT_SPEC
#define CPP_OS_DEFAULT_SPEC "\
%{!mcpu*: %{!Dppc*: %{!Dmpc*: -Dmpc750} }} \
%{mcpu=403: %{!Dppc*: %{!Dmpc*: -Dppc403} }} \
%{mcpu=505: %{!Dppc*: %{!Dmpc*: -Dppc505} }} \
%{mcpu=601: %{!Dppc*: %{!Dmpc*: -Dppc601} }} \
%{mcpu=602: %{!Dppc*: %{!Dmpc*: -Dppc602} }} \
%{mcpu=603: %{!Dppc*: %{!Dmpc*: -Dppc603} }} \
%{mcpu=603e: %{!Dppc*: %{!Dmpc*: -Dppc603e} }} \
%{mcpu=604: %{!Dppc*: %{!Dmpc*: -Dmpc604} }} \
%{mcpu=750: %{!Dppc*: %{!Dmpc*: -Dmpc750} }} \
%{mcpu=821: %{!Dppc*: %{!Dmpc*: -Dmpc821} }} \
%{mcpu=860: %{!Dppc*: %{!Dmpc*: -Dmpc860} }} \
%{mcpu=8540: %{!Dppc*: %{!Dmpc*: -Dppc8540} }} \
%{mcpu=e6500: -D PPC_CPU_E6500 }"
```

**Comment 7**

## 1. Joel Sherrill, Tue, 08 May 2018 22:35:29 GMT

In 2a1171d8/rtems:

```
rtl22xx_t.cfg: Remove comment with -D THUMB_INTERWORK
Updates #3425.
```

**Comment 8**

## 1. Joel Sherrill, Thu, 10 May 2018 22:25:29 GMT

In c8dcd54/rtems:

```
sparc64 niagara, usiii: Remove -D options from cfg file and move to bspopts.h
Updates #3425.
```

**Comment 9**

## 1. Joel Sherrill, Thu, 10 May 2018 22:27:19 GMT

I think this ticket is down to the PowerPC BSPs. If you had a solution in mind Sebastian, please implement it.

**Comment 10**

## 1. Sebastian Huber, Fri, 11 May 2018 04:57:20 GMT

I don't have time for this ticket at least in the next two weeks.

**Comment 11**

## 1. Joel Sherrill, Tue, 15 May 2018 14:25:55 GMT

In 9d62874/rtems:

```
sparc64 BSPs: Hard define configuration required settings
Updates #3425.
```

**Comment 12**

1. **Joel Sherrill**, Tue, 15 May 2018 23:04:01 GMT

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.

**Comment 13**

1. **Joel Sherrill**, Fri, 18 May 2018 13:22:54 GMT

In eaf5bec/rtems:

```
virtex5: Move -Dxxx to configure.ac
Updates #3425.
```

**Comment 14**

1. **Joel Sherrill**, Fri, 18 May 2018 13:24:32 GMT

2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

No BSPs use `-D` in `CFLAGS` now. #3431 is a ticket to track some identified follow up work.

**Comment 15**

1. **Sebastian Huber**, Mon, 11 Jun 2018 12:48:11 GMT

In 07c5976/rtems:

```
bsps/powerpc: Hack to fix the build
```

The `ppc405` define must be checked before the `ppc403` define. The `ppc405` define is provided by `.`. The `ppc403` define is provided by GCC as a built-in define if no `ppc*` or `mpc*` define is set via the command line (see GCC sources `"gcc/config/rs6000/rtems.h"`).

```
Update #3425.
```

**Comment 16**

1. **Sebastian Huber**, Mon, 11 Jun 2018 12:48:21 GMT

In 5249a4c/rtems:

```
powerpc: Fix ss555 build
```

The `mpc555` define is provided via `.`. It must not be used in cpukit header files.

```
Update #3425.
```

**3432 - Remove Simple SMP Priority Scheduler**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3432">https://devel.rtems.org/ticket/3432</a> ( <a href="https://devel.rtems.org/ticket/3432">https://devel.rtems.org/ticket/3432</a> )
<b>Id</b>	3432
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 May 2018 19:10:36
<b>Modified</b>	17 September 2018 11:34:20
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

#### Comment 1

1. **Sebastian Huber**, Fri, 25 May 2018 07:59:43 GMT

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.

#### Comment 2

1. **Sebastian Huber**, Mon, 17 Sep 2018 11:34:20 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **wontfix**

This scheduler implementation should not be removed. It is useful in clustered scheduler scenarios.

## 3433 - Add SMP support for RISC-V

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3433">https://devel.rtems.org/ticket/3433</a> ( <a href="https://devel.rtems.org/ticket/3433">https://devel.rtems.org/ticket/3433</a> )
<b>Id</b>	3433
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 May 2018 07:10:47
<b>Modified</b>	9 January 2019 09:37:21
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3452, 3453, 3459

---

#### Description

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

#### Comment 1

1. **Sebastian Huber**, Fri, 25 May 2018 07:11:14 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**

#### Comment 2

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:45:14 GMT
2. **blockedby**: set to **3452, 3453**

#### Comment 3

1. **Sebastian Huber**, Mon, 18 Jun 2018 06:30:48 GMT
2. **blockedby**: changed from **3452, 3453** to **3452, 3453, 3459**

#### Comment 4

1. **Sebastian Huber**, Fri, 29 Jun 2018 08:31:10 GMT

In 7b7e340/rtems-tools:

```
tester: Add rv64imafd_medany.ini
```

Update #3433.

#### **Comment 5**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:54:24 GMT

In 9e3bb45/rtems:

bsp/riscv\_generic: New linker command file  
This linker command file is based on the "riscv64-rtems5-ld --verbose" output.  
Update #3433.

#### **Comment 6**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:54:45 GMT

In 41e2295/rtems:

bsp/riscv\_generic: Use standard optimization flags  
Update #3433.

#### **Comment 7**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:54:56 GMT

In 6f5d88a/rtems:

bsp/riscv\_generic: Rename to "riscv"  
Update #3433.

#### **Comment 8**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:55:06 GMT

In f3da074a/rtems:

bsp/riscv: Add new BSP variants  
The latest RISC-V tool chain introduced new multilib variants. Add corresponding BSP variants.  
Update #3433.

#### **Comment 9**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:55:17 GMT

In 37a1fc2/rtems:

bsp/riscv: Remove unused BSP options  
Update #3433.

#### **Comment 10**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:55:27 GMT

In 16d905f/rtems:

bsp/riscv: Add BSP options to define RAM region  
Update #3433.

#### **Comment 11**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:55:50 GMT

In fef0a41/rtems:

bsp/riscv: Do not clear integer registers at start  
There is no need to do this.

Update #3433.

#### **Comment 12**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:56:01 GMT

In 52f4fb6/rtems:

```
riscv: Format assembler files
Use tabs to match the GCC generated assembler output.
Update #3433.
```

#### **Comment 13**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:56:11 GMT

In b0ee789/rtems:

```
bsp/riscv: Use memset() to clear .bss
Update #3433.
```

#### **Comment 14**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:56:22 GMT

In 9b2ef07f/rtems:

```
bsp/riscv: Load global pointer
Update #3433.
```

#### **Comment 15**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:56:33 GMT

In 7c3b0df1/rtems:

```
riscv: Implement ISR set/get level
Fix prototypes.
Update #3433.
```

#### **Comment 16**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:56:44 GMT

In 853c5ef/rtems:

```
build: Enable RISC-V SMP build
Update #3433.
```

#### **Comment 17**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:56:56 GMT

In 2086948/rtems:

```
riscv: Add dummy SMP support
Update #3433.
```

#### **Comment 18**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:57:07 GMT

In fe2cd01/rtems:

```
bsp/riscv: Add device tree support
Update #3433.
```

**Comment 19**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:57:18 GMT

In 5f5c450/rtems:

```
bsp/riscv: Add SMP startup synchronization
Update #3433.
```

**Comment 20**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:57:29 GMT

In c558cc4/rtems:

```
bsp/riscv: Fix vector table for lp64
Update #3433.
```

**Comment 21**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:57:39 GMT

In 1232cd46/rtems:

```
bsp/riscv: Add device tree support for console
Update #3433.
```

**Comment 22**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:57:50 GMT

In cdfed94f/rtems:

```
bsp/riscv: Rework clock driver
Use device tree provided timebase frequency. Do not write to read-only mtime register.
Update #3433.
```

**Comment 23**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:00 GMT

In ff7b104/rtems:

```
bsp/riscv: Remove bsp_interrupt_handler_default()
It duplicated the default implementation.
Update #3433.
```

**Comment 24**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:10 GMT

In bc3bdf2/rtems:

```
riscv: Optimize and fix interrupt disable/enable
Use the atomic read and clear operation to disable interrupts.
Do not write the complete mstatus. Instead, set only the MIE bit depending on the level parameter.
Update #3433.
```

**Comment 25**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:20 GMT

In 3be4478f/rtems:

```
riscv: Avoid namespace pollution
```



Remove include from (which is visible via for example).  
Update #3433.

#### **Comment 26**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:31 GMT

In 0fd8287/rtems:

riscv: Add \_CPU\_Get\_current\_per\_CPU\_control()  
Update #3433.

#### **Comment 27**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:41 GMT

In 9704d86f/rtems:

riscv: Enable interrupts during dispatch after ISR  
The code sequence is derived from the ARM code (see \_ARMV4\_Exception\_interrupt).  
Update #2751. Update #3433.

#### **Comment 28**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:58:52 GMT

In 98f051e/rtems:

riscv: Remove RISC\_V\_GCC\_RED\_ZONE\_SIZE  
The current ABI says that there is no stack red zone:  
<https://github.com/riscv/riscv-elf-psabi-doc/blob/master/riscv-elf.md>  
"Procedures must not rely upon the persistence of stack-allocated data whose addresses lie below the stack pointer."  
Update #3433.

#### **Comment 29**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:59:03 GMT

In 9510742/rtems:

riscv: Fix CPU\_STACK\_ALIGNMENT  
According to the RISC-V psABI  
<https://github.com/riscv/riscv-elf-psabi-doc/blob/master/riscv-elf.md>  
the stack alignment is 128 bits (16 bytes).  
Update #3433.

#### **Comment 30**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:59:13 GMT

In a49a3c8e/rtems:

riscv: Do not clear thread context  
Do not clear the complete thread context. Initialize only the necessary members. The Context\_Control::is\_executing member must be preserved across \_CPU\_Context\_Initialize() calls.  
Update #3433.

#### **Comment 31**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:59:23 GMT

In 04698eb/rtems:

riscv: Properly align the thread stack  
Update #3433.

**Comment 32**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:59:33 GMT

In 2987c4f/rtems:

```
riscv: Remove x8 initialization
The RISC-V psABI
https://github.com/riscv/riscv-elf-psabi-doc/blob/master/riscv-elf.md
does not mention that this is a frame pointer.
Update #3433.
```

**Comment 33**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:59:44 GMT

In b706b4a/rtems:

```
riscv: Remove mstatus from thread context
The mstatus register contains no thread-specific state which must be saved/restored during a context switch. Machine interrupts (MIE) must be enabled during a context switch.
Create separate CPU_Interrupt_frame structure.
Update #3433.
```

**Comment 34**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:59:54 GMT

In 8f035cb/rtems:

```
riscv: Implement _CPU_Context_volatile_clobber()
Update #3433.
```

**Comment 35**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:00:04 GMT

In 71af1a4/rtems:

```
riscv: Make some CPU port defines visible to asm
Move SREG and LREG assembler defines to .
Update #3433.
```

**Comment 36**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:00:14 GMT

In 40f81ce6/rtems:

```
riscv: Implement _CPU_Context_validate()
Update #3433.
```

**Comment 37**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:00:25 GMT

In dffc08c/rtems:

```
riscv: Fix interrupt save/restore
Update #3433.
```

**Comment 38**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:00:35 GMT

In a8188730/rtems:

riscv: Fix \_CPU\_Context\_Initialize() prototype  
Update #3433.

#### **Comment 39**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:00:45 GMT

In e43994d/rtems:

riscv: Optimize context switch and interrupts  
Save/restore non-volatile registers in \_CPU\_Context\_switch().  
Save/restore volatile registers in \_ISR\_Handler().  
Update #3433.

#### **Comment 40**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:00:55 GMT

In afb60eb/rtems:

riscv: Remove dead code  
Update #3433.

#### **Comment 41**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:01:05 GMT

In 694e79a0/rtems:

riscv: Add TLS support  
Update #3433.

#### **Comment 42**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:01:16 GMT

In 995e91e8/rtems:

riscv: Fix global construction  
Update #3433.

#### **Comment 43**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:01:26 GMT

In 5235238/rtems:

riscv: Add floating-point support  
Update #3433.

#### **Comment 44**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:01:36 GMT

In 109bc1c7/rtems:

riscv: Add SMP context switch support  
Update #3433.

#### **Comment 45**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:09:06 GMT

In 79d69ae/rtems:

riscv: Fix SMP context switch support

Update #3433.

#### **Comment 46**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:09:16 GMT

In 79d69ae/rtems:

```
riscv: Fix SMP context switch support
Update #3433.
```

#### **Comment 47**

1. **Sebastian Huber**, Fri, 29 Jun 2018 10:57:42 GMT

In b36bf5b/rtems:

```
score: Increase PER_CPU_CONTROL_SIZE_APPROX
Increase the PER_CPU_CONTROL_SIZE_APPROX on 64-bit targets.
Update #3433.
```

#### **Comment 48**

1. **Sebastian Huber**, Mon, 02 Jul 2018 13:22:23 GMT

In e07b51a7/rtems:

```
riscv: Fix fcsr initialization
Update #3433.
```

#### **Comment 49**

1. **Sebastian Huber**, Fri, 06 Jul 2018 05:27:22 GMT

In e755782/rtems:

```
riscv: Clear reservations
See also RISC-V User-Level ISA V2.3, comment in section 8.2 "Load-Reserved/Store?-Conditional Instructions".
Update #3433.
```

#### **Comment 50**

1. **Sebastian Huber**, Fri, 06 Jul 2018 08:06:38 GMT

In 6418c91d/rtems:

```
Update config.guess and config.sub
Update via:
wget -O config.guess 'https://git.savannah.gnu.org/gitweb/?p=config.git;a=blob_plain;f=config.guess;hb=HEAD' wget -O config.sub '
https://git.savannah.gnu.org/gitweb/?p=config.git;a=blob_plain;f=config.sub;hb=HEAD'
Update #3433.
```

#### **Comment 51**

1. **Sebastian Huber**, Fri, 06 Jul 2018 12:28:33 GMT

In dd32e2b2/rtems:

```
riscv: Implement CPU counter
Update #3433.
```

#### **Comment 52**

1. **Sebastian Huber**, Fri, 06 Jul 2018 12:28:43 GMT

In bca36d9/rtems:

riscv: Add LADDR assembler define

An address must be loaded to a register according to the code model. Add LADDR define for use in assembler code.

Update #3433.

### **Comment 53**

1. **Sebastian Huber**, Fri, 06 Jul 2018 12:28:54 GMT

In 31f90a2/rtems:

bsp/riscv: Simplify printk() support

This is a preparation to add NS16550 driver support to the console driver.

Update #3433.

### **Comment 54**

1. **Sebastian Huber**, Fri, 06 Jul 2018 12:29:04 GMT

In 1a19239/rtems:

bsp/riscv: Add console support for NS16550 devices

Update #3433.

### **Comment 55**

1. **Sebastian Huber**, Tue, 24 Jul 2018 07:13:55 GMT

In 3a646426/rtems:

score: Add \_CPU\_Instruction\_illegal()

On some architectures/simulators it is difficult to provoke an exception with misaligned or illegal data loads. Use an illegal instruction instead.

Update #3433.

### **Comment 56**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:10:25 GMT

In d779a1e2/rtems:

riscv: Add exception codes

Update #3433.

### **Comment 57**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:10:35 GMT

In 5694b0c/rtems:

riscv: New CPU\_Exception\_frame

Use the CPU\_Interrupt\_frame for the volatile context. Add non-volatile registers and extra state on top of it.

Update #3433.

### **Comment 58**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:10:45 GMT

In 8db3f0e/rtems:

riscv: Rework exception handling

Remove \_CPU\_ISR\_install\_raw\_handler() and \_CPU\_ISR\_install\_vector() functions. Applications can install an exception handler via the fatal error handler to handle synchronous exceptions.

Handle interrupt exceptions via \_RISCV\_Interrupt\_dispatch() which must be provided by the BSP.

Update #3433.

**Comment 59**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:10:56 GMT

In 7fe4855/rtems:

```
bsp/riscv: Fix HTIF warnings
Update #3433.
```

**Comment 60**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:06 GMT

In 791d9ac5/rtems:

```
bsp/riscv: Disable HTIF support by default
The HTIF is a legacy machinery.
Update #3433.
```

**Comment 61**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:16 GMT

In 3a263a9b/rtems:

```
bsp/riscv: Add and use riscv_fdt_get_address()
Update #3433.
```

**Comment 62**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:26 GMT

In dda6e06/rtems:

```
bsp/riscv: Add reset via for SiFive? Test Finisher
Update #3433.
```

**Comment 63**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:37 GMT

In f5fd8eb/rtems:

```
bps/riscv: Update linker-symbols.h
Update #3433.
```

**Comment 64**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:41 GMT

In d3d115a/rtems-tools:

```
tester: Add use virt machine for rv64imafd_medany
Update #3433.
```

**Comment 65**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:48 GMT

In c2670de/rtems:

```
riscv: Use wfi instruction for idle task
Update #3433.
```

**Comment 66**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:11:58 GMT

In 6b9ef09/rtems:

```
riscv: Add CLINT and PLIC support
The CLINT and PLIC need some per-processor state.
Update #3433.
```

#### **Comment 67**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:12:09 GMT

In 447fd89/rtems:

```
bsp/riscv: Add basic SMP startup
Update #3433.
```

#### **Comment 68**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:12:19 GMT

In 6552ba8/rtems:

```
bsp/riscv: Use CPU counter btimer
Update #3433.
```

#### **Comment 69**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:12:30 GMT

In bd560386/rtems:

```
bsp/riscv: Add simple SMP support to clock driver
This is a hack. The clock interrupt should be handled by each hart.
Update #3433.
```

#### **Comment 70**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:12:40 GMT

In adede135/rtems:

```
bsp/riscv: Add PLIC support
Update #3433.
```

#### **Comment 71**

1. **Sebastian Huber**, Wed, 25 Jul 2018 08:12:50 GMT

In 581a0f88/rtems:

```
bsp/riscv: Use interrupt driven NS16550 driver
Update #3433.
```

#### **Comment 72**

1. **Sebastian Huber**, Fri, 27 Jul 2018 11:26:50 GMT

In 65f52d0/rtems:

```
samples/minimum: Use default interrupt stack size
Update #3433.
```

#### **Comment 73**

1. **Sebastian Huber**, Fri, 27 Jul 2018 13:07:35 GMT

In cfc9573/rtems:

riscv: Rework CPU counter support  
Update #3433.

#### **Comment 74**

1. **Sebastian Huber**, Fri, 27 Jul 2018 13:07:45 GMT

In 44c2d393/rtems:

bsp/riscv: Fix inter-processor interrupts

The previous version worked only on a patched Qemu. Writes to mip are illegal according to the The RISC-V Instruction Set Manual, Volume II: Privileged Architecture, Privileged Architecture Version 1.10.

Update #3433.

#### **Comment 75**

1. **Sebastian Huber**, Tue, 31 Jul 2018 05:14:14 GMT

In d906ce3/rtems:

libtests: Use CONFIGURE\_INIT\_TASK\_TABLE\_SIZE

Using CONFIGURE\_MINIMUM\_TASK\_STACK\_SIZE increases also the interrupt stack size. This is an issue on some BSPs. Use CONFIGURE\_INIT\_TASK\_TABLE\_SIZE instead.

Update #3433.

#### **Comment 76**

1. **Sebastian Huber**, Wed, 01 Aug 2018 09:18:31 GMT

In 48cbd63/rtems:

bsp/riscv: Fix clock driver

Do not assume that mtime is zero at boot time.

Update #3433.

#### **Comment 77**

1. **Sebastian Huber**, Wed, 01 Aug 2018 09:18:42 GMT

In 529154b/rtems:

bsp/riscv: Initialize FPU depending on ISA

Initialize fcsr to zero for a defined rounding mode.

Update #3433.

#### **Comment 78**

1. **Sebastian Huber**, Wed, 01 Aug 2018 09:19:12 GMT

In 56b0387/rtems:

bsp/riscv: Add NS16750 support to console driver

Update #3433.

#### **Comment 79**

1. **Sebastian Huber**, Wed, 01 Aug 2018 09:19:23 GMT

In dee2ebb/rtems:

bsp/riscv: Remove unused variable

Update #3433.

#### **Comment 80**



1. **Sebastian Huber**, Thu, 02 Aug 2018 07:28:46 GMT

In 3d11c1e/rtems:

```
bsp/riscv: Fix a synchronization issue for PLIC
Update #3433.
```

#### **Comment 81**

1. **Sebastian Huber**, Thu, 02 Aug 2018 07:44:35 GMT

In 28b8cf9b/rtems:

```
riscv: Fix CPU_ALIGNMENT
Update #3433.
```

#### **Comment 82**

1. **Sebastian Huber**, Thu, 02 Aug 2018 10:53:46 GMT

In d909c5f/rtems-docs:

```
cpu-supplement: Add RISC-V chapter
Update #3433.
```

#### **Comment 83**

1. **Sebastian Huber**, Thu, 02 Aug 2018 11:21:52 GMT

In 24326a8/rtems-docs:

```
user: Add RISC-V BSP section
Update #3433.
```

#### **Comment 84**

1. **Sebastian Huber**, Thu, 02 Aug 2018 12:40:02 GMT

In 4c740de/rtems:

```
bsp/riscv: Fix build with RTEMS_SMP undefined
Update #3433.
```

#### **Comment 85**

1. **Sebastian Huber**, Thu, 02 Aug 2018 13:33:21 GMT

In 141d502/rtems:

```
bsp/riscv: Add missing BSP variant
Update #3433.
```

#### **Comment 86**

1. **Sebastian Huber**, Mon, 06 Aug 2018 07:07:27 GMT
2. **version**: set to 5
3. **milestone**: changed from 6.1 to 5.1

#### **Comment 87**

1. **Sebastian Huber**, Mon, 06 Aug 2018 07:51:44 GMT

In 5d957c9/rtems-tools:

```
tester: Add RISC-V support to BSP builder
Update #3433.
```

**Comment 88**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:02:03 GMT

In d343f83/rtems-tools:

```
tester: Exclude SMP build of some RISC-V BSPs
It makes no sense to build BSPs without support for atomic instructions with SMP enabled.
Update #3433.
```

**Comment 89**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:06:46 GMT

In 01600ac/rtems-source-builder:

```
5: Update tools for RISC-V BSP builder support
Update #3433.
```

**Comment 90**

1. **Sebastian Huber**, Sat, 11 Aug 2018 13:44:10 GMT

In 142770b/rtems-docs:

```
c-user: SMP is supported on RISC-V
Update #3433.
```

**Comment 91**

1. **Sebastian Huber**, Thu, 06 Sep 2018 05:16:22 GMT

2. **status:** changed from **accepted** to **closed**

3. **resolution:** set to **fixed**

The RISC-V SMP support is now in a good shape.

**Comment 92**

1. **Sebastian Huber**, Wed, 09 Jan 2019 09:37:21 GMT

In b9ffc41c/rtems:

```
riscv: Enable robust thread dispatch
It must be enabled, since the context switch code does not save/restore the interrupt status.
Update #3433.
```

---

**3434 - Add CONFIGURE\_MINIMUM\_POSIX\_THREAD\_STACK\_SIZE configuration option**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3434">https://devel.rtems.org/ticket/3434</a> ( <a href="https://devel.rtems.org/ticket/3434">https://devel.rtems.org/ticket/3434</a> )
<b>Id</b>	3434
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 May 2018 08:39:15
<b>Modified</b>	8 August 2018 06:54:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Joel Sherrill**, Fri, 25 May 2018 15:10:03 GMT

What is your rationale and use case?

#### Comment 2

1. **Sebastian Huber**, Fri, 25 May 2018 15:56:59 GMT

The use case is to overrule this somewhat arbitrary rule that the minimum POSIX thread stack size is twice the minimum standard stack size.

#### Comment 3

1. **Sebastian Huber**, Wed, 08 Aug 2018 06:48:53 GMT

In fd27bae/rtems:

```
CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE
Make CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configurable by the user.
Update #3434.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 08 Aug 2018 06:54:00 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 806806c/rtems-docs:

```
c-user: CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE
Close #3434.
```

---

## **3435 - Add test case for CONFIGURE\_BSP\_PREREQUISITE\_DRIVERS configuration option**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3435">https://devel.rtems.org/ticket/3435</a> ( <a href="https://devel.rtems.org/ticket/3435">https://devel.rtems.org/ticket/3435</a> )
<b>Id</b>	3435
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 May 2018 08:42:49
<b>Modified</b>	6 September 2018 05:12:56
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

This configuration option is untested

#### Comment 1

1. **Joel Sherrill**, Fri, 25 May 2018 15:09:24 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**

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.

#### Comment 2

1. **Sebastian Huber**, Mon, 28 May 2018 05:01:33 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **wontfix** deleted
4. **description:** modified (diff)

5. **summary:** changed from **Remove CONFIGURE\_BSP\_PREREQUISITE\_DRIVERS configuration option** to **Add test case for CONFIGURE\_BSP\_PREREQUISITE\_DRIVERS configuration option**

### Comment 3

1. **Sebastian Huber**, Thu, 06 Sep 2018 05:12:56 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 0e907232/rtems:

```
sptestests/spconfig01: New test
Close #3435.
```

## **3436 - Remove clock driver Clock\_driver\_support\_shutdown\_hardware() hook**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3436">https://devel.rtems.org/ticket/3436</a> ( <a href="https://devel.rtems.org/ticket/3436">https://devel.rtems.org/ticket/3436</a> )
<b>Id</b>	3436
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 May 2018 12:32:59
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	dev
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

```
#ifdef Clock_driver_support_shutdown_hardware
/**
 * @brief Clock_exit
 *
 * This routine allows the clock driver to exit by masking the interrupt and
 * disabling the clock's counter.
 */
void Clock_exit( void )
{
    Clock_driver_support_shutdown_hardware();
    /* do not restore old vector */
}
#endif
...
#ifdef Clock_driver_support_shutdown_hardware
    atexit( Clock_exit );
#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.

### Comment 1

1. **Sebastian Huber**, Fri, 29 Jun 2018 08:16:31 GMT

In c765aa0/rtems-docs:

```
bsp-howto: Mention clock driver hook removal
Update #3436.
```

### Comment 2

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:53:27 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 7ee59313/rtems:

Remove `Clock_driver_support_shutdown_hardware()`

The aim of this clock driver hook was 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 `Clock_driver_support_shutdown_hardware()` clock driver hook.

Close #3436.

### Comment 3

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:06:32 GMT

In a6b2080/rtems:

clock: Remove `Clock_exit()` from API

This function is no longer supported by the standard clock driver implementation (`clockimpl.h`).

Update #3436.

### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords: qualification** added

## **3437 - Replace use of `printk()` in `free()` with a fatal error**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3437">https://devel.rtems.org/ticket/3437</a> ( <a href="https://devel.rtems.org/ticket/3437">https://devel.rtems.org/ticket/3437</a> )
<b>Id</b>	3437
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 May 2018 12:56:20
<b>Modified</b>	5 June 2018 07:14:01
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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.

### Comment 1

1. **Sebastian Huber**, Tue, 05 Jun 2018 07:13:27 GMT

In de9b7d7/rtems:

Add `RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE`

An invalid heap usage such as a double free is usually a fatal error since this indicates a use after free. Replace the use of `printk()` in `free()` with a fatal error.

Update #3437.

### Comment 2

1. **Sebastian Huber**, Tue, 05 Jun 2018 07:14:01 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In aaf9c78/rtems-docs:

c-user: RTEMS\_FATAL\_SOURCE\_INVALID\_HEAP\_FREE

Close #3437.

---

## **3443 - Remove shgen program**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3443">https://devel.rtems.org/ticket/3443</a> ( <a href="https://devel.rtems.org/ticket/3443">https://devel.rtems.org/ticket/3443</a> )
<b>Id</b>	3443
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 June 2018 05:05:07
<b>Modified</b>	13 June 2018 07:58:18
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

Rename it to rtems-shgen.

### **Comment 1**

1. **Sebastian Huber**, Wed, 13 Jun 2018 07:47:32 GMT
2. **summary:** changed from **Move shgen to rtems-tools** to **Remove shgen**

After discussion on devel@... it was decided to remove this tool due to its license (GPL).

### **Comment 2**

1. **Sebastian Huber**, Wed, 13 Jun 2018 07:48:12 GMT
2. **summary:** changed from **Remove shgen** to **Remove shgen program**

### **Comment 3**

1. **Sebastian Huber**, Wed, 13 Jun 2018 07:58:18 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8c62cf4/rtems:

```
tools: Remove shgen
```

```
All tools should be removed from the RTEMS source repository at some point in time. Tools with a BSD-style license will be moved to the RTEMS tools repository. Unfortunately, the shgen tool is GPL licensed.
```

```
Remove all uses of this tool from the code base. Replace generated files with stub functions. If users of this BSP still exist, they can reimplement the functionality using a BSD-style license.
```

```
Close #3443.
```

---

## **3444 - Remove nios2gen program**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3444">https://devel.rtems.org/ticket/3444</a> ( <a href="https://devel.rtems.org/ticket/3444">https://devel.rtems.org/ticket/3444</a> )
<b>Id</b>	3444
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 June 2018 05:05:52
<b>Modified</b>	29 June 2018 09:55:38
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Rename it to rtems-nios2gen

**Comment 1**

1. **Sebastian Huber**, Wed, 13 Jun 2018 07:49:19 GMT
2. **summary:** changed from **Move nios2gen to rtems-tools** to **Remove nios2gen program**

After discussion on devel@... it was decided to remove this program due to its license (RTEMS GPL).

**Comment 2**

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:15:39 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 46c2da6/rtems:

```
tools: Remove nios2gen
```

All tools should be removed from the RTEMS source repository at some point in time. Tools with a BSD-style license will be moved to the RTEMS tools repository. Unfortunately, the this tool is RTEMS GPL licensed.

If users of this tool still exist, they can reimplement the functionality using a BSD-style license and add it to the RTEMS tools.

Close #3444.

**Comment 3**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:55:38 GMT

In 38024362/rtems:

```
bsp/riscv: Fix some warnings
```

Update #3444.

**3445 - Remove multigen script**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3445">https://devel.rtems.org/ticket/3445</a> ( <a href="https://devel.rtems.org/ticket/3445">https://devel.rtems.org/ticket/3445</a> )
<b>Id</b>	3445
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 June 2018 05:52:26
<b>Modified</b>	15 June 2018 05:16:42
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This script is unused and out dated.

#### Comment 1

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:16:42 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1346d27/rtems:

tools: Remove multigen

This script is unused and out dated.

Close #3445.

### 3446 - Remove cvsignore-add.sh script

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3446">https://devel.rtems.org/ticket/3446</a> ( <a href="https://devel.rtems.org/ticket/3446">https://devel.rtems.org/ticket/3446</a> )
<b>Id</b>	3446
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 June 2018 05:54:34
<b>Modified</b>	15 June 2018 05:16:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

This script is obsolete since moving to Git.

#### Comment 1

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:16:52 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In a94a0f5/rtems:

tools: Remove cvsignore-add.sh

This script is obsolete since moving to Git.

Close #3446.

### 3447 - Remove rtems-testsuite-autostuff script

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3447">https://devel.rtems.org/ticket/3447</a> ( <a href="https://devel.rtems.org/ticket/3447">https://devel.rtems.org/ticket/3447</a> )
<b>Id</b>	3447
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 June 2018 06:12:51
<b>Modified</b>	15 June 2018 05:17:02
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html



It is not used.

#### Comment 1

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:17:02 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In df7f0ac6/rtems:

```
tools: Remove rtems-testsuite-autostuff
```

It is not used.

Close #3447.

### 3451 - Remove size\_rtems script

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3451">https://devel.rtems.org/ticket/3451</a> ( <a href="https://devel.rtems.org/ticket/3451">https://devel.rtems.org/ticket/3451</a> )
<b>Id</b>	3451
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 June 2018 07:52:21
<b>Modified</b>	15 June 2018 05:15:50
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

This script is horribly out of date. A new version could be placed in RTEMS tools if necessary.

#### Comment 1

1. **Joel Sherrill**, Wed, 13 Jun 2018 08:17:24 GMT

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.

#### Comment 2

1. **Sebastian Huber**, Fri, 15 Jun 2018 05:15:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9eb1494f/rtems:

```
tools: Remove size_rtems
```

This script is horribly out of date. A new version could be placed in RTEMS tools if necessary.

Close #3451.

### 3452 - Update RISC-V tool chain to support standard 64-bit chips

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3452">https://devel.rtems.org/ticket/3452</a> ( <a href="https://devel.rtems.org/ticket/3452">https://devel.rtems.org/ticket/3452</a> )
<b>Id</b>	3452
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 June 2018 08:42:32
<b>Modified</b>	20 August 2018 12:55:53
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3433
<b>Blocked by</b>	

---

#### Description

First step is to include this bug fix in Binutils:

[https://sourceware.org/bugzilla/show\\_bug.cgi?id=23244](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.

#### Comment 1

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:45:14 GMT
2. **blocking:** set to **3433**

#### Comment 2

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:47:12 GMT

In 9530518/rtems-source-builder:

```
Build only the Binutils
```

```
The Binutils and GDB share a repository. In order to build the Binutils from a repository snapshot some components must be disabled.
```

```
Update #3452.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:47:28 GMT

In f432e19/rtems-source-builder:

```
5: Update RISC-V Binutils
```

```
This includes the following bug fix:
```

```
https://sourceware.org/bugzilla/show\_bug.cgi?id=23244
```

```
Update #3452.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 20 Jun 2018 06:36:21 GMT

In 8ee4e8c/rtems-source-builder:

```
5: Update RISC-V Binutils and GDB
```

```
This includes the following bug fix:
```

```
https://sourceware.org/bugzilla/show\_bug.cgi?id=23305
```

```
Update #3452.
```

#### Comment 5

1. **Sebastian Huber**, Fri, 22 Jun 2018 04:24:21 GMT

In 4bd8de5/rtems-source-builder:

```
5: Use GCC 8 snapshot for RISC-V
```

```
This picks up the new multilib set for RISC-V.
```

```
Update #3452.
```

**Comment 6**

1. **Sebastian Huber**, Tue, 24 Jul 2018 07:06:52 GMT

In dc6b940/rtems-source-builder:

```
5: Update Newlib
Update RISC-V GCC to a GCC 9 branch commit.
Close #3342. Close #3343. Update #3452.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 24 Jul 2018 07:06:59 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In d33c151/rtems-source-builder:

```
5: Merge riscv32 and riscv64 into riscv
After several upstream updates in Binutils, GCC, Newlib, and GDB it is now possible to use a common riscv tool chain for the 32-bit and 64-bit RISC-V.
Update GDB to ce73f310150418a9a1625ab60a527d959096a9e2 Git commit.
Close #3452.
```

**Comment 8**

1. **Sebastian Huber**, Tue, 24 Jul 2018 10:10:47 GMT

In 2ef6dfe9/rtems-source-builder:

```
5: Fix rtems-all due to recent RISC-V changes
Update #3452.
```

**Comment 9**

1. **Sebastian Huber**, Wed, 25 Jul 2018 12:06:34 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

Another tool chain issue:

[https://sourceware.org/bugzilla/show\\_bug.cgi?id=23451](https://sourceware.org/bugzilla/show_bug.cgi?id=23451)

**Comment 10**

1. **Sebastian Huber**, Thu, 26 Jul 2018 07:08:20 GMT

In 2cd6cef/rtems-source-builder:

```
5: Change riscv to riscv32
This is a temporary workaround for this bug:
https://sourceware.org/bugzilla/show\_bug.cgi?id=23451
It is not clear how this can be resolved upstream.
Update #3452.
```

**Comment 11**

1. **Sebastian Huber**, Mon, 30 Jul 2018 08:10:59 GMT

In c40d126/rtems-source-builder:

```
5: Change riscv32 back to riscv
Update Binutils to include a bug fix for:
https://sourceware.org/bugzilla/show\_bug.cgi?id=23451
Update #3452.
```

**Comment 12**

1. **Sebastian Huber**, Fri, 03 Aug 2018 10:06:11 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 8f74240/rtems-source-builder:

5: Update Newlib

It includes a fix for bug in the ctype support, some FreeBSD compatibility changes in for libbsd and a new configuration option for all targets newlib/configure.host which is used by the RISC-V port.

Close #3452.

**Comment 13**

1. **Sebastian Huber**, Mon, 20 Aug 2018 12:55:53 GMT

In 79c83cd/rtems-source-builder:

5: Update Newlib for RISC-V

Use the latest Newlib to fix the GCC libgomp build (TLS support was not detected due to broken crt0).

Update #3452.

**3453 - Add RISC-V GDB**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3453">https://devel.rtems.org/ticket/3453</a> ( <a href="https://devel.rtems.org/ticket/3453">https://devel.rtems.org/ticket/3453</a> )
<b>Id</b>	3453
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 June 2018 08:43:25
<b>Modified</b>	13 June 2018 08:47:35
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3433
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:45:14 GMT
2. **blocking:** set to **3433**

**Comment 2**

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:47:20 GMT

In d8daad2/rtems-source-builder:

Build only the GDB

The Binutils and GDB share a repository. In order to build the GDB from a repository snapshot some components must be disabled.

Update #3453.

**Comment 3**

1. **Sebastian Huber**, Wed, 13 Jun 2018 08:47:35 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8ef0d73/rtems-source-builder:

5: Add GDB for RISC-V

Mainline GDB support for RISC-V is not yet in a released GDB version.

Close #3453.

## 3454 - Tracing Framework Documentation in User Manual

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3454">https://devel.rtems.org/ticket/3454</a> ( <a href="https://devel.rtems.org/ticket/3454">https://devel.rtems.org/ticket/3454</a> )
<b>Id</b>	3454
<b>Reporter</b>	Vidushi Vashishth
<b>Created</b>	14 June 2018 11:19:36
<b>Modified</b>	20 February 2019 09:54:08
<b>Owner</b>	Vidushi Vashishth
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	GSoC'18
<b>Cc</b>	Sebastian Huber Chris Johns Gedare Bloom
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

- 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.

### Comment 1

1. **Vidushi Vashishth**, Mon, 18 Jun 2018 05:31:43 GMT

In 8f4f80d/rtems-docs:

```
Adding Trace Documentation
Updates #3454 This commit adds Tracing Framework Chapter in the RTEMS User Manual It comprises of subchapters on RTEMS Trace Linker,
Capture Engine, Trace
generation techniques explaining trace generation using Trace Buffering and
Printk generators and sample demonstrations.
```

### Comment 2

1. **Sebastian Huber**, Wed, 20 Feb 2019 09:54:08 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **component:** changed from **admin** to **doc**
5. **milestone:** set to **5.1**

## 3455 - Remove install-if-change script

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3455">https://devel.rtems.org/ticket/3455</a> ( <a href="https://devel.rtems.org/ticket/3455">https://devel.rtems.org/ticket/3455</a> )
<b>Id</b>	3455
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 June 2018 05:40:58
<b>Modified</b>	18 June 2018 05:12:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

```
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=$(PROJECT_BIN)/install-if-change
c/src/make/host.cfg.in:INSTALL_VARIANT=$(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.

#### **Comment 1**

1. **Sebastian Huber**, Fri, 15 Jun 2018 06:22:33 GMT

The script has no license information.

#### **Comment 2**

1. **Joel Sherrill**, Fri, 15 Jun 2018 06:40:12 GMT

Remove it and uses on technical grounds. The remaining use isn't enough to even make the lack of license a factor.

#### **Comment 3**

1. **Sebastian Huber**, Mon, 18 Jun 2018 05:12:45 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In bac8d934/rtems:

```
tools: Remove install-if-change program

The last installed tool in RTEMS repository is the install-if-change script. It is not used to build/install BSPs. 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=$(PROJECT_BIN)/install-if-change
c/src/make/host.cfg.in:INSTALL_VARIANT=$(INSTALL_CHANGE) -V "$(LIB_VARIANT)"

Remove the support for variant installation and instead use the standard "install" program. This breaks application Makefiles using the standard Makefile support of RTEMS.

Close #3455.
```

## **3458 - rtems-test should not use the env PATH to find covoar**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3458">https://devel.rtems.org/ticket/3458</a> ( <a href="https://devel.rtems.org/ticket/3458">https://devel.rtems.org/ticket/3458</a> )
<b>Id</b>	3458
<b>Reporter</b>	Chris Johns
<b>Created</b>	17 June 2018 23:09:23
<b>Modified</b>	19 June 2018 03:45:15
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	coverage rtems-test
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Chris Johns**, Mon, 18 Jun 2018 05:33:29 GMT

2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

### Comment 2

1. **Chris Johns**, Tue, 19 Jun 2018 03:45:15 GMT
2. **owner:** set to **Chris Johns** <chrisj@...>

In e341a65/rtems-tools:

```
tester: Make the path to covoar absolute to ignore the env PATH.

Using the environment's path to find covoar allow invalid versions to be used which may vary in subtle ways. Find and use the covoar that is
build with the version of 'rtems-test'.

This patch means you do not need to install the tools before running improving the development experience.

Closes #3458
```

---

## **3459 - Rework initialization and interrupt stack support**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3459">https://devel.rtems.org/ticket/3459</a> ( <a href="https://devel.rtems.org/ticket/3459">https://devel.rtems.org/ticket/3459</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 June 2018 06:29:46
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3433
<b>Blocked by</b>	

### **Description**

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:

```

/**
 * Does RTEMS manage a dedicated interrupt stack in software?
 *
 * If TRUE, then a stack is allocated in @ref _ISR_Handler_initialization.
 * If FALSE, nothing is done.
 *
 * If the CPU supports a dedicated interrupt stack in hardware,
 * then it is generally the responsibility of the BSP to allocate it
 * and set it up.
 *
 * If the CPU does not support a dedicated interrupt stack, then
 * the porter has two options: (1) execute interrupts on the
 * stack of the interrupted task, and (2) have RTEMS manage a dedicated
 * interrupt stack.
 *
 * If this is TRUE, @ref CPU_ALLOCATE_INTERRUPT_STACK should also be TRUE.
 *
 * Only one of @ref CPU_HAS_SOFTWARE_INTERRUPT_STACK and
 * @ref CPU_HAS_HARDWARE_INTERRUPT_STACK should be set to TRUE. It is
 * possible that both are FALSE for a particular CPU. Although it
 * is unclear what that would imply about the interrupt processing
 * procedure on that CPU.
 *
 * Port Specific Information:
 *
 * XXX document implementation including references if appropriate
 */
#define CPU_HAS_SOFTWARE_INTERRUPT_STACK FALSE
/**
 * Does this CPU have hardware support for a dedicated interrupt stack?
 *
 * If TRUE, then it must be installed during initialization.
 * If FALSE, then no installation is performed.
 *
 * If this is TRUE, @ref CPU_ALLOCATE_INTERRUPT_STACK should also be TRUE.
 *
 * Only one of @ref CPU_HAS_SOFTWARE_INTERRUPT_STACK and
 * @ref CPU_HAS_HARDWARE_INTERRUPT_STACK should be set to TRUE. It is
 * possible that both are FALSE for a particular CPU. Although it
 * is unclear what that would imply about the interrupt processing
 * procedure on that CPU.
 *
 * Port Specific Information:
 *
 * XXX document implementation including references if appropriate
 */
#define CPU_HAS_HARDWARE_INTERRUPT_STACK TRUE
/**
 * Does RTEMS allocate a dedicated interrupt stack in the Interrupt Manager?
 *
 * If TRUE, then the memory is allocated during initialization.
 * If FALSE, then the memory is allocated during initialization.
 *
 * This should be TRUE is CPU_HAS_SOFTWARE_INTERRUPT_STACK is TRUE.
 *
 * Port Specific Information:
 *
 * XXX document implementation including references if appropriate
 */
#define CPU_ALLOCATE_INTERRUPT_STACK TRUE

```

Do the following steps to unify and simplify the initialization and interrupt stack support.

- 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.
- 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.

#### Comment 1

1. **Sebastian Huber**, Mon, 18 Jun 2018 06:30:48 GMT
2. **blocking**: set to **3433**

#### Comment 2

1. **Sebastian Huber**, Tue, 19 Jun 2018 13:27:08 GMT

In `b0c3ba2f/rtems`:

```

bsps: Remove superfluous bsp_processor_count

This is unused copy and paste stuff.

Update #3459.

```

#### Comment 3

1. **Sebastian Huber**, Wed, 20 Jun 2018 07:34:03 GMT

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.

#### Comment 4

1. **Sebastian Huber**, Fri, 22 Jun 2018 04:30:39 GMT



In cc3edaa/rtems:

config: SMP only CONFIGURE\_MAXIMUM\_PROCESSORS

Do not set the CONFIGURE\_MAXIMUM\_PROCESSORS in uni-processor default configuration, since this may lead to an oversize workspace.

Update #3459.

#### **Comment 5**

1. **Sebastian Huber**, Fri, 22 Jun 2018 04:30:49 GMT

In 8ff5916c/rtems:

stackchk: Remove dead code

Update #3459.

#### **Comment 6**

1. **Sebastian Huber**, Fri, 22 Jun 2018 04:31:00 GMT

In 1cb2e748/rtems:

stackchk: Refactor Stack\_check\_Dump\_threads\_usage

Update #3459.

#### **Comment 7**

1. **Sebastian Huber**, Fri, 22 Jun 2018 04:31:10 GMT

In c47ad8e/rtems:

stackchk: Add SMP support

Check the interrupt stacks of all processors. Set up the interrupt stack of the current processor for high water testing in the thread begin extension. This must be done after multi-threading started, since the initialization stacks may reuse the interrupt stacks. Disable thread dispatching in SMP configurations to prevent thread migration. Writing to the interrupt stack is only safe if done from the corresponding processor in thread context.

Update #3459.

#### **Comment 8**

1. **Sebastian Huber**, Fri, 22 Jun 2018 04:31:21 GMT

In fe46647e/rtems:

score: Macros to declare and define global symbols

Add RTEMS\_DEFINE\_GLOBAL\_SYMBOL() and add RTEMS\_DECLARE\_GLOBAL\_SYMBOL().

Update #3459.

#### **Comment 9**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:53:49 GMT

In c8df844/rtems:

score: Add CPU\_INTERRUPT\_STACK\_ALIGNMENT

Add CPU port define for the interrupt stack alignment. The alignment should take the stack ABI and the cache line size into account.

Update #3459.

#### **Comment 10**

1. **Sebastian Huber**, Fri, 29 Jun 2018 09:54:00 GMT

In 715d616/rtems:

bsps: Support .rtemsstack.\* linker input sections

Use a dedicated memory region or place it between the BSS and workspace.

Update #3459.

**Comment 11**1. **Sebastian Huber**, Fri, 29 Jun 2018 09:54:14 GMT

In 511dc4b/rtems:

Rework initialization and interrupt stack support

Statically initialize the interrupt stack area (`_Configuration_Interrupt_stack_area_begin`, `_Configuration_Interrupt_stack_area_end`, and `_Configuration_Interrupt_stack_size`) via `.`. Place the interrupt stack area in a special section `".rtemsstack.interrupt"`. Let BSPs define the optimal placement of this section in their linker command files (e.g. in a fast on-chip memory).

This change 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 change 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 (except the section placement), see previous ARM linker command file as a bad example.

Remove `_CPU_Install_interrupt_stack()`. Initialize the hardware interrupt stack in `_CPU_Initialize()` if necessary (e.g. `m68k_install_interrupt_stack()`).

The optional `_CPU_Interrupt_stack_setup()` is still useful to customize the registration of the interrupt stack area in the per-CPU information.

The initialization stack can reuse the interrupt stack, since interrupts are disabled during the sequential system initialization, and the `boot_card()` function does not return. This stack reuse saves memory.

Changes per architecture:

arm:  
 Mostly replace the linker symbol based configuration of stacks with the standard configuration via `CONFIGURE_INTERRUPT_STACK_SIZE`. The size of the FIQ, ABT and UND mode stack is still defined via linker symbols. These modes are rarely used in applications and the default values provided by the BSP should be sufficient in most cases. Remove the `bsp_processor_count` linker symbol hack used for the SMP support. This is possible since the interrupt stack area is now allocated by the linker and not allocated from the heap. This makes some `configure.ac` stuff obsolete. Remove the now superfluous BSP variants `altcycv_devkit_smp` and `realview_pbx_a9_qemu_smp`.

bfm:  
 Remove unused magic linker command file allocation of initialization stack. Maybe a previous linker command file copy and paste problem? In the start.S the initialization stack is set to a hard coded value. `lm32`, `m32c`, `mips`, `nios2`, `riscv`, `sh`, `v850`:  
 Remove magic linker command file allocation of initialization stack. Reuse interrupt stack for initialization stack.

m68k:  
 Remove magic linker command file allocation of initialization stack. Reuse interrupt stack for initialization stack.

powerpc:  
 Remove magic linker command file allocation of initialization stack. Reuse interrupt stack for initialization stack. Used dedicated memory region (`REGION RTEMSSTACK`) for the interrupt stack on BSPs using the shared `linkcmds.base` (replacement for `REGION RWEXTRA`).

sparc:  
 Remove the hard coded initialization stack. Use the interrupt stack for the initialization stack on the boot processor. This saves 16KiB of RAM.  
 Update #3459.

**Comment 12**1. **Sebastian Huber**, Tue, 03 Jul 2018 05:07:40 GMT

In 156b227/rtems-tools:

tester: Remove obsolete BSP variants  
 Update #3459.

**Comment 13**1. **Sebastian Huber**, Tue, 03 Jul 2018 05:12:58 GMT

In 25f4db0/rtems-source-builder:

5: Update tools to not build obsolete BSP variants  
 Update #3459.

**Comment 14**1. **Sebastian Huber**, Thu, 19 Jul 2018 05:38:20 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In efd581f/rtems-docs:

cpu-supplement: Update interrupt stack paragraph  
 Close #3459.

**Comment 15**1. **Sebastian Huber**, Tue, 31 Jul 2018 05:13:55 GMT

In 334e1d2/rtems:

confdefs: Fix uniprocessor configuration

Introduce a new internal define `_CONFIGURE_MAXIMUM_PROCESSORS` and ensure that it is `_CONFIGURE_MAXIMUM_PROCESSORS > 1` only in SMP configurations.

This avoids to allocate data structures for non-existing additional processors in uniprocessor configuration.

Update #3459.

**Comment 16**1. **Sebastian Huber**, Fri, 03 Aug 2018 11:04:49 GMT

In 42f9963d/rtems:

score: Remove superfluous semicolon

This avoids warnings like this:

warning: ISO C does not allow extra ';' outside of a function [-Wpedantic]

```
RTEMS_DECLARE_GLOBAL_SYMBOL( abc );
```

Update #3459.

**Comment 17**1. **Sebastian Huber**, Mon, 03 Sep 2018 05:03:42 GMT

In fad3f79b/rtems:

bsps: `BSP_INTERRUPT_STACK_AT_WORK_AREA_BEGIN`

Remove the `BSP_INTERRUPT_STACK_AT_WORK_AREA_BEGIN` hack. The interrupt stacks are now allocated by the linker.

Update #3459.

**Comment 18**1. **Sebastian Huber**, Thu, 06 Sep 2018 05:05:31 GMT

In 54d87f2/rtems:

bsps/powerpc: Simplify `ppc_exc_initialize()`

Remove parameters from `ppc_exc_initialize()` since all BSPs passed the same values.

Update #3459.

**Comment 19**1. **Sebastian Huber**, Fri, 21 Sep 2018 06:08:11 GMT

In 56e61e24/rtems:

Remove `INTERNAL_ERROR_INTERRUPT_STACK_TOO_SMALL`

The configured interrupt stack size (`CONFIGURE_INTERRUPT_STACK_SIZE`) is checked against the minimum task stack size. The minimum task stack size is also a configuration option (`CONFIGURE_MINIMUM_TASK_STACK_SIZE`). So, this check does not really help in case of configuration errors. In addition, the interrupt stack is also re-used as the initialization stack in most BSPs. It is probably better to use a stack checker to detect problems.

Update #3459.

**Comment 20**1. **Sebastian Huber**, Fri, 21 Sep 2018 06:08:34 GMT

In 4221d93/rtems:

stackchk: Improve support for interrupt stacks

Prepare the interrupt stack which may be used by the boot processor as initialization stack with the stack sanity pattern. Check the interrupt stack of the current processor in the thread begin and switch extension.

Update #3459.

#### **Comment 21**

1. **Sebastian Huber**, Mon, 24 Sep 2018 07:16:51 GMT

In 7d1acc03/rtems:

```
stackchk: Fix interrupt stack preparation
We have to prepare the interrupt stack of each processor.
Update #3459.
```

#### **Comment 22**

1. **Sebastian Huber**, Thu, 08 Nov 2018 07:11:03 GMT

In ff081aee/rtems:

```
score: Rename interrupt stack symbols
Rename
_Configuration_Interrupt_stack_area_begin in _ISR_Stack_area_begin,
_Configuration_Interrupt_stack_area_end in _ISR_Stack_area_end, and
_Configuration_Interrupt_stack_size in _ISR_Stack_size.
Move definitions to . The new names are considerable shorter and in the right namespace.
Update #3459.
```

#### **Comment 23**

1. **Sebastian Huber**, Wed, 14 Nov 2018 07:00:19 GMT

In 5f32da0/rtems:

```
bsp/or1k: Use interrupt stack for init stack
Update #3459.
```

#### **Comment 24**

1. **Sebastian Huber**, Wed, 14 Nov 2018 07:48:05 GMT

In a13b89b/rtems:

```
bsp/i386: Use interrupt stack for init stack
Update #3459.
```

#### **Comment 25**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:20:40 GMT

In cc61d5c/rtems:

```
bsps/m68k: Use interrupt stack for init stack
Update #3459.
```

#### **Comment 26**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:20:49 GMT

In 84e59b7c/rtems:

```
bsps/powerpc: Use interrupt stack for init stack
Move start.o to separate file.
Update #3459.
```

#### **Comment 27**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:20:57 GMT

In 508f319e/rtems:

bsps/mips: Use interrupt stack for init stack

Update #3459.

#### **Comment 28**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:21:05 GMT

In a74ee417/rtems:

bsps/bfin: Use interrupt stack for init stack

Update #3459.

#### **Comment 29**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:21:13 GMT

In 0ce6bf3/rtems:

bsps/epiphany: Use interrupt stack for init stack

Update #3459.

#### **Comment 30**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:21:22 GMT

In 5f5bbd1/rtems:

bsps/x86\_64: Use interrupt stack for init stack

Update #3459.

#### **Comment 31**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:21:30 GMT

In 0989001/rtems:

bsps/sparc64: Use interrupt stack for init stack

Update #3459.

#### **Comment 32**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:21:37 GMT

In 38f81bfc/rtems:

bsps/nios2: Use interrupt stack for init stack

Update #3459.

#### **Comment 33**

1. **Sebastian Huber**, Mon, 19 Nov 2018 06:21:45 GMT

In 0a6a4ddb/rtems:

bsps/moxie: Use interrupt stack for init stack

Update #3459.

#### **Comment 34**

1. **Sebastian Huber**, Mon, 21 Jan 2019 08:18:34 GMT

In 95c1921/rtems:

bsps/arm: Remove unused bsp\_stack\_irq\_size

**Comment 35**

1. **Sebastian Huber**, Fri, 15 Mar 2019 06:34:26 GMT

In 9e48958/rtems:

```
bsps/powerpc: Initialize stack earlier
The eabi() call may use the stack.
Update #3459.
```

**Comment 36**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords: qualification** added

**3460 - GDB 8 SIS LEON2 LEON3 Patches**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3460">https://devel.rtems.org/ticket/3460</a> ( <a href="https://devel.rtems.org/ticket/3460">https://devel.rtems.org/ticket/3460</a> )
<b>Id</b>	3460
<b>Reporter</b>	Chris Johns
<b>Created</b>	19 June 2018 00:18:39
<b>Modified</b>	8 February 2019 09:23:44
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	leon2 leon3 sis gdb
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Jiri patch for gdb-8.0.1.

**Attachments:**

1. **Chris Johns, Tue, 19 Jun 2018 00:19:51 GMT**  
**attach:** set to [gdb-8.0.1-sis-leon2-leon3.diff](https://devel.rtems.org/ticket/3460/gdb-8.0.1-sis-leon2-leon3.diff) (<https://devel.rtems.org/ticket/3460/gdb-8.0.1-sis-leon2-leon3.diff>)
2. **Sebastian Huber, Mon, 17 Dec 2018 06:20:50 GMT**  
**attach:** set to [gdb-8.0.1-sis-leon3-smp.diff](https://devel.rtems.org/ticket/3460/gdb-8.0.1-sis-leon3-smp.diff) (<https://devel.rtems.org/ticket/3460/gdb-8.0.1-sis-leon3-smp.diff>)
3. **Chris Johns, Tue, 05 Feb 2019 04:19:58 GMT**  
**attach:** set to [gdb-8.2.1-sis-2.11.patch.bz2](https://devel.rtems.org/ticket/3460/gdb-8.2.1-sis-2.11.patch.bz2) (<https://devel.rtems.org/ticket/3460/gdb-8.2.1-sis-2.11.patch.bz2>)
4. **Chris Johns, Tue, 05 Feb 2019 04:20:30 GMT**  
**attach:** set to [gdb-8.2.1-riscv-config.patch](https://devel.rtems.org/ticket/3460/gdb-8.2.1-riscv-config.patch) (<https://devel.rtems.org/ticket/3460/gdb-8.2.1-riscv-config.patch>)
5. **Sebastian Huber, Fri, 08 Feb 2019 09:21:36 GMT**  
**attach:** set to [gdb-8.2.1-sis-2.12.patch](https://devel.rtems.org/ticket/3460/gdb-8.2.1-sis-2.12.patch) (<https://devel.rtems.org/ticket/3460/gdb-8.2.1-sis-2.12.patch>)
6. **Jiri Gaisler, Sun, 03 Mar 2019 08:54:25 GMT**  
**attach:** set to [gdb-8.2.1-sis-2.13.patch](https://devel.rtems.org/ticket/3460/gdb-8.2.1-sis-2.13.patch) (<https://devel.rtems.org/ticket/3460/gdb-8.2.1-sis-2.13.patch>)
7. **Jiri Gaisler, Thu, 08 Aug 2019 20:17:36 GMT**  
**attach:** set to [gdb-8.2.1-disable-sis.patch](https://devel.rtems.org/ticket/3460/gdb-8.2.1-disable-sis.patch) (<https://devel.rtems.org/ticket/3460/gdb-8.2.1-disable-sis.patch>)

**Comment 1**

1. **Chris Johns**, Tue, 19 Jun 2018 23:38:28 GMT

In c571517/rtems-source-builder:

```
gdb: Add a gdb-common configuration and have gdb-7-1 include it.
Updates #3460
```

**Comment 2**

1. **Chris Johns**, Tue, 19 Jun 2018 23:38:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In ea6a042/rtems-source-builder:

gdb: Download the gdb-8.0.1-sis-leon2-leon3 patch from an RTEMS ticket  
Closes #3460

#### Comment 3

1. **Sebastian Huber**, Mon, 17 Dec 2018 06:21:14 GMT
2. **summary**: changed from **GDB 8 SIS LEON2 LEON3 Patch** to **GDB 8 SIS LEON2 LEON3 Patches**
3. **version**: set to **5**
4. **milestone**: set to **5.1**

#### Comment 4

1. **Jiri Gaisler**, Mon, 17 Dec 2018 07:17:39 GMT

In 96673d7/rtems-source-builder:

5: Add SMP support to SIS  
Update #3460.

#### Comment 5

1. **Jiri Gaisler**, Mon, 17 Dec 2018 07:21:41 GMT

In 820eba4/rtems-tools:

tester: Run leon3-sis with four processors  
Update #3460.

#### Comment 6

1. **Sebastian Huber**, Fri, 08 Feb 2019 09:23:44 GMT

In ee40e0b/rtems-source-builder:

5: Add GDB SIS patch  
Update #3460.

---

## **3461 - Canadian cross compilation of RTEMS tools not supported for x86\_64-w64-mingw32**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3461">https://devel.rtems.org/ticket/3461</a> ( <a href="https://devel.rtems.org/ticket/3461">https://devel.rtems.org/ticket/3461</a> )
<b>Id</b>	3461
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 June 2018 10:12:15
<b>Modified</b>	19 June 2018 10:22:54
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

#### Comment 1

1. **Sebastian Huber**, Tue, 19 Jun 2018 10:13:48 GMT

In 2149755/rtems-source-builder:

Fix CXC compilation of RTEMS tools  
Update #3461.

### Comment 2

1. **Sebastian Huber**, Tue, 19 Jun 2018 10:17:47 GMT

In 845054a/rtems-tools:

Fix CXC build for x86-w64-mingw32  
Update #3461.

### Comment 3

1. **Sebastian Huber**, Tue, 19 Jun 2018 10:22:54 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9e95b79/rtems-source-builder:

5: Update tools for CXC x86\_64-w32-mingw32 support  
Close #3461.

---

## **3463 - Convert covoar to use DWARF function data**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3463">https://devel.rtems.org/ticket/3463</a> ( <a href="https://devel.rtems.org/ticket/3463">https://devel.rtems.org/ticket/3463</a> )
<b>Id</b>	3463
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 June 2018 07:46:46
<b>Modified</b>	14 October 2018 01:07:48
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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.

### Comment 1

1. **Chris Johns**, Sun, 14 Oct 2018 01:07:48 GMT
  2. **status:** changed from **new** to **closed**
  3. **resolution:** set to **fixed**
- 

## **3465 - Integrate all changes from Linux v3.11 to v4.17 made in the JFFS2 sources**



<b>Link</b>	<a href="https://devel.rtems.org/ticket/3465">https://devel.rtems.org/ticket/3465</a> ( <a href="https://devel.rtems.org/ticket/3465">https://devel.rtems.org/ticket/3465</a> )
<b>Id</b>	3465
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 July 2018 05:40:49
<b>Modified</b>	8 October 2018 05:16:02
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	fs/jffs2
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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:

```
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:

```
sed -i 's%/fs/jffs2%/cpukit/libfs/src/jffs2/src%g' 00*
```

To support the first commit:

```
From e8bbeeb755a077cfc0f814b07739f9225642d65c Mon Sep 17 00:00:00 2001
From: Cody P Schafer
Date: Thu, 23 Jan 2014 15:56:11 -0800
Subject: [PATCH 01/24] fs/jffs2: use rbtree postorder iteration helper instead
of opencoding
Use rbtree_postorder_for_each_entry_safe() to destroy the rbtree instead
of opencoding an alternate postorder iteration that modifies the tree
Signed-off-by: Cody P Schafer
Cc: Michel Lespinasse
Cc: Jan Kara
Cc: David Woodhouse
Signed-off-by: Andrew Morton
Signed-off-by: Linus Torvalds
```

we have to a postorder iterator to the red-black tree support code.

The remaining 23 patches are easy to apply.

## Comment 1

1. **Sebastian Huber**, Mon, 16 Jul 2018 05:54:17 GMT

In 6539bea/rtems:

```
score: Add postorder tree iteration support
Update #3465.
```

## Comment 2

1. **Sebastian Huber**, Mon, 16 Jul 2018 05:58:13 GMT

In 877aeab/rtems:

```
linux: Install
This makes it possible to test this API.
Update #3465.
```

## Comment 3

1. **Sebastian Huber**, Mon, 16 Jul 2018 06:02:08 GMT

In 0cb4257/rtems:

```
linux: Simplify
Remove the placeholder struct rb_node and use RBTree_Node directly via some C pre-processor defines to adjust the member names.
Update #3465.
```

## Comment 4

1. **Sebastian Huber**, Mon, 16 Jul 2018 06:06:03 GMT

In 22d9575/rtems:

```
linux: Add rbtree_postorder_for_each_entry_safe()
Update #3465.
```

#### **Comment 5**

1. **Sebastian Huber**, Mon, 16 Jul 2018 06:51:28 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 00a19d6/rtems:

```
jffs2: Add README
Add README to document the corresponding Linux version and the update procedure.
Close #3465.
```

#### **Comment 6**

1. **Sebastian Huber**, Thu, 19 Jul 2018 05:12:49 GMT

In b4f15d8/rtems:

```
jffs2: Rename README to VERSION
This makes it easier to find files describing an upstream version, e.g. via "find -name VERSION".
Update #3465.
```

#### **Comment 7**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:16:02 GMT

In 4a7c6867/rtems:

```
Fix rbtree_postorder_for_each_entry_safe()
Use the non-standard typeof operator to avoid code generation errors with clang and use of uninitialized variable warnings with GCC and Coverity Scan.
Update #3465.
```

---

## **3471 - Update libfdt as of date 2018-07-09**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3471">https://devel.rtems.org/ticket/3471</a> ( <a href="https://devel.rtems.org/ticket/3471">https://devel.rtems.org/ticket/3471</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	18 July 2018 07:30:59
<b>Modified</b>	19 July 2018 05:07:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

The initial import of libfdt was in 2015. Update it to the version as of date 2018-07-09.

#### **Comment 1**

1. **Sebastian Huber**, Thu, 19 Jul 2018 05:07:26 GMT
2. **description:** modified (diff)
3. **summary:** changed from **Update libfdt to latest version** to **Update libfdt as of date 2018-07-09**

**Comment 2**

1. **Sebastian Huber**, Thu, 19 Jul 2018 05:07:52 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 2af004e/rtems:

dtc: Add VERSION file  
Close #3471.

**3472 - Update of libbsd to a version close to the FreeBSD 12 release**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3472">https://devel.rtems.org/ticket/3472</a> ( <a href="https://devel.rtems.org/ticket/3472">https://devel.rtems.org/ticket/3472</a> )
<b>Id</b>	3472
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 July 2018 05:20:30
<b>Modified</b>	24 January 2019 06:35:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3507, 3508

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 19 Jul 2018 05:28:07 GMT
2. **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**

**Comment 2**

1. **Sebastian Huber**, Wed, 08 Aug 2018 06:50:24 GMT

In 71948f76/rtems:

sys/event.h: Update version FreeBSD tag  
Update #3472.

**Comment 3**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:16:12 GMT

In b8eae140/rtems:

Add dummy PRI\_MIN\_KERN to  
Update #3472.

**Comment 4**

1. **Sebastian Huber**, Thu, 23 Aug 2018 12:39:04 GMT

In a36aa86/rtems:

Add dummy PI\_SOFT to  
Update #3472.

**Comment 5**

1. **Sebastian Huber**, Fri, 24 Aug 2018 07:08:28 GMT

In 6695d02/rtems:

Update FreeBSD kernel timespec support

This change is based on the following FreeBSD commit:

"Make timespecadd(3) and friends public

The timespecadd(3) family of macros were imported from NetBSD back in r35029. However, they were initially guarded by #ifdef \_KERNEL. In the meantime, we have grown at least 28 syscalls that use timespecs in some way, leading many programs both inside and outside of the base system to redefine those macros. It's better just to make the definitions public.

Our kernel currently defines two-argument versions of timespecadd and timespecsub. NetBSD, OpenBSD, and FreeDesktop?.org's libbsd, however, define three-argument versions. Solaris also defines a three-argument version, but only in its kernel. This revision changes our definition to match the common three-argument version.

Bump \_FreeBSD\_version due to the breaking KPI change.

Discussed with: cem, jilles, ian, bde Differential Revision: <https://reviews.freebsd.org/D14725>"

To make the change public (outside #ifdef \_KERNEL) it must be integrated in Newlib.

Update #3472.

**Comment 6**

1. **Sebastian Huber**, Fri, 24 Aug 2018 07:37:03 GMT

In f62c62d/rtems-libbsd:

Update rtems-bsd-kernel-namespace.h

Update #3472.

**Comment 7**

1. **Sebastian Huber**, Mon, 27 Aug 2018 05:41:55 GMT

In 27c89d7/rtems:

Add FreeBSD kernel space header files

Move the kernel space content of some Newlib provided header files to RTEMS and libbsd. This allows to use the Newlib provided header files with different FreeBSD baselines.

Update #3472.

**Comment 8**

1. **Sebastian Huber**, Mon, 27 Aug 2018 05:42:05 GMT

In 6d70a11/rtems:

Include in

The FreeBSD kernel started to use the bool type.

Update #3472.

**Comment 9**

1. **Sebastian Huber**, Mon, 27 Aug 2018 05:45:56 GMT

In 63084c1/rtems-libbsd:

IPFW(4): Remove FreeBSD import

This firewall was not ported to RTEMS and is just dead code which may make trouble during FreeBSD baseline updates. It also increased the compile-time of the library for nothing.

Update #3472.

**Comment 10**

1. **Sebastian Huber**, Mon, 27 Aug 2018 05:46:04 GMT

In ee738dd/rtems-libbsd:

WPA\_SUPPLICANT(8): Remove unused files

Remove unused files which may make trouble during FreeBSD baseline updates. It also increased the compile-time of the library for nothing.

Update #3472.

#### Comment 11

1. **Sebastian Huber**, Mon, 27 Aug 2018 05:46:12 GMT

In 4c22b5c/rtems-libbsd:

Add FreeBSD kernel space header files

Move the kernel space content of some Newlib provided header files to RTEMS and libbsd. This allows to use the Newlib provided header files with different FreeBSD baselines.

Update #3472.

#### Comment 12

1. **Sebastian Huber**, Mon, 27 Aug 2018 05:46:19 GMT

In dd60daa/rtems-libbsd:

Allow \*.c as kernel space header files

This is a workaround for the FreeBSD kernel space source file

```
sys/opencrypto/xform.c
```

which includes a bunch of \*.c files.

Update #3472.

#### Comment 13

1. **Sebastian Huber**, Tue, 28 Aug 2018 05:13:25 GMT

In 0230202/rtems-source-builder:

5: Update Newlib

Pick up POSIX header file changes for an upcoming FreeBSD baseline update in libbsd.

Update #3472. Close #3491.

#### Comment 14

1. **Sebastian Huber**, Tue, 28 Aug 2018 06:06:30 GMT

2. **blockedby:** set to **3507**

#### Comment 15

1. **Sebastian Huber**, Tue, 28 Aug 2018 07:41:50 GMT

In 100e66f/rtems-libbsd:

kvaddr\_t is now provided by

Update #3472.

#### Comment 16

1. **Sebastian Huber**, Wed, 29 Aug 2018 12:24:14 GMT

2. **blockedby:** changed from **3507** to **3507, 3508**

#### Comment 17

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:37:39 GMT

In e58f1cd3/rtems:

Add more dummy values to

Update #3472.

#### Comment 18

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:36:41 GMT

In ab4fe11/rtems-libbsd:

```
CONTRIBUTING.md: Avoid explicit commit numbers
Update #3472.
```

#### **Comment 19**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:36:48 GMT

In 2707771/rtems-libbsd:

```
libbsd.txt: Avoid explicit versions
Update #3472.
```

#### **Comment 20**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:37:13 GMT

In de261e0/rtems-libbsd:

```
Update to FreeBSD head 2017-06-01
Git mirror commit dfb26efac4ce9101dda240e94d9ab53f80a9e131.
Update #3472.
```

#### **Comment 21**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:37:23 GMT

In c37f9fb/rtems-libbsd:

```
Update to FreeBSD head 2017-08-01
Git mirror commit f5002f5e5f78cae9f0269d812dc0aedb0339312c.
Update #3472.
```

#### **Comment 22**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:37:32 GMT

In e4a8065/rtems-libbsd:

```
Update to FreeBSD head 2017-10-01
Git mirror commit b2f0376b45428f13151d229c5ae9d4d8f74acbd1.
Update #3472.
```

#### **Comment 23**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:37:46 GMT

In bb80d9d/rtems-libbsd:

```
Update to FreeBSD head 2017-12-01
Git mirror commit e724f51f811a4b2bd29447f8b85ab5c2f9b88266.
Update #3472.
```

#### **Comment 24**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:37:57 GMT

In 18fa92c/rtems-libbsd:

```
Update to FreeBSD head 2018-02-01
Git mirror commit d079ae0442af8fa3cfd6d7ede190d04e64a2c0d4.
Update #3472.
```

**Comment 25**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:38:07 GMT

In 2df56db/rtems-libbsd:

```
Update to FreeBSD head 2018-04-01
Git mirror commit 8dfb1ccc26d1cea7e2529303003ff61f9f1784c4.
Update #3472.
```

**Comment 26**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:38:20 GMT

In bcdce02/rtems-libbsd:

```
Update to FreeBSD head 2018-06-01
Git mirror commit fb63610a69b0eb7f69a201ba05c4c1a7a2739cf9.
Update #3472.
```

**Comment 27**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:38:28 GMT

In baf1ca7/rtems-libbsd:

```
ck: Use atomic built-ins
Update #3472.
```

**Comment 28**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:38:35 GMT

In 3becda1/rtems-libbsd:

```
ck: Define CK_MD_PPC32_LWSYNC if available
This is option has a huge performance impact.
Update #3472.
```

**Comment 29**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:38:50 GMT

In 3489e3b/rtems-libbsd:

```
Update to FreeBSD head 2018-09-17
Git mirror commit 6c2192blef8c50788c751f878552526800ble319.
Update #3472.
```

**Comment 30**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:38:58 GMT

In 1af372a/rtems-libbsd:

```
ck: No hardware barriers in uniprocessor configs
Update #3472.
```

**Comment 31**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:39:06 GMT

In be6515d/rtems-libbsd:

```
ck: Use relaxed memory order if possible
In uniprocessor configurations we can use a relaxed memory order and compiler memory barriers should be sufficient.
Update #3472.
```

**Comment 32**

1. **Sebastian Huber**, Mon, 24 Sep 2018 06:01:50 GMT

In 7aba2a4/rtems-libbsd:

ck: Install header files  
Update #3472.

**Comment 33**

1. **Sebastian Huber**, Thu, 13 Dec 2018 10:34:48 GMT

In f80abf0/rtems-source-builder:

5: Update Newlib  
Pick up updates from FreeBSD.  
Update #3472.

**Comment 34**

1. **Sebastian Huber**, Fri, 21 Dec 2018 11:04:36 GMT

In 78dc8cd/rtems-source-builder:

5: Update Newlib  
Pick up FreeBSD compatibility improvements.  
Update #3472.

**Comment 35**

1. **Sebastian Huber**, Thu, 24 Jan 2019 06:35:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

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.

---

**3475 - Add RTEMS\_PREDICT\_TRUE() and RTEMS\_PREDICT\_FALSE() for static branch prediction hints**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3475">https://devel.rtems.org/ticket/3475</a> ( <a href="https://devel.rtems.org/ticket/3475">https://devel.rtems.org/ticket/3475</a> )
<b>Id</b>	3475
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 July 2018 06:51:56
<b>Modified</b>	25 July 2018 08:10:04
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Add macros to 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.

**Comment 1**

1. **Sebastian Huber**, Tue, 24 Jul 2018 06:52:30 GMT
2. **description**: modified (diff)

**Comment 2**



1. **Sebastian Huber**, Wed, 25 Jul 2018 08:10:04 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In a1f7d7d/rtems:

```
score: RTEMS_PREDICT_TRUE(), RTEMS_PREDICT_FALSE()
Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch prediction hints.
Close #3475.
```

## **3478 - RISCv BSP Tester Cleanup Needed**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3478">https://devel.rtems.org/ticket/3478</a> ( <a href="https://devel.rtems.org/ticket/3478">https://devel.rtems.org/ticket/3478</a> )
<b>Id</b>	3478
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	25 July 2018 23:30:21
<b>Modified</b>	24 August 2018 05:14:07
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

rtems-tools currently has the following bsp testing configurations:

```
$ find . -name "**riscv*.ini"
./tester/rtems/rtems-bsps-riscv64.ini
./tester/rtems/testing/bsps/riscv64_generic.ini
./tester/rtems/testing/bsps/riscv_generic.ini
./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

### **Comment 1**

1. **Joel Sherrill**, Wed, 25 Jul 2018 23:30:37 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

### **Comment 2**

1. **Sebastian Huber**, Fri, 24 Aug 2018 05:14:07 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Fixed by #3433.

## **3480 - CONFIGURE\_MINIMUM\_TASK\_STACK\_SIZE may affect CONFIGURE\_INTERRUPT\_STACK\_SIZE**

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3480">https://devel.rtems.org/ticket/3480</a> ( <a href="https://devel.rtems.org/ticket/3480">https://devel.rtems.org/ticket/3480</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	30 July 2018 05:55:31
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

In case an application defines `CONFIGURE_MINIMUM_TASK_STACK_SIZE`, then this may change the `CONFIGURE_INTERRUPT_STACK_SIZE` as well:

```
#ifndef CONFIGURE_INTERRUPT_STACK_SIZE
#define BSP_INTERRUPT_STACK_SIZE
#define CONFIGURE_INTERRUPT_STACK_SIZE BSP_INTERRUPT_STACK_SIZE
#else
#define CONFIGURE_INTERRUPT_STACK_SIZE CONFIGURE_MINIMUM_TASK_STACK_SIZE
#endif
#endif
```

I think this is not what a user expects.

### Comment 1

1. **Sebastian Huber**, Mon, 30 Jul 2018 05:57:30 GMT

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.

### Comment 2

1. **Sebastian Huber**, Mon, 30 Jul 2018 05:58:03 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

### Comment 3

1. **Sebastian Huber**, Wed, 24 Oct 2018 05:03:10 GMT

In 05a5366/rtems-docs:

```
c-user: Modify CONFIGURE_INTERRUPT_STACK_SIZE
Use CPU_STACK_MINIMUM_SIZE instead of CONFIGURE_MINIMUM_TASK_STACK_SIZE to set the default value.
Clarify documentation.
Update #3480.
```

### Comment 4

1. **Sebastian Huber**, Thu, 25 Oct 2018 04:43:01 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 24b5807/rtems:

```
config: Modify CONFIGURE_INTERRUPT_STACK_SIZE
Use CPU_STACK_MINIMUM_SIZE instead of CONFIGURE_MINIMUM_TASK_STACK_SIZE to set the default value.
Close #3480.
```

### Comment 5

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords**: **qualification** added
-

**3482 - Relax the buffer alignment required by rtems\_partition\_create()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3482">https://devel.rtems.org/ticket/3482</a> ( <a href="https://devel.rtems.org/ticket/3482">https://devel.rtems.org/ticket/3482</a> )
<b>Id</b>	3482
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 August 2018 12:37:58
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Buffer alignment required by rtems\_partition\_create() is too strict since it is checked via \_Addresses\_Is\_aligned() which is

```
RTEMS_INLINE_ROUTINE bool _Addresses_Is_aligned (
  const void* address
)
{
  #if (CPU_ALIGNMENT == 0)
    return true;
  #else
    return (((uintptr_t)address % CPU_ALIGNMENT) == 0);
  #endif
}
```

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?

**Comment 1**

1. **Sebastian Huber**, Fri, 03 Aug 2018 11:04:28 GMT

In 27bbc05/rtems:

```
score: Remove CPU_PARTITION_ALIGNMENT

Use the CPU_SIZEOF_POINTER alignment instead. The internal alignment requirement is defined by the use of Chain_Node (consisting of two pointers) to manage the free chain of partitions.

It seems that previously the condition
```

```
CPU_PARTITION_ALIGNMENT >= sizeof(Chain_Node)
```

was true on all CPU ports. Now, we need an additional check.

Update #3482.

**Comment 2**

1. **Sebastian Huber**, Fri, 03 Aug 2018 11:04:38 GMT

In 83ca9f0a/rtems:

```
rtems: Relax partition buffer area alignment

The partition buffer area alignment required by rtems_partition_create() was too strict since it was checked via _Addresses_Is_aligned() which uses CPU_ALIGNMENT. The CPU_ALIGNMENT must take long double and vector data type alignment requirements into account. For the partition maintenance only pointer alignment is required (Chain_Node, which consists of two pointers). The user should ensure that its partition buffer area 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?
```

Update #3482.

**Comment 3**

1. **Sebastian Huber**, Mon, 06 Aug 2018 06:04:50 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In a0e6488/rtems-docs:

```
c-user: Update partition create documentation
```

Add an example.

Close #3482.

**Comment 4**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords:** **qualification** added
- 

**3484 - RFS: Remove stray call of `rtems_disk_release()` in `rtems_rfs_buffer_sync()`**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3484">https://devel.rtems.org/ticket/3484</a> ( <a href="https://devel.rtems.org/ticket/3484">https://devel.rtems.org/ticket/3484</a> )
<b>Id</b>	3484
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 August 2018 06:10:16
<b>Modified</b>	10 August 2018 04:55:38
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	fs/rfs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3494, 3495
<b>Blocked by</b>	

---

**Description**

The function `rtems_rfs_buffer_sync()` erroneously calls `rtems_disk_release()`. This screws up the reference counting of the disk.

**Comment 1**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:24:56 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**
4. **version:** changed from **4.10** to **5**
5. **milestone:** changed from **4.10.3** to **5.1**

**Comment 2**

1. **Sebastian Huber**, Tue, 07 Aug 2018 05:40:10 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In d56e68b/rtems:

```
rfs: Remove erroneous call of rtems_disk_release()
```

```
The function rtems_rfs_buffer_sync() erroneously calls rtems_disk_release(). This screws up the reference counting of the disk.
```

```
Close #3484.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 10 Aug 2018 04:54:58 GMT
2. **blocking:** set to **3494**

**Comment 4**

1. **Sebastian Huber**, Fri, 10 Aug 2018 04:55:38 GMT
  2. **blocking:** changed from **3494** to **3494, 3495**
- 

**3486 - Use `uintptr_t` and `size_t` instead of `uint32_t` in `rtems_partition_create()`**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3486">https://devel.rtems.org/ticket/3486</a> ( <a href="https://devel.rtems.org/ticket/3486">https://devel.rtems.org/ticket/3486</a> )
<b>Id</b>	3486
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 August 2018 08:42:31
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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)`.

**Comment 1**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:17:59 GMT

In 66cb142/rtems:

```
rtems: Parameter types in rtems_partition_create()
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).
Update #3486.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:18:10 GMT

In b2de426/rtems:

```
score: Fix _Addresses_Subtract()
Use architecture-specific integer type for an address difference.
Update #3486.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:20:18 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 0c4f2be/rtems-docs:

```
c-user: Adjust integer types in partition create
Close #3486.
```

**Comment 4**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords:** **qualification** added
- 

**3488 - Remove CONFIGURE\_HAS\_OWN\_MOUNT\_TABLE**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3488">https://devel.rtems.org/ticket/3488</a> ( <a href="https://devel.rtems.org/ticket/3488">https://devel.rtems.org/ticket/3488</a> )
<b>Id</b>	3488
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 August 2018 07:10:12
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:52:32 GMT

In 5fa0a1f6/rtems:

```
config: Remove CONFIGURE_HAS_OWN_MOUNT_TABLE
```

```
RTEMS had the configuration option CONFIGURE_HAS_OWN_MOUNT_TABLE since
This configuration option was broken since RTEMS 4.11. Remove
this broken configuration option.
```

```
Update #3488.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:53:13 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 11040cf/rtems-docs:

```
c-user: Remove CONFIGURE_HAS_OWN_MOUNT_TABLE
```

```
Close #3488.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords:** **qualification** added
- 

**3489 - Obsolete CONFIGURE\_HAS\_OWN\_CONFIGURATION\_TABLE**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3489">https://devel.rtems.org/ticket/3489</a> ( <a href="https://devel.rtems.org/ticket/3489">https://devel.rtems.org/ticket/3489</a> )
<b>Id</b>	3489
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 August 2018 07:13:06
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3490
<b>Blocked by</b>	

---

**Description**

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 08 Aug 2018 07:14:19 GMT
2. **blocking**: set to **3490**

#### Comment 2

1. **Chris Johns**, Wed, 08 Aug 2018 07:28:53 GMT
- 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?

#### Comment 3

1. **Sebastian Huber**, Wed, 08 Aug 2018 07:30:23 GMT
- 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.

#### Comment 4

1. **Sebastian Huber**, Wed, 08 Aug 2018 07:31:47 GMT

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).

#### Comment 5

1. **Chris Johns**, Wed, 08 Aug 2018 07:37:57 GMT

Thank you. Anyone interested can now see the reason.

#### Comment 6

1. **Sebastian Huber**, Wed, 08 Aug 2018 07:41:30 GMT

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>

#### Comment 7

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:52:44 GMT

In 68f339b6/rtems:

```
Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
```

```
The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes.
```

```
Update #3489. Update #3490.
```

#### Comment 8

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:53:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In cec2f2c/rtems-docs:

```
Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
```

```
Close #3489. Close #3490.
```

#### Comment 9

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

**3490 - Remove CONFIGURE\_HAS\_OWN\_CONFIGURATION\_TABLE**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3490">https://devel.rtems.org/ticket/3490</a> ( <a href="https://devel.rtems.org/ticket/3490">https://devel.rtems.org/ticket/3490</a> )
<b>Id</b>	3490
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 August 2018 07:14:19
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3489, 3735

---

**Description**

This configuration option was obsoleted in RTEMS 5.1.

**Comment 1**

1. **Joel Sherrill**, Wed, 08 Aug 2018 13:42:38 GMT

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.

**Comment 2**

1. **Sebastian Huber**, Thu, 06 Sep 2018 05:14:46 GMT
2. **version**: changed from **6** to **5**
3. **milestone**: changed from **6.1** to **5.1**

**Comment 3**

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:52:44 GMT

In 68f339b6/rtems:

```
Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
```

```
The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes.
```

```
Update #3489. Update #3490.
```

**Comment 4**

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:53:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In cec2f2c/rtems-docs:

```
Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
```

```
Close #3489. Close #3490.
```

**Comment 5**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:59:10 GMT
2. **blockedby**: changed from **3489** to **3489, 3735**

**Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added



**3491 - Align mprotect() prototype with POSIX**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3491">https://devel.rtems.org/ticket/3491</a> ( <a href="https://devel.rtems.org/ticket/3491">https://devel.rtems.org/ticket/3491</a> )
<b>Id</b>	3491
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 August 2018 09:16:59
<b>Modified</b>	28 August 2018 05:13:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The correct prototype is:

```
int mprotect(void *, size_t, int);
```

**Comment 1**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:15:40 GMT

In aac36d15/rtems:

```
posix: Add configure check for mprotect()
Update #3491.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 28 Aug 2018 05:13:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0230202/rtems-source-builder:

```
5: Update Newlib
Pick up POSIX header file changes for an upcoming FreeBSD baseline update in libbsd.
Update #3472. Close #3491.
```

**3496 - Remove superfluous interrupt enable in \_Thread\_Dispatch\_enable()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3496">https://devel.rtems.org/ticket/3496</a> ( <a href="https://devel.rtems.org/ticket/3496">https://devel.rtems.org/ticket/3496</a> )
<b>Id</b>	3496
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 August 2018 05:08:18
<b>Modified</b>	20 August 2018 06:37:24
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3497
<b>Blocked by</b>	

---

**Description**

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.

```

RTEMS_INLINE_ROUTINE void _Thread_Dispatch_enable( Per_CPU_Control *cpu_self )
{
    uint32_t disable_level = cpu_self->thread_dispatch_disable_level;
    if ( disable_level == 1 ) {
        ISR_Level level;
        ISR_Local_disable( level );
        if (
            cpu_self->dispatch_necessary
#ifdef RTEMS_SCORE_ROBUST_THREAD_DISPATCH
            || !_ISR_Is_enabled( level )
#endif
        ) {
            _Thread_Do_dispatch( cpu_self, level ); <-- This function enabled interrupts
        } else {
            cpu_self->thread_dispatch_disable_level = 0;
            _Profiling_Thread_dispatch_enable( cpu_self, 0 );
        }
        ISR_Local_enable( level ); <-- Here we enable it again
    } else {
        Assert( disable_level > 0 );
        cpu_self->thread_dispatch_disable_level = disable_level - 1;
    }
}

```

**Comment 1**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:09:03 GMT
2. **blocking**: set to **3497**

**Comment 2**

1. **Sebastian Huber**, Fri, 10 Aug 2018 05:09:33 GMT
2. **component**: changed from **admin** to **score**

**Comment 3**

1. **Sebastian Huber**, Mon, 20 Aug 2018 06:37:24 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d14f934/rtems:

```
score: Fix ISR enable in _Thread_Dispatch_enable()
```

This bug had probably no effect since the interrupt enable is idempotent on all CPU ports.

Close #3496.

**3498 - Command and Variable Index is empty**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3498">https://devel.rtems.org/ticket/3498</a> ( <a href="https://devel.rtems.org/ticket/3498">https://devel.rtems.org/ticket/3498</a> )
<b>Id</b>	3498
<b>Reporter</b>	Jens Schweikhardt
<b>Created</b>	10 August 2018 07:23:11
<b>Modified</b>	20 August 2018 06:27:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 10 Aug 2018 07:28:50 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**
4. **version**: set to **5**
5. **milestone**: set to **5.1**

**Comment 2**

1. **Sebastian Huber**, Mon, 20 Aug 2018 06:27:25 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 762b8d7/rtems-docs:

```
cpu-supplement: Remove empty command/vars chapter
Close #3498.
```

---

**3499 - The "Index" chapter is empty**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3499">https://devel.rtems.org/ticket/3499</a> ( <a href="https://devel.rtems.org/ticket/3499">https://devel.rtems.org/ticket/3499</a> )
<b>Id</b>	3499
<b>Reporter</b>	Jens Schweikhardt
<b>Created</b>	10 August 2018 07:26:57
<b>Modified</b>	20 August 2018 06:27:38
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 10 Aug 2018 07:36:55 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**
4. **version**: set to **5**
5. **milestone**: set to **5.1**

Due to the hierarchical structure of this document I think an index is not necessary. There is also probably nobody available to write one.

**Comment 2**

1. **Sebastian Huber**, Mon, 20 Aug 2018 06:27:38 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 67195aa/rtems-docs:

```
cpu-supplement: Remove empty index
Due to the hierarchical structure an index is not absolutely necessary and an empty index is not helpful. The document sources contain no
index directives.
Close #3499.
```

---

**3500 - Change rtems\_waf's RTEMS path check from bin to share/rtems`**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3500">https://devel.rtems.org/ticket/3500</a> ( <a href="https://devel.rtems.org/ticket/3500">https://devel.rtems.org/ticket/3500</a> )
<b>Id</b>	3500
<b>Reporter</b>	Chris Johns
<b>Created</b>	12 August 2018 01:14:11
<b>Modified</b>	12 August 2018 01:59:21
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	rtems_waf libbsd
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Chris Johns**, Sun, 12 Aug 2018 01:59:21 GMT
2. **owner:** set to **Chris Johns <chrisj@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In c0d52d5/rtems\_waf:

```
Change RTEMS path check from bin to share/rtems.
```

```
There is no bin directory anymore with RTEMS 5 so the test fails. Check for the share/rtems directory.
```

```
Closes #3500.
```

## 3501 - MSR\_RI defined multiple places

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3501">https://devel.rtems.org/ticket/3501</a> ( <a href="https://devel.rtems.org/ticket/3501">https://devel.rtems.org/ticket/3501</a> )
<b>Id</b>	3501
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 August 2018 23:23:02
<b>Modified</b>	15 August 2018 15:44:16
<b>Owner</b>	Christian Mauderer
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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:#define 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 */
```

#### Comment 1

1. **Joel Sherrill**, Tue, 14 Aug 2018 23:23:52 GMT
2. **owner:** set to **Christian Mauderer**
3. **status:** changed from **new** to **assigned**

Assigning to Christian since the git log says he added the file cpukit/dev/serial/sc16is752-regs.h

#### Comment 2

1. **Christian Mauderer**, Wed, 15 Aug 2018 07:41:32 GMT

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.

### Comment 3

1. **Christian Mauderer**, Wed, 15 Aug 2018 15:44:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In dcaea71/rtems:

```
dev/sc16is752: Add name space for field names.
```

The field names for the registers generated a name collision (MSR\_RI on the power pc). This patch adds a SC16IS752\_ prefix for all field names.

```
Closes #3501.
```

## 3502 - PL111\_LCD\_CONTROL\_LCD\_BPP\_16 Redefined

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3502">https://devel.rtems.org/ticket/3502</a> ( <a href="https://devel.rtems.org/ticket/3502">https://devel.rtems.org/ticket/3502</a> )
<b>Id</b>	3502
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	14 August 2018 23:31:03
<b>Modified</b>	20 August 2018 06:36:58
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Joel Sherrill**, Tue, 14 Aug 2018 23:31:18 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

### Comment 2

1. **Sebastian Huber**, Mon, 20 Aug 2018 06:36:58 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 2cd3716/rtems:

```
bsp/arm: Fix PL111 register define re-definition
```

```
Close #3502.
```

## 3503 - PDF Documentation is missing an index

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3503">https://devel.rtems.org/ticket/3503</a> ( <a href="https://devel.rtems.org/ticket/3503">https://devel.rtems.org/ticket/3503</a> )
<b>Id</b>	3503
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 August 2018 01:15:54
<b>Modified</b>	21 August 2018 05:00:24
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The PDF generated documents have an empty index.

**Comment 1**

1. **Chris Johns**, Tue, 21 Aug 2018 02:14:12 GMT

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.

**Comment 2**

1. **Chris Johns**, Tue, 21 Aug 2018 03:48:28 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 5ce8e43/rtems-docs:

```
build: Fix indexing so it works on HTML and PDF.
      Remove all genindex.rst files, these are generated and should not
      exist in our source. Fix the HTML templates so the local specialisation works. Add a index link to the sidebar for HTML.
      Note, there is no TOC entry for the index in the PDF output and I cannot figure out how to add one.
```

Closes #3503

**Comment 3**

1. **Sebastian Huber**, Tue, 21 Aug 2018 05:00:24 GMT

2. **component**: changed from **admin** to **doc**

**3504 - Warning and formatting in bsp/powerpc/mpc55xevb/dev/dspi.c**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3504">https://devel.rtems.org/ticket/3504</a> ( <a href="https://devel.rtems.org/ticket/3504">https://devel.rtems.org/ticket/3504</a> )
<b>Id</b>	3504
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 August 2018 17:01:54
<b>Modified</b>	6 September 2018 05:05:21
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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/mpc55xevb/../../../../bsp/powerpc/mpc55xevb/dev/dspi.c:32:0:
../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xevb/../../../../bsp/powerpc/mpc55xevb/dev/dspi.c: 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=]
```

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

```
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'

```
printk( 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/mpc55xevb/../../../../bsp/powerpc/mpc55xevb/dev/dspi.c:122:3: note: in expansion of macro 'RTEMS\_SYSLOG\_ERROR'

```
RTEMS_SYSLOG_ERROR( "eDMA error: 0x%08x\n", error_status); ~
```

../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xevb/../../../../bsp/powerpc/mpc55xevb/dev/dspi.c:122:41: note: format string is defined here

```
RTEMS_SYSLOG_ERROR( "eDMA error: 0x%08x\n", error_status);
```

```
~ %08lx
```

### Comment 1

1. **Joel Sherrill**, Wed, 22 Aug 2018 17:02:09 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Sebastian Huber**, Thu, 06 Sep 2018 05:05:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9a21fc7/rtems:

```
bsp/mpc55xevb: Fix format warning
Close #3504.
```

## 3505 - powerpc/virtex redefined warning

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3505">https://devel.rtems.org/ticket/3505</a> ( <a href="https://devel.rtems.org/ticket/3505">https://devel.rtems.org/ticket/3505</a> )
<b>Id</b>	3505
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	22 August 2018 17:39:21
<b>Modified</b>	15 October 2018 05:14:44
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3549

### Description

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:25:0,

```
from ../../../../../../rtems/c/src/lib/libbsp/powerpc/virtex/../../../../../../../../bsp/powerpc/shared/exceptions/ppc_exc_async_normal.S:16:
```

```
/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:228:0: warning: "exisir" redefined
```

```
#define exisir 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 exisir 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 */
```

### Comment 1

1. **Joel Sherrill**, Wed, 22 Aug 2018 17:39:34 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

### Comment 2

1. **Sebastian Huber**, Wed, 05 Sep 2018 05:41:38 GMT

Some ppc\* defines are RTEMS-specific GCC built-in defines.

### Comment 3

1. **Joel Sherrill**, Sun, 14 Oct 2018 00:52:17 GMT

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?

### Comment 4

1. **Sebastian Huber**, Mon, 15 Oct 2018 05:14:44 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **wontfix**
4. **blockedby:** set to **3549**

## 3506 - waf for building RTEMS applications needs updating

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3506">https://devel.rtems.org/ticket/3506</a> ( <a href="https://devel.rtems.org/ticket/3506">https://devel.rtems.org/ticket/3506</a> )
<b>Id</b>	3506
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	23 August 2018 16:18:59
<b>Modified</b>	19 October 2018 00:28:55
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

```
+ ./waf configure -v --rtems=/home/joel/rtems-work/bsp-install --rtems-tools=/home/joel/rtems-work/tools/5 --rtems-bsps=powerpc/gemuppc
Setting top to          : /home/joel/rtems-work/examples-v2
Setting out to         : /home/joel/rtems-work/examples-v2/build
RTEMS path is not valid. No bin directory found.
(complete log in /home/joel/rtems-work/examples-v2/build/config.log)
```



**Comment 1**

1. **Joel Sherrill**, Thu, 23 Aug 2018 16:19:22 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Fri, 19 Oct 2018 00:28:55 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

The rtems\_waf git module has been fixed ..

[https://git.rtems.org/rtems\\_waf/commit/?id=c0d52d5fcd9cad9b63479b92a0abf4fa5f5c99f3](https://git.rtems.org/rtems_waf/commit/?id=c0d52d5fcd9cad9b63479b92a0abf4fa5f5c99f3)

---

**3507 - Add flexible per-CPU data**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3507">https://devel.rtems.org/ticket/3507</a> ( <a href="https://devel.rtems.org/ticket/3507">https://devel.rtems.org/ticket/3507</a> )
<b>Id</b>	3507
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 August 2018 06:06:30
<b>Modified</b>	19 February 2019 08:18:30
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3472
<b>Blocked by</b>	

---

**Description**

Add means to declare, define and get custom per-CPU data. The API should cover the APIs defined by the Linux and FreeBSD header files.

**Comment 1**

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:37:07 GMT

In cfc4231d/rtems:

```
score: Add flexible per-CPU data
Update #3507.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:38:06 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d90c813/rtems-docs:

```
c-user: Mention per-processor data
Close #3507.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 10 Sep 2018 10:03:36 GMT

In 1fe1b820/rtems:

```
score: Fix PER_CPU_DATA_GET_BY_OFFSET()
Add uniprocessor version for PER_CPU_DATA_GET_BY_OFFSET(). Fix warnings in uniprocessor configurations.
Update #3507.
```

**Comment 4**

1. **Sebastian Huber**, Mon, 17 Sep 2018 06:58:44 GMT

In aaa6653/rtems:

```
score: Fix PER_CPU_DATA_ITEM_DECLARE()
Fix PER_CPU_DATA_ITEM_DECLARE() for targets with a small-data area.
Update #3507.
```

**Comment 5**

1. **Sebastian Huber**, Wed, 19 Sep 2018 09:58:17 GMT

In 776464a/rtems:

```
score: Allocate per-CPU data only if necessary

The _Workspace_Allocate_aligned() would returns a non-NULL pointer for a zero size allocation request if there is enough memory available.
This conflicts with the size estimate of zero in _Workspace_Space_for_per_CPU_data() if the per-CPU data set is empty.

Update #3507.
```

**Comment 6**

1. **Sebastian Huber**, Wed, 19 Dec 2018 08:50:59 GMT

In 7c19e50/rtems:

```
score: Fix per-CPU data allocation

Allocate the per-CPU data for secondary processors directly from the heap areas before heap initialization and not via
_Workspace_Allocate_aligned(). This avoids dependency on the workspace allocator. It fixes also a problem on some platforms (e.g. QorIQ)
where at this early point in the system initialization the top of the RAM is used by low-level startup code on secondary processors (boot
pages).

Update #3507.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 19 Feb 2019 08:18:30 GMT

In 789b0ca/rtems-docs:

```
c-user: INTERNAL_ERROR_NO_MEMORY_FOR_PER_CPU_DATA
Update #3507.
```

**3508 - Add support for thread to processor pinning**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3508">https://devel.rtems.org/ticket/3508</a> ( <a href="https://devel.rtems.org/ticket/3508">https://devel.rtems.org/ticket/3508</a> )
<b>Id</b>	3508
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	29 August 2018 12:24:14
<b>Modified</b>	10 September 2018 09:38:15
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3472
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:37:18 GMT

In d8bc0730/rtems:

```
score: Modify _Scheduler_Unblock()
```

In SMP configurations, obtain the scheduler node for the block and unblock operations through the same way via `Thread_Control::Scheduler::Scheduler_node`. This symmetry is important in a follow up patch which introduces thread pinning.

Update #3508.

### Comment 2

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:37:29 GMT

In 7097962/rtems:

```
score: Add thread pin/unpin support
```

Add support to temporarily pin a thread to its current processor. This may be used to access per-processor data structures in critical sections with enabled thread dispatching, e.g. a pinned thread is allowed to block.

Update #3508.

### Comment 3

1. **Sebastian Huber**, Mon, 10 Sep 2018 09:38:15 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 7c58036/rtems-docs:

```
c-user: Mention thread pinning
```

```
Close #3508.
```

---

## 3510 - ATA driver uses deprecated rtems\_blkdev services

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3510">https://devel.rtems.org/ticket/3510</a> ( <a href="https://devel.rtems.org/ticket/3510">https://devel.rtems.org/ticket/3510</a> )
<b>Id</b>	3510
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	31 August 2018 13:43:17
<b>Modified</b>	6 September 2018 05:05:10
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	lib/block
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

This shows up building fileio on the following BSPs.

```
i386/pc386
i386/pc486
i386/pc586
i386/pc586-sse
i386/pc686
i386/ppc4
powerpc/brs5l
powerpc/brs6l
powerpc/dp2
powerpc/icecube
powerpc/pm520_cr825
powerpc/pm520_ze30
```

### Comment 1

1. **Joel Sherrill**, Fri, 31 Aug 2018 13:43:43 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

### Comment 2

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Thu, 06 Sep 2018 05:05:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In ccdce9d8/rtems:

```
libchip/ata: Fix ATA_DRIVER_TABLE_ENTRY
Drop unused and deprecated functions from the ATA_DRIVER_TABLE_ENTRY.
Update #3358. Close #3510.
```

## **3511 - int/pointer size warnings in powerpc-qoriq\_e6500\_64**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3511">https://devel.rtems.org/ticket/3511</a> ( <a href="https://devel.rtems.org/ticket/3511">https://devel.rtems.org/ticket/3511</a> )
<b>Id</b>	3511
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	4 September 2018 22:57:18
<b>Modified</b>	5 September 2018 04:56:38
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

These all look suspiciously like real issues:

```
$ grep warning log/powerpc-qoriq_e6500_64.log
../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../bsp/powerpc/qoriq/start/bspstart.c:173:5: 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/../../../../bsp/powerpc/shared/exceptions/ppc_exc_alignment.c:28:25: warning: cast to pointer from integer
of different size [-Wint-to-pointer-cast]
../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../bsp/powerpc/shared/exceptions/ppc_exc_initialize.c:38:10: warning: cast from pointer to integer
of different size [-Wpointer-to-int-cast]
```

### **Comment 1**

1. **Joel Sherrill**, Tue, 04 Sep 2018 22:57:32 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **assigned**

### **Comment 2**

1. **Sebastian Huber**, Wed, 05 Sep 2018 04:56:38 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **duplicate**

Duplicate of #3156.

## **3512 - sb-check:No python command with Python 2 and Python 3 installed**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3512">https://devel.rtems.org/ticket/3512</a> ( <a href="https://devel.rtems.org/ticket/3512">https://devel.rtems.org/ticket/3512</a> )
<b>Id</b>	3512
<b>Reporter</b>	Justin
<b>Created</b>	6 September 2018 01:40:46
<b>Modified</b>	14 October 2018 01:02:51
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

On Ubuntu 18.04.1 LTS there is no command named Python. I have the following Python commands:

```
python2.7  python3.6  python3.6m-config
python3m-config  python 2.7-config  python3.6-config  python3-config  python3
python3.6m      python3m
```

I am going to symlink python2.7 to python to make it work, but there should be a better solution.

**Comment 1**

1. **Chris Johns**, Sun, 14 Oct 2018 01:02:51 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **duplicate**

See #3537

---

**3513 - Convert tqm8xx console driver to new Termios API**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3513">https://devel.rtems.org/ticket/3513</a> ( <a href="https://devel.rtems.org/ticket/3513">https://devel.rtems.org/ticket/3513</a> )
<b>Id</b>	3513
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 September 2018 09:47:05
<b>Modified</b>	17 September 2018 07:00:16
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3034
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Mon, 17 Sep 2018 06:59:25 GMT

In 7b93d857/rtems:

```
bsp/tqm8xx: Use IRQ extensions API
```

Update #3513.

**Comment 2**

1. **Sebastian Huber**, Mon, 17 Sep 2018 06:59:35 GMT

In 53fb03fe/rtems:

```
bsp/tqm8xx: Move rxBuf to channel descriptor
```

Update #3513.

**Comment 3**

1. **Sebastian Huber**, Mon, 17 Sep 2018 06:59:45 GMT

In 68920e7f/rtems:

bsp/tqm8xx: Move DMA support to channel descriptor  
Update #3513.

**Comment 4**

1. **Sebastian Huber**, Mon, 17 Sep 2018 06:59:56 GMT

In d22147e/rtems:

bsp/tqm8xx: Convert console to new Termios API  
Update #3513.

**Comment 5**

1. **Sebastian Huber**, Mon, 17 Sep 2018 07:00:06 GMT

In 688e101a/rtems:

bsp/tqm8xx: Fix polled vs. interrupt output  
Update #3513.

**Comment 6**

1. **Sebastian Huber**, Mon, 17 Sep 2018 07:00:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 62cb39d7/rtems:

bsp/tqm8xx: Remove unused files  
Close #3513.

**3516 - sb-set-builder should report disk usage of build**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3516">https://devel.rtems.org/ticket/3516</a> ( <a href="https://devel.rtems.org/ticket/3516">https://devel.rtems.org/ticket/3516</a> )
<b>Id</b>	3516
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 September 2018 17:09:34
<b>Modified</b>	27 September 2018 22:18:50
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 13 Sep 2018 17:09:54 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Thu, 13 Sep 2018 18:28:23 GMT

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.

**Comment 3**

1. **Chris Johns**, Thu, 13 Sep 2018 23:38:24 GMT
2. **type**: changed from **defect** to **enhancement**

**Comment 4**

1. **Chris Johns**, Sat, 15 Sep 2018 23:38:54 GMT

What do you define as space that needs to be accounted for?

The build tree after each package in a build set has been built? Installed files? Source and patches?

**Comment 5**

1. **Joel Sherrill**, Sun, 16 Sep 2018 00:00:08 GMT

Replying to Chris Johns:

What do you define as space that needs to be accounted for?  
The build tree after each package in a build set has been built? Installed files? 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"?

**Comment 6**

1. **Chris Johns**, Sun, 16 Sep 2018 03:35:55 GMT

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.

**Comment 7**

1. **Chris Johns**, Mon, 17 Sep 2018 04:06:24 GMT

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.

**Comment 8**

1. **Chris Johns**, Thu, 20 Sep 2018 03:20:07 GMT

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:

```
Build Sizes: usage: 3.661GB total: 2.412GB (sources: 1.472GB, patches: 6.630MB, installed 955.801MB)
```

The full output is:

```

$ ./source-builder/sb-set-builder --prefix=/opt/work/rtems/5 --log=5-sparc.txt 5/rtems-sparc
RTEMS Source Builder - Set Builder, 5 (a16bfe19effa modified)
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
package: autoconf-2.69-x86_64-freebsd11.1-1
building: autoconf-2.69-x86_64-freebsd11.1-1
sizes: autoconf-2.69-x86_64-freebsd11.1-1: 7.506MB (installed: 0.000B)
cleaning: autoconf-2.69-x86_64-freebsd11.1-1
config: tools/rtems-automake-1.12.6-1.cfg
package: automake-1.12.6-x86_64-freebsd11.1-1
building: automake-1.12.6-x86_64-freebsd11.1-1
sizes: automake-1.12.6-x86_64-freebsd11.1-1: 8.326MB (installed: 0.000B)
cleaning: automake-1.12.6-x86_64-freebsd11.1-1
cleaning: autoconf-2.69-x86_64-freebsd11.1-1
cleaning: automake-1.12.6-x86_64-freebsd11.1-1
Build Sizes: usage: 8.326MB total: 1.479GB (sources: 1.472GB, patches: 6.630MB, installed 0.000B)
Build Set: Time 0:00:05.622352
Build Set: 5/rtems-autotools-base.bset
config: tools/rtems-autoconf-2.69-1.cfg
package: autoconf-2.69-x86_64-freebsd11.1-1
building: autoconf-2.69-x86_64-freebsd11.1-1
sizes: autoconf-2.69-x86_64-freebsd11.1-1: 7.503MB (installed: 3.033MB)
cleaning: autoconf-2.69-x86_64-freebsd11.1-1
reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-freebsd11.1-1.txt
reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-freebsd11.1-1.xml
config: tools/rtems-automake-1.12.6-1.cfg
package: automake-1.12.6-x86_64-freebsd11.1-1
building: automake-1.12.6-x86_64-freebsd11.1-1
sizes: automake-1.12.6-x86_64-freebsd11.1-1: 8.325MB (installed: 2.264MB)
cleaning: automake-1.12.6-x86_64-freebsd11.1-1
reporting: tools/rtems-automake-1.12.6-1.cfg -> automake-1.12.6-x86_64-freebsd11.1-1.txt
reporting: tools/rtems-automake-1.12.6-1.cfg -> automake-1.12.6-x86_64-freebsd11.1-1.xml
installing: autoconf-2.69-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
installing: automake-1.12.6-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
cleaning: autoconf-2.69-x86_64-freebsd11.1-1
cleaning: automake-1.12.6-x86_64-freebsd11.1-1
Build Sizes: usage: 8.325MB total: 1.484GB (sources: 1.472GB, patches: 6.630MB, installed 5.298MB)
Build Set: Time 0:00:07.382470
Build Set: Time 0:00:13.008615
config: devel/expat-2.1.0-1.cfg
package: expat-2.1.0-x86_64-freebsd11.1-1
building: expat-2.1.0-x86_64-freebsd11.1-1
sizes: expat-2.1.0-x86_64-freebsd11.1-1: 4.171MB (installed: 623.483KB)
cleaning: expat-2.1.0-x86_64-freebsd11.1-1
reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-freebsd11.1-1.txt
reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-freebsd11.1-1.xml
config: tools/rtems-binutils-2.31.1.cfg
package: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
building: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
sizes: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1: 250.532MB (installed: 29.078MB)
cleaning: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
reporting: tools/rtems-binutils-2.31.1.cfg -> sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1.txt
reporting: tools/rtems-binutils-2.31.1.cfg -> sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1.xml
config: tools/rtems-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg
package: sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
building: sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
sizes: sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1: 3.661GB (installed: 846.775MB)
cleaning: sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
reporting: tools/rtems-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg -> sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.txt
reporting: tools/rtems-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg -> sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.xml
config: tools/rtems-gdb-8.0.1-1.cfg
package: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
building: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
sizes: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1: 223.999MB (installed: 12.948MB)
cleaning: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
reporting: tools/rtems-gdb-8.0.1-1.cfg -> sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1.txt
reporting: tools/rtems-gdb-8.0.1-1.cfg -> sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1.xml
config: tools/rtems-tools-5-1.cfg
package: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
building: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
sizes: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1: 189.996MB (installed: 66.392MB)
cleaning: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
reporting: tools/rtems-tools-5-1.cfg -> rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1.txt
reporting: tools/rtems-tools-5-1.cfg -> rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1.xml
config: tools/rtems-kernel-5-1.cfg
package: sparc-rtems5-kernel-5-1
building: sparc-rtems5-kernel-5-1
sizes: sparc-rtems5-kernel-5-1: 8.308KB (installed: 0.000B)
cleaning: sparc-rtems5-kernel-5-1
reporting: tools/rtems-kernel-5-1.cfg -> sparc-rtems5-kernel-5-1.txt
reporting: tools/rtems-kernel-5-1.cfg -> sparc-rtems5-kernel-5-1.xml
installing: expat-2.1.0-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
installing: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
installing: sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
installing: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
installing: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1 -> /opt/work/rtems/5
installing: sparc-rtems5-kernel-5-1 -> /opt/work/rtems/5
cleaning: expat-2.1.0-x86_64-freebsd11.1-1
cleaning: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
cleaning: sparc-rtems5-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
cleaning: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
cleaning: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
cleaning: sparc-rtems5-kernel-5-1
Build Sizes: usage: 3.661GB total: 2.412GB (sources: 1.472GB, patches: 6.630MB, installed 955.801MB)
Build Set: Time 0:20:56.188572

```

**Comment 9**

1. **Chris Johns**, Thu, 27 Sep 2018 21:37:41 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 38fd56c/rtems-source-builder:

```

sb: Monitor the build disk usage. Report the usage, total and various sizes
Track the size of a build of a package in a build set to determine the
maximum amount of disk space used. This can be used as a guide to
documenting how much space a user needs to set aside to build a specific
set of tools. The %clean stage of a build is now split into a separate script.
I do not think this is an issue because I could not find any %clean sections in any build configs we have. In time support for the %clean
section will be removed, the package builder cleans up.

```



Closes #3516

**Comment 10**

1. **Chris Johns**, Thu, 27 Sep 2018 22:18:50 GMT

In 079f95a/rtems-source-builder:

sb: Add build sizes to the email report.  
Include build sizes in the email report.  
Updates #3516

---

**3517 - RSB Ubuntu Host Requirements Missing Some**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3517">https://devel.rtems.org/ticket/3517</a> ( <a href="https://devel.rtems.org/ticket/3517">https://devel.rtems.org/ticket/3517</a> )
<b>Id</b>	3517
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 September 2018 18:27:17
<b>Modified</b>	25 September 2018 19:23:16
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 13 Sep 2018 18:38:10 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Joel Sherrill**, Tue, 25 Sep 2018 19:23:16 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 86baa5d/rtems-docs:

rsb/hosts.rst: Add more packages needed on Ubuntu  
Closes #3517.

---

**3518 - RSB MacOS Nits**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3518">https://devel.rtems.org/ticket/3518</a> ( <a href="https://devel.rtems.org/ticket/3518">https://devel.rtems.org/ticket/3518</a> )
<b>Id</b>	3518
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	13 September 2018 18:37:28
<b>Modified</b>	25 September 2018 18:45:01
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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. :)

**Comment 1**

1. **Joel Sherrill**, Tue, 25 Sep 2018 18:45:01 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 11b5e9b/rtems-docs:

```
RSB: Fix MacOS typos
Close #3518.
```

---

**3519 - RSB does not strictly check args**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3519">https://devel.rtems.org/ticket/3519</a> ( <a href="https://devel.rtems.org/ticket/3519">https://devel.rtems.org/ticket/3519</a> )
<b>Id</b>	3519
<b>Reporter</b>	Chris Johns
<b>Created</b>	15 September 2018 07:25:12
<b>Modified</b>	15 September 2018 07:44:05
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The RSB loose argument parsing in the RSB needs to change. The RSB needs to strictly check arguments to avoid simple user errors.

**Comment 1**

1. **Chris Johns**, Sat, 15 Sep 2018 07:44:05 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In a16bfe1/rtems-source-builder:

```
sb: Raise an error if an option is not registered and unknown.
Close #3519.
```

---

**3520 - Remove CONFIGURE\_HAS\_OWN\_FILESYSTEM\_TABLE**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3520">https://devel.rtems.org/ticket/3520</a> ( <a href="https://devel.rtems.org/ticket/3520">https://devel.rtems.org/ticket/3520</a> )
<b>Id</b>	3520
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 September 2018 08:25:55
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This configuration is untested and undocumented. Remove it to avoid a potential exposure of internal data structures to the application domain.

**Comment 1**

1. **Sebastian Huber**, Wed, 19 Sep 2018 08:52:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In bd5cec41/rtems:

```
config: Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE
```

This configuration was untested and undocumented. Remove it to avoid a potential exposure of internal data structures to the application domain.

```
Close #3520.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords:** **qualification** added
- 

**3522 - Update mDNSResponder to Apple version v878.30.4**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3522">https://devel.rtems.org/ticket/3522</a> ( <a href="https://devel.rtems.org/ticket/3522">https://devel.rtems.org/ticket/3522</a> )
<b>Id</b>	3522
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 September 2018 12:35:55
<b>Modified</b>	20 September 2018 09:29:08
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

#### **Comment 1**

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:27:30 GMT

In 152d81f/rtems-libbsd:

mDNSResponder: Increase stack size

The current stack size was insufficient on a test run of the foobarclient test program.

Update #3522.

#### **Comment 2**

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:27:38 GMT

In 111789e/rtems-libbsd:

mDNSResponder: Update to v561.1.1

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-561.1.1.tar.gz>

Update #3522.

#### **Comment 3**

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:27:46 GMT

In e36ca10/rtems-libbsd:

mDNSResponder: Update to v567

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-567.tar.gz>

Update #3522.

#### **Comment 4**

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:27:54 GMT

In 49ebc73/rtems-libbsd:

mDNSResponder: Update to v576.30.4

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-576.30.4.tar.gz>

Update #3522.

#### **Comment 5**

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:28:03 GMT

In f761b29/rtems-libbsd:

mDNSResponder: Update to v625.41.2

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-625.41.2.tar.gz>

Update #3522.

#### **Comment 6**

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:28:16 GMT

In f01edf1/rtems-libbsd:

mDNSResponder: Update to v765.1.2

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.1.2.tar.gz>

Move `mDNS_StartResolveService()` and `mDNS_StopResolveService()` to an RTEMS-specific file (`rtemsbsd/mdns/mDNSResolveService.c`) using the v576.30.4 Implementation. Apple removed These functions without explanation.

Update #3522.

#### Comment 7

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:28:23 GMT

In `fc605b3/rtems-libbsd`:

mDNSResponder: Update to v765.20.4

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.20.4.tar.gz>

Update #3522.

#### Comment 8

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:28:31 GMT

In `7d33d36/rtems-libbsd`:

mDNSResponder: Update to v765.30.11

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.30.11.tar.gz>

Update #3522.

#### Comment 9

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:28:40 GMT

In `a814950/rtems-libbsd`:

mDNSResponder: Update to v765.50.9

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.50.9.tar.gz>

Update #3522.

#### Comment 10

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:28:52 GMT

In `4c086a2/rtems-libbsd`:

mDNSResponder: Update to v878.1.1

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-878.1.1.tar.gz>

Update #3522.

#### Comment 11

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:29:00 GMT

In `1e55d820/rtems-libbsd`:

mDNSResponder: Update to v878.20.3

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-878.20.3.tar.gz>

Update #3522.

#### Comment 12

1. **Sebastian Huber**, Thu, 20 Sep 2018 09:29:08 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In `2723609/rtems-libbsd`:

mDNSResponder: Update to v878.30.4

The sources can be obtained via:

<https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-878.30.4.tar.gz>

Close #3522.

## **3523** - Add FEC network interface driver for TQM8XX

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3523">https://devel.rtems.org/ticket/3523</a> ( <a href="https://devel.rtems.org/ticket/3523">https://devel.rtems.org/ticket/3523</a> )
<b>Id</b>	3523
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 September 2018 12:09:59
<b>Modified</b>	21 September 2018 08:39:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

Import legacy network driver and port it to libbsd.

### **Comment 1**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:39:14 GMT

In 860d833/rtems-libbsd:

```
if_ffec_mpc8xx: Import legacy driver from RTEMS
Imported from RTEMS commit 1fe1b820de02c274c2b2b3431340152734ee9fb6 (2018-09-12).
Update #3523.
```

### **Comment 2**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:39:21 GMT

In 457b4fc/rtems-libbsd:

```
if_ffec_mpc8xx: Port driver to libbsd
Update #3523.
```

### **Comment 3**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:39:29 GMT

In d101ed8/rtems-libbsd:

```
if_ffec_mpc8xx: New MDIO driver support
Update #3523.
```

### **Comment 4**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:39:37 GMT

In 1b70957/rtems-libbsd:

```
if_ffec_mpc8xx: Use M_NOWAIT for incoming frames
Update #3523.
```

### **Comment 5**

1. **Sebastian Huber**, Fri, 21 Sep 2018 08:39:45 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 6103496/rtems-libbsd:

```
if_ffec_mpc8xx: Fix incoming data invalidation
With a write-back cache dirty cache lines may be evicted which could overwrite new data.
Close #3523.
```

## **3525 - Add MMC/SDCard support for i.MX 7Dual BSP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3525">https://devel.rtems.org/ticket/3525</a> ( <a href="https://devel.rtems.org/ticket/3525">https://devel.rtems.org/ticket/3525</a> )
<b>Id</b>	3525
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 September 2018 07:39:45
<b>Modified</b>	28 September 2018 16:08:38
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

Port device drivers from FreeBSD for i.MX 7Dual uSDHC module.

### **Comment 1**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:02:26 GMT

In b42dea9/rtems-libbsd:

```
CONFIG_INTRHOOK(9): Port to RTEMS
Some device drivers (e.g. MMC) need a complex initialization with working callouts. Remove the dummy CONFIG_INTRHOOK() implementation and replace it with the real one from FreeBSD. Make sure TIMEOUT(9) services work at this point.
Update #3525.
```

### **Comment 2**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:02:34 GMT

In 13840c1/rtems-libbsd:

```
Update gpio interface
Update #3525.
```

### **Comment 3**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:02:42 GMT

In 7e8e177/rtems-libbsd:

```
imx/imx_gpio.c: Import from FreeBSD
Update #3525.
```

### **Comment 4**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:02:50 GMT

In 06dd40e/rtems-libbsd:

```
imx/imx_gpio.c: Port to RTEMS
```

Update #3525.

#### **Comment 5**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:02:57 GMT

In 6721f56/rtems-libbsd:

```
fsl_sdhci.c: Import from FreeBSD  
Update #3525.
```

#### **Comment 6**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:03:05 GMT

In b382502/rtems-libbsd:

```
fsl_sdhci.c: Port to RTEMS  
Update #3525.
```

#### **Comment 7**

1. **Sebastian Huber**, Tue, 25 Sep 2018 08:14:09 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In bd25da8/rtems-docs:

```
user: Add i.MX 7D MMC/SDCard driver  
Close #3525.
```

#### **Comment 8**

1. **Sebastian Huber**, Thu, 27 Sep 2018 05:23:40 GMT

In 69a24c3/rtems:

```
bsp/imx: Add imx_ccm_sdhci_hz()  
Update #3525.
```

#### **Comment 9**

1. **Sebastian Huber**, Thu, 27 Sep 2018 05:28:51 GMT

In 8645b550/rtems-libbsd:

```
fsl_sdhci.c: Fix missing include error  
Update #3525.
```

#### **Comment 10**

1. **Sebastian Huber**, Fri, 28 Sep 2018 16:08:38 GMT

In b54bd95/rtems-libbsd:

```
fsl_sdhci.c: Fix missing include error  
Update #3525.
```

---

## **3526 - Convert PTY driver to new Termios API**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3526">https://devel.rtems.org/ticket/3526</a> ( <a href="https://devel.rtems.org/ticket/3526">https://devel.rtems.org/ticket/3526</a> )
<b>Id</b>	3526
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 September 2018 08:38:57
<b>Modified</b>	2 October 2018 05:13:16
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	dev/serial
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3034
<b>Blocked by</b>	3528

---

## Description

### Comment 1

1. **Sebastian Huber**, Wed, 26 Sep 2018 05:53:03 GMT
2. **blockedby**: set to **3528**

### Comment 2

1. **Sebastian Huber**, Mon, 01 Oct 2018 10:34:12 GMT

In ac9f808/rtems:

```
pppd: Remove unused get_pty() function
Update #3526.
```

### Comment 3

1. **Sebastian Huber**, Mon, 01 Oct 2018 10:34:24 GMT

In b980f363/rtems:

```
telnetd: Convert pty driver to new Termios API
Update #3526.
```

### Comment 4

1. **Sebastian Huber**, Mon, 01 Oct 2018 10:35:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In a346ebba/rtems:

```
telnetd: Remove CONFIGURE_MAXIMUM_PTYS
Add a rtems_telnetd_config_table::client_maximum member to the Telnet configuration.
Close #3526. Close #3528.
```

### Comment 5

1. **Sebastian Huber**, Tue, 02 Oct 2018 05:13:16 GMT

In 38c1a41/rtems-libbsd:

```
telnetd: Update due to API changes
Update #3526.
```

---

## **3528 - Remove undocumented and untested CONFIGURE\_MAXIMUM\_PTYS**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3528">https://devel.rtems.org/ticket/3528</a> ( <a href="https://devel.rtems.org/ticket/3528">https://devel.rtems.org/ticket/3528</a> )
<b>Id</b>	3528
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 September 2018 05:53:03
<b>Modified</b>	1 October 2018 10:35:16
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3526
<b>Blocked by</b>	

---

**Description**

Remove the undocumented and untested CONFIGURE\_MAXIMUM\_PTYS configuration option. Add a rtems\_telnetd\_config\_table::client\_maximum member to the Telnet configuration.

**Comment 1**

1. **Sebastian Huber**, Mon, 01 Oct 2018 10:34:37 GMT

In 0413b14/rtems:

```
telnetd: Remove superfluous global variable
Update #3528.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 01 Oct 2018 10:35:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In a346ebba/rtems:

```
telnetd: Remove CONFIGURE_MAXIMUM_PTYS
Add a rtems_telnetd_config_table::client_maximum member to the Telnet configuration.
Close #3526. Close #3528.
```

---

**3529 - Fix issues raised by Coverity Scan for Telnet server**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3529">https://devel.rtems.org/ticket/3529</a> ( <a href="https://devel.rtems.org/ticket/3529">https://devel.rtems.org/ticket/3529</a> )
<b>Id</b>	3529
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 September 2018 08:36:27
<b>Modified</b>	18 October 2018 10:51:42
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3533, 3543

---

**Description****Comment 1**

1. **Sebastian Huber**, Fri, 28 Sep 2018 08:04:51 GMT
2. **blockedby**: set to **3533**

**Comment 2**

1. **Sebastian Huber**, Tue, 09 Oct 2018 12:56:35 GMT
2. **blockedby**: changed from **3533** to **3533, 3543**

**Comment 3**

1. **Sebastian Huber**, Wed, 10 Oct 2018 11:59:23 GMT

In 2806e10/rtems:

```
telnetd: Ignore setsockopt() return status
Update #3529.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 18 Oct 2018 10:51:32 GMT

Coverity Scan no longer complains about the Telnet server code since this commit [26b58b7e4af27b632a3765249ba8f8a9b024fa08/rtems].

**Comment 5**

1. **Sebastian Huber**, Thu, 18 Oct 2018 10:51:42 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**3530 - Fix issues raised by Coverity Scan for FTP server**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3530">https://devel.rtems.org/ticket/3530</a> ( <a href="https://devel.rtems.org/ticket/3530">https://devel.rtems.org/ticket/3530</a> )
<b>Id</b>	3530
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 September 2018 08:37:12
<b>Modified</b>	4 March 2020 07:22:16
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3545

---

**Description****Comment 1**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:06 GMT

In f004b2b8/rtems:

```
Use rtems_task_exit()
Update #3530. Update #3533.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:16:22 GMT

In e761fb4/rtems:

```
ftpd: Avoid NULL pointer checks before free()
They are superfluous and just bloat the code.
Update #3530.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:16:33 GMT

In dcf42bb2/rtems:

ftpd: Remove FTPD\_SessionInfo\_t::pass member  
There is no need to keep the password throughout the session.  
Update #3530.

#### **Comment 4**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:16:43 GMT

In 51da629/rtems:

ftpd: Avoid malloc() and sscanf()  
Move the user name to the session information.  
Update #3530.

#### **Comment 5**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:16:53 GMT

In 479a28e0/rtems:

ftpd: Avoid use of uninitialized memory  
Update #3530.

#### **Comment 6**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:17:04 GMT

In df97c4d2/rtems:

ftpd: Avoid resource leak  
Update #3530.

#### **Comment 7**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:17:14 GMT

In be8de0ff/rtems:

ftpd: Fix insecure chroot() handling  
Ensure that the rtems\_libio\_set\_private\_env() was successful before the chroot().  
Update #3530.

#### **Comment 8**

1. **Sebastian Huber**, Tue, 09 Oct 2018 05:44:18 GMT

In 2f784d7/rtems:

ftpd: Check return status of getsockname()  
Update #3530.

#### **Comment 9**

1. **Sebastian Huber**, Tue, 09 Oct 2018 05:44:32 GMT

In 5bd75823/rtems:

ftpd: Remove superfluous temporary buffer  
Update #3530.

#### **Comment 10**

1. **Sebastian Huber**, Wed, 10 Oct 2018 11:59:13 GMT

In 84a5921d/rtems:

ftpd: Restructure chroot() handling.  
Remove superfluous setting of errno = 0.  
Update #3530.

#### **Comment 11**

1. **Sebastian Huber**, Thu, 11 Oct 2018 08:49:05 GMT
2. **blockedby**: set to **3545**

#### **Comment 12**

1. **Sebastian Huber**, Fri, 12 Oct 2018 12:16:56 GMT

In 35c533f/rtems-source-builder:

5: Update Newlib

Pick up POSIX header file changes and improved opendir() implementation. This addresses time of check and time of use error conditions (TOCTOU).

Update #3530. Update #3545. Update #3546. Update #3547.

#### **Comment 13**

1. **Sebastian Huber**, Fri, 02 Nov 2018 10:58:42 GMT

In 706802f8/rtems:

ftpd: Make send\_dirline() more robust

Account for large file names.

Update #3530.

#### **Comment 14**

1. **Sebastian Huber**, Fri, 02 Nov 2018 10:58:50 GMT

In 8c3cd1e8/rtems:

ftpd: Deal with too long command lines

Update #3530.

#### **Comment 15**

1. **Sebastian Huber**, Fri, 02 Nov 2018 10:58:58 GMT

In fa0adf36/rtems:

ftpd: Avoid TOCTOU problem

Assume that opendir() returns only non-NULL if we actually open a directory.

Update #3530.

#### **Comment 16**

1. **Joel Sherrill**, Fri, 02 Nov 2018 14:16:10 GMT

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.

#### **Comment 17**

1. **Sebastian Huber**, Thu, 19 Dec 2019 08:20:33 GMT

An up to date Coverity run would be nice to see if all issues are fixed.

#### **Comment 18**

1. **Joel Sherrill**, Thu, 19 Dec 2019 14:49:38 GMT

I just submitted one. Hopefully it will pop out soon.

**Comment 19**

1. **Sebastian Huber**, Wed, 04 Mar 2020 07:22:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

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.

---

**3531 - Add POSIX Attribute Reports for More Than Scheduler (examples-v2)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3531">https://devel.rtems.org/ticket/3531</a> ( <a href="https://devel.rtems.org/ticket/3531">https://devel.rtems.org/ticket/3531</a> )
<b>Id</b>	3531
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 September 2018 14:43:37
<b>Modified</b>	8 October 2018 15:56:51
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	examples
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Wed, 26 Sep 2018 14:43:47 GMT
2. **owner**: set to **Joel Sherrill**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Mon, 08 Oct 2018 15:56:51 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In f4ce641/examples-v2:

```
Add various programs to report default attributes for various POSIX objects
Closes #3531.
```

---

**3532 - RSB source only download is host specific**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3532">https://devel.rtems.org/ticket/3532</a> ( <a href="https://devel.rtems.org/ticket/3532">https://devel.rtems.org/ticket/3532</a> )
<b>Id</b>	3532
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 September 2018 22:59:29
<b>Modified</b>	21 May 2019 23:27:31
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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 `rtcms-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg`:

```
%if %{_build_os} == freebsd || %{_build_os} == darwin
%patch add gcc --rsb-file=freebsd-libgcc-sed-fix.patch -p0 https://gcc.gnu.org/bugzilla/attachment.cgi?id=41380
%hash sha256 freebsd-libgcc-sed-fix.patch 8a11bd619c2e5546668e328da00b387d02395c1e8ff4a99225152387a1e60a4
%endif
```

The simpler construct in `rtcms-tools-common-1.cfg` of:

```
%ifos win32 mingw ming32
SB_BUILD_ROOT_WAF=$SB_BUILD_ROOT$(echo %{_prefix} | cut -c 1-2)
%else
SB_BUILD_ROOT_WAF=$SB_BUILD_ROOT
%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:

```
%if %{download_only} || %{_build_os} == freebsd || %{_build_os} == darwin
%patch add gcc foobar-bsd.patch
%else
%patch add gcc foobar-gnu.patch
%endif
```

We require the logic to follow the `%if` True path and the `%else` path.

**Comment 1**

1. **Chris Johns**, Thu, 27 Sep 2018 23:08:52 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Chris Johns**, Tue, 21 May 2019 23:27:31 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In `a74e432/rtcms-source-builder`:

```
sb: Add sb-get-sources to download all referenced source files.
Downloads all files into a single directory Iterates over all supported hosts to get any host dependent source
no matter which host you run the command on.
Closes #3532
```

**3533 - Add `rtcms_task_exit()`**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3533">https://devel.rtems.org/ticket/3533</a> ( <a href="https://devel.rtems.org/ticket/3533">https://devel.rtems.org/ticket/3533</a> )
<b>Id</b>	3533
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 September 2018 08:04:51
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtcms
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3529
<b>Blocked by</b>	

**Description**

The `rtcms_task_delete(RTEMS_SELF)` function does not return. In order to aid compilers and static analysis tools provide an `rtcms_task_exit()` function which can be specified as a no return function.

```
void rtems_task_exit(void) RTEMS_NO_RETURN;
```

This is similar to the POSIX equivalent.

```
void pthread_exit (void * value ptr) dead2;
```

**Comment 1**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:49:55 GMT

file:///opt/work/chris/rtems/releasing/rtcms-release.git/5.2-rc1/ws-rtems-release-notes/rtcms-5.2-rc1-release-notes.html

In e50e3f70/rtems:

```
rtems: Add rtems_task_exit()
Update #3533.
```

#### **Comment 2**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:50:06 GMT

In f004b2b8/rtems:

```
Use rtems_task_exit()
Update #3530. Update #3533.
```

#### **Comment 3**

1. **Sebastian Huber**, Thu, 04 Oct 2018 09:05:52 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 6a20bd2/rtems-docs:

```
c-user: Document rtems_task_exit()
Close #3533.
```

#### **Comment 4**

1. **Sebastian Huber**, Fri, 05 Oct 2018 05:31:58 GMT

In 8352d41/rtems:

```
spthreadlife01: A task exit must not return
Update #3533.
```

#### **Comment 5**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:15:42 GMT

In 51b3cbca/rtems:

```
tests: Use rtems_task_exit()
Update #3533.
```

#### **Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

### **3535 - Remove stdin, stdout, stderr convenience routines for CEXP**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3535">https://devel.rtems.org/ticket/3535</a> ( <a href="https://devel.rtems.org/ticket/3535">https://devel.rtems.org/ticket/3535</a> )
<b>Id</b>	3535
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	1 October 2018 06:18:05
<b>Modified</b>	4 October 2018 08:49:45
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	



**Description**

These functions should be moved to a general CEXP support.

**Comment 1**

1. **Sebastian Huber**, Thu, 04 Oct 2018 08:49:45 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 57a7ecde/rtems:

```
telnetd: Remove CEXP convenience routines
Close #3535.
```

**3536 - Move RTEMS configuration data to a common config directory**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3536">https://devel.rtems.org/ticket/3536</a> ( <a href="https://devel.rtems.org/ticket/3536">https://devel.rtems.org/ticket/3536</a> )
<b>Id</b>	3536
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 October 2018 06:49:45
<b>Modified</b>	3 October 2018 01:51:51
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Chris Johns**, Wed, 03 Oct 2018 01:51:51 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 5416cfa/rtems-tools:

```
config: Create a config directory and move the RTEMS arch/bsp data to it.
Closes #3536
```

**3537 - RSB and RTEMS Tools Support for python2 and python3**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3537">https://devel.rtems.org/ticket/3537</a> ( <a href="https://devel.rtems.org/ticket/3537">https://devel.rtems.org/ticket/3537</a> )
<b>Id</b>	3537
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 October 2018 21:38:43
<b>Modified</b>	25 December 2018 01:15:53
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 04 Oct 2018 05:55:01 GMT

Do we have a host platform without python3 support? If not, then I would simply use python3 and stop using python/python2.

**Comment 2**

1. **Chris Johns**, Thu, 04 Oct 2018 06:30:58 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 04 Oct 2018 06:40:08 GMT

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.

**Comment 4**

1. **Chris Johns**, Thu, 04 Oct 2018 07:21:09 GMT

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.

**Comment 5**

1. **Chris Johns**, Fri, 12 Oct 2018 16:48:06 GMT
2. **severity**: changed from **normal** to **blocker**

We need this working for a release.

**Comment 6**

1. **Chris Johns**, Fri, 19 Oct 2018 00:21:47 GMT
2. **status**: changed from **assigned** to **accepted**

**Comment 7**

1. **Chris Johns**, Sun, 21 Oct 2018 00:02:49 GMT

In 13f4c37/rtems-source-builder:

```
sb: Add support to search for a suitable version of python.
```

```
The command python has been removed from upstream python and python2 and python3 is now used. This patch wraps the commands in a shell script that locates a suitable python to run.
```

```
Updates #3537
```

**Comment 8**

1. **Chris Johns**, Wed, 24 Oct 2018 10:46:06 GMT

In e2209fa/rtems-source-builder:

```
sb: Fix rtems-build-dep to handle various issues
Remove CR characters on Windows. Force the compiler to output English so the pattern
matching works.
Updates #3537.
```

**Comment 9**

1. **Joel Sherrill**, Wed, 24 Oct 2018 18:42:23 GMT

In 0794cc3/rtems-source-builder:

```
rtems-build-dep: Add support for Cygwin
updates #3537.
```

**Comment 10**

1. **Chris Johns**, Thu, 08 Nov 2018 22:58:32 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In e058db0/rtems-tools:

```
python: Provide support to select a valid python version.
Update imports after wrapping the code. Fix python3 issues. Fix config path issues for in repo and install runs.
Closes #3537
```

**Comment 11**

1. **Chris Johns**, Mon, 17 Dec 2018 23:59:24 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

Support for python-config needs to be added. FreeBSD 11.2-RELEASE-p5 has:

```
$ find /usr/local/ -name Python.h
/usr/local/include/python3.6m/Python.h
```

Notice the m in the path. The python-config command gives:

```
$ python3-config --includes
-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.

**Comment 12**

1. **Chris Johns**, Tue, 25 Dec 2018 01:15:53 GMT
2. **status**: changed from **reopened** to **closed**
3. **resolution**: set to **fixed**

In 257c926/rtems-source-builder:

```
gdb/python: Use python-config for the configuration if found.
Do not assume the installed paths for the header and library.
Ask python-config if found.
Close #3537.
```

**3538 - Classic API Barrier Wait Section Title Has Wrong Name**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3538">https://devel.rtems.org/ticket/3538</a> ( <a href="https://devel.rtems.org/ticket/3538">https://devel.rtems.org/ticket/3538</a> )
<b>Id</b>	3538
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 October 2018 16:18:12
<b>Modified</b>	5 October 2018 21:27:59
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The section title says obtain not wait.  
Likely also applies to 4.11.

**Comment 1**

1. **Joel Sherrill**, Wed, 03 Oct 2018 16:18:20 GMT
2. **owner:** set to **Joel Sherrill**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Fri, 05 Oct 2018 21:27:59 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 304bc2c/rtems-docs:

```
barrier_manager.rst: Fix Barrier Wait Section Title
closes #3538.
```

**3539 - Remove CPU\_PROVIDES\_IDLE\_THREAD\_BODY**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3539">https://devel.rtems.org/ticket/3539</a> ( <a href="https://devel.rtems.org/ticket/3539">https://devel.rtems.org/ticket/3539</a> )
<b>Id</b>	3539
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 October 2018 06:04:34
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Remove the CPU\_PROVIDES\_IDLE\_THREAD\_BODY option to avoid unnecessary conditional compilation.

**Comment 1**

1. **Sebastian Huber**, Mon, 08 Oct 2018 05:15:31 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8776bb9/rtems:

```
score: Remove CPU_PROVIDES_IDLE_THREAD_BODY
```

Remove the CPU\_PROVIDES\_IDLE\_THREAD\_BODY option to avoid unnecessary conditional compilation.  
Close #3539.

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords: qualification** added

**3542 - Remove keep\_stdio feature from Telnet service**

**Link** <https://devel.rtems.org/ticket/3542> (<https://devel.rtems.org/ticket/3542>)  
**Id** 3542  
**Reporter** Sebastian Huber  
**Created** 9 October 2018 12:14:38  
**Modified** 10 October 2018 12:06:50  
**Owner** Sebastian Huber  
**Type** task  
**Component** lib  
**Status** closed  
**Resolution** fixed  
**Version** 5  
**Milestone** 5.1  
**Priority** normal  
**Severity** normal  
**Keywords**  
**Cc**  
**Blocking**  
**Blocked by**

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 10 Oct 2018 12:06:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 629faf9/rtems:

```
telnetd: Remove keep_stdio feature
```

```
The Telnet service started via rtems_telnetd_start() had a keep_stdio feature. This just created a task and executed 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 feature and provide only the real Telnet server functionality.
```

```
Use syslog() for error and status messages.
```

```
Add test program for the Telnet server.
```

```
Close #3542.
```

**3543 - Change Telnet server to allocate most resources during initialization**

**Link** <https://devel.rtems.org/ticket/3543> (<https://devel.rtems.org/ticket/3543>)  
**Id** 3543  
**Reporter** Sebastian Huber  
**Created** 9 October 2018 12:56:35  
**Modified** 11 October 2018 07:12:08  
**Owner** Sebastian Huber  
**Type** task  
**Component** lib  
**Status** closed  
**Resolution** fixed  
**Version** 5  
**Milestone** 5.1  
**Priority** normal  
**Severity** normal  
**Keywords**  
**Cc**  
**Blocking** 3529  
**Blocked by**

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 11 Oct 2018 07:11:14 GMT

In 6d3ec58/rtems:

```
telnetd: Simplify task spawn function
Use the minimum task size for the telnet server task since it has to deal only with simple socket operations.
Update #3543.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 11 Oct 2018 07:11:25 GMT

In 1c567c5/rtems:

```
telnetd: Rename shell_args to telnetd_session
Update #3543.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 11 Oct 2018 07:11:35 GMT

In bf4c7ff6/rtems:

```
telnetd: Create server socket at start
Update #3543.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 Oct 2018 07:11:46 GMT

In 0f0e130/rtems:

```
telnetd: Allocate the server context
Update #3543.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 11 Oct 2018 07:11:57 GMT

In 0dc303f/rtems:

```
telnetd: Create sessions at start
Update #3543.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 11 Oct 2018 07:12:08 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 26b58b7e/rtems:

```
telnetd: Add server port to configuration
Close #3543.
```

---

**3545 - Support O\_DIRECTORY open() flag**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3545">https://devel.rtems.org/ticket/3545</a> ( <a href="https://devel.rtems.org/ticket/3545">https://devel.rtems.org/ticket/3545</a> )
<b>Id</b>	3545
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 October 2018 08:49:05
<b>Modified</b>	23 October 2018 14:02:07
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3530
<b>Blocked by</b>	

---

**Description**

Use this flag in opendir().

**Comment 1**

1. **Sebastian Huber**, Fri, 12 Oct 2018 12:16:56 GMT

In 35c533f/rtems-source-builder:

5: Update Newlib

Pick up POSIX header file changes and improved opendir() implementation. This addresses time of check and time of use error conditions (TOCTOU).

Update #3530. Update #3545. Update #3546. Update #3547.

**Comment 2**

1. **Sebastian Huber**, Thu, 18 Oct 2018 09:13:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4af18b3/rtems:

Support O\_DIRECTORY open() flag

Close #3545.

**Comment 3**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:07 GMT

In 92e0eed/rtems:

psxreaddir: Adjust test due to opendir() changes

Update #3545.

**3546 - Support O\_NOFOLLOW open() flag**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3546">https://devel.rtems.org/ticket/3546</a> ( <a href="https://devel.rtems.org/ticket/3546">https://devel.rtems.org/ticket/3546</a> )
<b>Id</b>	3546
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 October 2018 08:50:06
<b>Modified</b>	23 October 2018 14:02:33
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description****Comment 1**

1. **Sebastian Huber**, Fri, 12 Oct 2018 12:16:56 GMT

In 35c533f/rtems-source-builder:

5: Update Newlib

Pick up POSIX header file changes and improved opendir() implementation. This addresses time of check and time of use error conditions (TOCTOU).

Update #3530. Update #3545. Update #3546. Update #3547.

**Comment 2**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:33 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1ad26cd/rtems:

Support O\_NOFOLLOW open() flag

Close #3546.

**3547 - Support O\_CLOEXEC open() flag**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3547">https://devel.rtems.org/ticket/3547</a> ( <a href="https://devel.rtems.org/ticket/3547">https://devel.rtems.org/ticket/3547</a> )
<b>Id</b>	3547
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 October 2018 08:50:59
<b>Modified</b>	23 October 2018 14:02:29
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

This is a POSIX flag. Make sure its use causes no open failure.

**Comment 1**

1. **Sebastian Huber**, Fri, 12 Oct 2018 12:16:56 GMT

In 35c533f/rtems-source-builder:

5: Update Newlib

Pick up POSIX header file changes and improved opendir() implementation. This addresses time of check and time of use error conditions (TOCTOU).

Update #3530. Update #3545. Update #3546. Update #3547.

**Comment 2**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:02:29 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3825926/rtems:

Support O\_CLOEXEC open() flag

Make sure this flag is ignored and does not prevent a successful open.

Close #3547.



## 3549 - Obsolete powerpc/virtex BSP

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3549">https://devel.rtems.org/ticket/3549</a> ( <a href="https://devel.rtems.org/ticket/3549">https://devel.rtems.org/ticket/3549</a> )
<b>Id</b>	3549
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 October 2018 05:11:29
<b>Modified</b>	15 October 2018 05:15:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3505, 3550
<b>Blocked by</b>	

---

### Description

This BSP is quite old (was added 1995), unmaintained and likely without users:  
<https://lists.rtems.org/pipermail/users/2018-September/032557.html>

### Comment 1

1. **Sebastian Huber**, Mon, 15 Oct 2018 05:12:06 GMT
2. **blocking**: set to **3550**

### Comment 2

1. **Sebastian Huber**, Mon, 15 Oct 2018 05:14:44 GMT
2. **blocking**: changed from **3550** to **3505, 3550**

### Comment 3

1. **Sebastian Huber**, Mon, 15 Oct 2018 05:15:00 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **resolution**: set to **fixed**
- 

## 3551 - Move default configuration to separate library

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3551">https://devel.rtems.org/ticket/3551</a> ( <a href="https://devel.rtems.org/ticket/3551">https://devel.rtems.org/ticket/3551</a> )
<b>Id</b>	3551
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 October 2018 06:21:45
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	2514
<b>Blocked by</b>	

---

### Description

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:

- 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.
- 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`.

**Comment 1**

1. **Sebastian Huber**, Tue, 23 Oct 2018 14:12:55 GMT

In 1b89636/rtems\_waf:

Avoid default RTEMS application configuration

Use a test body with a proper RTEMS application configuration to avoid a dependency on the default configuration. Do not include directly since this header file is an implementation detail.

Update #3551.

**Comment 2**

1. **Sebastian Huber**, Thu, 25 Oct 2018 05:52:50 GMT

In 2ce13cf/rtems-libbsd:

Update rtems\_waf

Update #3551.

**Comment 3**

1. **Sebastian Huber**, Thu, 25 Oct 2018 05:57:01 GMT

In 15c9509/examples-v2:

Update rtems\_waf

Update #3551.

**Comment 4**

1. **Sebastian Huber**, Tue, 30 Oct 2018 06:11:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 55b69ed/rtems:

Move default config to librtemsdefaultconfig.a

An RTEMS application default configuration is contained in cpukit/libmisc/dummy/default-configuration.c. This default configuration was contained in librtemscpu.a. This had at least two problems:

Application configuration errors may have pulled in the default configuration which in turn lead to multiply define symbols error. This was quite confusing. You had to consult the linker map file to figure out what cased the pull in of the default configuration. You needed to know what a linker map file is and how you generate it with your build system. This was not very user friendly. It prevented the use of default configuration items for each subsystem in librtemscpu.a. This may be used to reduce the size of the configuration itself.

Move the default configuration to the separate library librtemsdefaultconfig.a.

Close #3551.

**Comment 5**

1. **Sebastian Huber**, Thu, 08 Nov 2018 13:00:54 GMT

In 942d52a/rtems:

build: Fix library order

Update #3551.

**Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

---

**3552 - cpu usage error in SMP mode**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3552">https://devel.rtems.org/ticket/3552</a> ( <a href="https://devel.rtems.org/ticket/3552">https://devel.rtems.org/ticket/3552</a> )
<b>Id</b>	3552
<b>Reporter</b>	jameszsj
<b>Created</b>	17 October 2018 05:38:26
<b>Modified</b>	19 December 2019 13:21:22
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

- 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.

**Attachments:**

- 
- 1 **jameszsj, Wed, 17 Oct 2018 05:38:48 GMT**  
**attach:** set to `cpuusagetop.patch` (<https://devel.rtems.org/ticket/3552/cpuusagetop.patch>)
- 

**Comment 1**

1. **Chris Johns**, Fri, 19 Oct 2018 00:11:38 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **accepted**

**Comment 2**

1. **Chris Johns**, Thu, 19 Dec 2019 13:21:22 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In c737748b/rtems:

```
libmisc/top: Fix the idle time and priorities on SMP
This patch is based on the patch attached to #3552 submitted
by jameszsj.
Closes #3552
```

---

**3553 - rtems-libbsd Missing waf in Top Directory**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3553">https://devel.rtems.org/ticket/3553</a> ( <a href="https://devel.rtems.org/ticket/3553">https://devel.rtems.org/ticket/3553</a> )
<b>Id</b>	3553
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 October 2018 21:53:12
<b>Modified</b>	26 October 2018 21:14:41
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	waf
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 25 Oct 2018 22:06:08 GMT
2. **summary:** changed from **rterms-libbsd Missing waf in Top Directory** to **rtems-libbsd Missing waf in Top Directory**

**Comment 2**

1. **Joel Sherrill**, Fri, 26 Oct 2018 21:14:41 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

<https://git.rtems.org/rtems-libbsd/commit/?id=4ed04cbc0696f0f78029241b8224e7eab4f9bbfe>

---

**3554 - rtems-libbsd README.waf Needs an Update Sweep**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3554">https://devel.rtems.org/ticket/3554</a> ( <a href="https://devel.rtems.org/ticket/3554">https://devel.rtems.org/ticket/3554</a> )
<b>Id</b>	3554
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	18 October 2018 21:54:48
<b>Modified</b>	22 January 2019 14:04:04
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 18 Oct 2018 21:55:02 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Sebastian Huber**, Tue, 22 Jan 2019 14:04:04 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed with [9e7f3b73b26c2c724caf2560744894f1108a386b/rtems-libbsd].

---

**3555 - IRC bots need to be registered to join #rtems**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3555">https://devel.rtems.org/ticket/3555</a> ( <a href="https://devel.rtems.org/ticket/3555">https://devel.rtems.org/ticket/3555</a> )
<b>Id</b>	3555
<b>Reporter</b>	Amar Takhar
<b>Created</b>	18 October 2018 23:58:46
<b>Modified</b>	19 October 2018 02:02:00
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	irc
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Due to the spam on Freenode only registered users can join #rtems. The bots both need accounts now.

**Comment 1**

1. **Amar Takhar**, Fri, 19 Oct 2018 02:02:00 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

This is fixed, stupid spammers!

---

**3557 - Test ticket**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3557">https://devel.rtems.org/ticket/3557</a> ( <a href="https://devel.rtems.org/ticket/3557">https://devel.rtems.org/ticket/3557</a> )
<b>Id</b>	3557
<b>Reporter</b>	Amar Takhar
<b>Created</b>	20 October 2018 14:47:19
<b>Modified</b>	20 October 2018 15:21:51
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3175
<b>Blocked by</b>	

---

**Description**

Using this as a test ticket to test out my fix.

**Comment 1**

1. **Amar Takhar**, Sat, 20 Oct 2018 14:47:26 GMT

Test comment 1

**Comment 2**

1. **Amar Takhar**, Sat, 20 Oct 2018 14:47:32 GMT

Test comment 2

**Comment 3**

1. **Amar Takhar**, Sat, 20 Oct 2018 14:57:04 GMT

Okay this should email me in comment:2 with the fix that email will not be sent. The fix isn't in testing to make sure I get the unwanted email.

**Comment 4**

1. **Amar Takhar**, Sat, 20 Oct 2018 14:58:26 GMT

Another test to be sure.

#### Comment 5

1. **Amar Takhar**, Sat, 20 Oct 2018 15:09:32 GMT

Testing fix.

#### Comment 6

1. **Amar Takhar**, Sat, 20 Oct 2018 15:10:13 GMT

Removing fix and testing old method to be sure.

#### Comment 7

1. **Amar Takhar**, Sat, 20 Oct 2018 15:12:21 GMT

The fix in comment:5 worked great. I removed it and it was broken again this should be the last test before I attempt to close #3175

#### Comment 8

1. **Amar Takhar**, Sat, 20 Oct 2018 15:16:59 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

Fix works as expected see -- I forgot to open a ticket for this #2932 is unrelated.

#### Comment 9

1. **Amar Takhar**, Sat, 20 Oct 2018 15:21:27 GMT

2. **type:** changed from **defect** to **infra**

3. **blocking:** changed from **2932** to **3175**

4. **summary:** changed from **Test ticket (Fix for #2932)** to **Test ticket**

I never opened a ticket or this #2932 is for a different issue.

## **3558 - Update TracSpamFilter**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3558">https://devel.rtems.org/ticket/3558</a> ( <a href="https://devel.rtems.org/ticket/3558">https://devel.rtems.org/ticket/3558</a> )
<b>Id</b>	3558
<b>Reporter</b>	Amar Takhar
<b>Created</b>	20 October 2018 15:36:23
<b>Modified</b>	20 October 2018 15:36:36
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

Updated to the latest Trac Spam Filter and upgraded captcha to v2 to avoid any errors. This was reported a while back and should fix any issues.

There are more please open a new ticket.

#### **Comment 1**

1. **Amar Takhar**, Sat, 20 Oct 2018 15:36:36 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

Please re-open if there any other captcha / spam issues.

## **3559 - Fix NavAdd plugin.**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3559">https://devel.rtems.org/ticket/3559</a> ( <a href="https://devel.rtems.org/ticket/3559">https://devel.rtems.org/ticket/3559</a> )
<b>Id</b>	3559
<b>Reporter</b>	Amar Takhar
<b>Created</b>	20 October 2018 15:50:26
<b>Modified</b>	21 October 2018 03:35:43
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Joel Sherrill Chris Johns
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

I had no idea but this had gotten removed in the last upgrade I've re-added it.

This makes a few changes to the navigation:

- "New Ticket" now goes to /wiki/NewTicket
- There is a new button "New Ticket (direct)" in the upper right for those who want to directly go to creating a ticket.
- "My Tickets" used to go to a query but now goes to the new wiki:MyTickets page.

These changes existed years ago when NavAdd? was working I opened this ticket in case anyone has complaints about it coming back if not I will close it in a few days.

**Comment 1**

1. **Gedare Bloom**, Sat, 20 Oct 2018 18:43:40 GMT

Seems fine to me.

**Comment 2**

1. **Amar Takhar**, Sun, 21 Oct 2018 03:35:43 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Based on feedback I'm closing this early it can always be re-opened and if required.

---

**3560 - Fix FlexibleAssignTo**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3560">https://devel.rtems.org/ticket/3560</a> ( <a href="https://devel.rtems.org/ticket/3560">https://devel.rtems.org/ticket/3560</a> )
<b>Id</b>	3560
<b>Reporter</b>	Amar Takhar
<b>Created</b>	20 October 2018 18:39:22
<b>Modified</b>	21 October 2018 03:36:03
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	2933

---

**Description**

When we first went to trac we had restrictions on the 'owner' to developers only. When track was upgraded this broke completely but all the code to handle this was already in place.

I took the time to fix it today so we have dropdowns again.

I've created this ticket to see if anyone has an issue with this should we keep it? Drop it? I know it's been years but it was our original choice.

See any ticket the 'reassign to' and on a new ticket the 'assign to' is now a dropdown. These are based on trac permissions so we can always add more if we need it but it really should be restricted to having a project member be the owner so we can ensure tickets are closed and sorted properly.

**Comment 1**

1. **Joel Sherrill**, Sat, 20 Oct 2018 18:45:16 GMT

I'm not sure what this changes so don't have an opinion yet. If it sucks, I am sure someone will complain. Lol

**Comment 2**

1. **Gedare Bloom**, Sat, 20 Oct 2018 18:45:41 GMT

With this we lose the ability to set the owner to the "Needs Funding" category to indicate that no developer is willing to be responsible for it.

**Comment 3**

1. **Amar Takhar**, Sat, 20 Oct 2018 19:01:53 GMT

Replying to Gedare:

With this we lose the ability to set the owner to the "Needs Funding" category to indicate that no developer is willing to be responsible for it.

Thank you I have just fixed this.

**Comment 4**

1. **Amar Takhar**, Sat, 20 Oct 2018 21:46:33 GMT

Replying to Joel Sherrill:

I'm not sure what this changes so don't have an opinion yet. If it sucks, I am sure someone will complain. Lol

Look at these two pages:

<https://devel.rtems.org/newticket> <https://devel.rtems.org/ticket/3560>

Check the "assign" and "assign to" or "reassign-to" fields it is now a restricted dropdown. It used to be like this years ago.

**Comment 5**

1. **Amar Takhar**, Sat, 20 Oct 2018 22:58:08 GMT

2. **blockedby**: set to **2933**

**Comment 6**

1. **Amar Takhar**, Sun, 21 Oct 2018 03:36:03 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

Based on feedback I am closing this it can always be re-opened if there are any issues.

**3561 - Migrate to CommitTicketUpdater**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3561">https://devel.rtems.org/ticket/3561</a> ( <a href="https://devel.rtems.org/ticket/3561">https://devel.rtems.org/ticket/3561</a> )
<b>Id</b>	3561
<b>Reporter</b>	Amar Takhar
<b>Created</b>	21 October 2018 00:13:37
<b>Modified</b>	21 November 2018 23:14:33
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	git
<b>Cc</b>	Joel Sherrill Chris Johns Sebastian Huber
<b>Blocking</b>	
<b>Blocked by</b>	2233, 3238

**Description**

The old script was ancient and outdated. I've now killed it off and moved to the internal system described here:

<https://trac.edgewall.org/wiki/CommitTicketUpdater>

This should handle all scenarios if it does not please let me know. I will leave this ticket open for a week or so.

**Comment 1**

1. **Chris Johns**, Sun, 21 Oct 2018 21:15:11 GMT



Should <https://devel.rtems.org/wiki/Developer/Git/Committers> be updated with something about the triggers, even a link to Trac doco?

#### Comment 2

1. **Amar Takhar**, Sun, 21 Oct 2018 21:28:55 GMT

Replying to Chris Johns:

Should <https://devel.rtems.org/wiki/Developer/Git/Committers> be updated with something about the triggers, even a link to Trac doco?

Great idea how is this? [wiki:Developer/Git/Committers#TicketUpdates](https://devel.rtems.org/wiki/Developer/Git/Committers#TicketUpdates)

#### Comment 3

1. **Chris Johns**, Tue, 23 Oct 2018 06:23:25 GMT

2. **priority**: changed from **normal** to **highest**

3. **severity**: changed from **normal** to **critical**

Git pushes are not updating \_\_Trac\_\_ up as report by Sebastian in an email..

[https://git.rtems.org/rtems\\_waf/commit/?id=1b896361d302aeda0145af90972aea863e28898f](https://git.rtems.org/rtems_waf/commit/?id=1b896361d302aeda0145af90972aea863e28898f)

It didn't update the ticket:

<https://devel.rtems.org/ticket/3551>

It doesn't show up in the Git view in Trac:

[https://devel.rtems.org/log/rtems\\_waf](https://devel.rtems.org/log/rtems_waf)

The common git hook `/data/support/git-support/hooks/post-receive-3` for \_\_Trac\_\_ is commented out:

```
stat -x /data/support/git-support/hooks/post-receive-3 | grep Modify
Modify: Sun Oct 21 00:09:04 2018
```

I suggest we manually update all tickets until this is resolved. I am not sure why this has been done.

#### Comment 4

1. **Amar Takhar**, Tue, 23 Oct 2018 13:48:36 GMT

Replying to Chris Johns:

I suggest we manually update all tickets until this is resolved. I am not sure why this has been done.

It was done due to the numerous complaints about tickets not updating especially with multiple commits.

The way we were doing has been unsupported for over 4 years now it's broken and hacky this change was inevitable I'll look into it I can manually force trac to update the tickets as required so we won't lose anything.

#### Comment 5

1. **Amar Takhar**, Tue, 23 Oct 2018 14:08:21 GMT

I forced an update and changed how I was doing the update we'll see if it works this way.

#### Comment 6

1. **Chris Johns**, Tue, 23 Oct 2018 21:46:07 GMT

Replying to Amar Takhar:

I forced an update and changed how I was doing the update we'll see if it works this way.

Could you please explain the change and is there anything we need to do, I am confused if we still need to manually handle ticket updates?

#### Comment 7

1. **Sebastian Huber**, Wed, 24 Oct 2018 05:05:35 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

Thanks for fixing this. The automatic update worked with this commit:

[\[05a5366469ee4ee7776f70dceea631ea57a63b19/rtems-docs\]](https://git.rtems.org/rtems-waf/commit/05a5366469ee4ee7776f70dceea631ea57a63b19/rtems-docs)

#### Comment 8

1. **Sebastian Huber**, Fri, 26 Oct 2018 17:17:54 GMT

2. **status**: changed from **closed** to **reopened**

3. **resolution**: **fixed** deleted

I checked in four commits at once:

<https://git.rtems.org/rtems/log/?qt=range&q=01595a4f321ad890270a3bc3e21c98ba51163562..24b58072ff1ac5a1691374aa139807bf866bf01a>

Only the last commit updated the ticket system. This one for example didn't update the corresponding ticket:

<https://git.rtems.org/rtems/commit?id=4b801acc2003073c50b381435896a29f29e51a3c>

<https://devel.rtems.org/ticket/2514#comment:41>

#### Comment 9

1. **Amar Takhar**, Thu, 15 Nov 2018 02:18:10 GMT

While working on Buildbot I discovered what was causing this issue. The changeset updating in trac wasn't properly iterating over every commit in a push just the parent.

I have changed it now hopefully it should catch everything now. Let me know if it doesn't thanks.

#### Comment 10

1. **Sebastian Huber**, Fri, 16 Nov 2018 06:25:22 GMT

I committed this to rtems-docs:

<https://git.rtems.org/rtems-docs/commit?id=e49e4056c7d4b7fa35881cfc3522c6e038940e84>

I received this from Git:

```
git push origin e49e4056c7d4b7fa35881cfc3522c6e038940e84:master
Counting objects: 4, done.
Delta compression using up to 12 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 481 bytes | 481.00 KiB/s, done.
Total 4 (delta 3), reused 0 (delta 0)
remote: 0: init
remote: 1: mail vc@rtems.org
remote: NoSuchChangeset: No changeset e49e4056c7d4b7fa35881cfc3522c6e038940e84 in the repository
remote: 4: IRC
remote: fatal: bad object e49e4056c7d4b7fa35881cfc3522c6e038940e84
remote: irc notice: Invalid number of commits: 0
remote: 5: Buildbot
To ssh://dispatch.rtems.org/data/git/rtems-docs.git
 1a704cd..e49e405  e49e4056c7d4b7fa35881cfc3522c6e038940e84 -> master
```

The corresponding tickets were not updated, e.g. #3584.

#### Comment 11

1. **Amar Takhar**, Fri, 16 Nov 2018 23:07:44 GMT

I reworked a lot of these scripts to make it much easier to modify going forward as a few more will be added. I left some old variables in one of them that were statically set to 'rtems'.

This should fix this problem please let me know if it does not.

#### Comment 12

1. **Amar Takhar**, Wed, 21 Nov 2018 23:14:33 GMT

2. **status:** changed from **reopened** to **closed**

3. **resolution:** set to **fixed**

I have not heard any complaints and multiple references should work now as the bug was extremely clear. If it's still an issue please re-open.

## 3562 - Use a short paths for the RSB temporary build path on Windows

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3562">https://devel.rtems.org/ticket/3562</a> ( <a href="https://devel.rtems.org/ticket/3562">https://devel.rtems.org/ticket/3562</a> )
<b>Id</b>	3562
<b>Reporter</b>	Chris Johns
<b>Created</b>	22 October 2018 00:58:24
<b>Modified</b>	5 November 2018 04:47:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

The %[\_tmproot] path is currently based on a BuildRoot setting in the build configuration files. The line is:

```
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.

**Comment 1**

1. **Chris Johns**, Mon, 22 Oct 2018 00:58:42 GMT
2. **component:** changed from **admin** to **tool/rsb**

**Comment 2**

1. **Chris Johns**, Mon, 05 Nov 2018 04:47:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 96c414c/rtems-source-builder:

windows: Remove BuildRoot? from all configs, add a short tmp path.

Closes #3562.

**3568 - RSB: UnboundLocalError: local variable 'build\_max\_size\_human' referenced before assignment**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3568">https://devel.rtems.org/ticket/3568</a> ( <a href="https://devel.rtems.org/ticket/3568">https://devel.rtems.org/ticket/3568</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 October 2018 05:59:20
<b>Modified</b>	11 January 2019 06:25:45
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

../source-builder/sb-set-builder --prefix=/build/rtems/5 5/rtems-or1k

```
...
config: tools/rtems-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b.cfg
package: orlk-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
warning: gcc-4.9.3-orlk.patch: no hash found
building: orlk-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
error: building orlk-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
Build FAILED
See error report: rsb-report-ork-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1.txt
error: building orlk-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
Mailing report: build@rtems.org
Traceback (most recent call last):
  File "../source-builder/sb/cmd-set-builder.py", line 26, in
    setbuilder.run()
  File "/scratch/git-rtems-source-builder/source-builder/sb/setbuilder.py", line 619, in run
    b.build(deps, mail = mail)
  File "/scratch/git-rtems-source-builder/source-builder/sb/setbuilder.py", line 530, in build
    body += 'Maximum build usage: ' + build_max_size_human + os.linesep
UnboundLocalError: local variable 'build_max_size_human' referenced before assignment
```

**Comment 1**

1. **Sebastian Huber**, Fri, 11 Jan 2019 06:25:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5f6ad9d/rtems-source-builder:

Fix 'build\_max\_size\_human' ref. before assignment

Close #3568.

**3569 - waf version in various rtems-repositories incompatible with python 3.7**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3569">https://devel.rtems.org/ticket/3569</a> ( <a href="https://devel.rtems.org/ticket/3569">https://devel.rtems.org/ticket/3569</a> )
<b>Id</b>	3569
<b>Reporter</b>	Malte Münch
<b>Created</b>	25 October 2018 07:31:14
<b>Modified</b>	27 February 2020 07:50:31
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	waf, python
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Attachments:

---

1 **Malte Münch, Thu, 25 Oct 2018 07:31:53 GMT**

**attach:** set to [Bildschirmfoto von 2018-10-25 09-30-47.png](https://devel.rtems.org/ticket/3569/Bildschirmfoto%20von%202018-10-25%2009-30-47.png) (<https://devel.rtems.org/ticket/3569/Bildschirmfoto%20von%202018-10-25%2009-30-47.png>)

---

#### Comment 1

1. **Chris Johns**, Sun, 11 Nov 2018 00:51:33 GMT
2. **milestone:** set to 5.1

#### Comment 2

1. **Christian Mauderer**, Tue, 18 Dec 2018 17:32:24 GMT

This is a problem with old waf versions and python 3.7. See <https://gitlab.com/ita1024/waf/commit/facdc0b173d933073832c768ec1917c553cb369c> for details.

#### Comment 3

1. **Christian Mauderer**, Tue, 18 Dec 2018 17:37:35 GMT

In e59f4ee/rtems-tools:

```
waf: Update to waf-2.0.13.  
This fixes a problem with python 3.7.  
Update #3569.
```

#### Comment 4

1. **Christian Mauderer**, Wed, 19 Dec 2018 09:03:11 GMT
2. **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.

#### Comment 5

1. **Christian Mauderer**, Fri, 21 Dec 2018 15:06:00 GMT

In 2fac55d/rtems-source-builder:

```
5/rtems-tools: Update RTEMS tools  
Picks up the new waf in rtems-tools to be compatible with python 3.7 and some tester updates.  
Update #3569.
```

#### Comment 6

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Tue, 25 Feb 2020 08:02:47 GMT
2. **component**: changed from **tool/rsb** to **build**

**Comment 7**

1. **Sebastian Huber**, Wed, 26 Feb 2020 10:41:30 GMT

In 4a2f3e5/rtems-tools:

```
waf: Update to waf-2.0.19
Update #3569.
```

**Comment 8**

1. **Sebastian Huber**, Wed, 26 Feb 2020 10:46:33 GMT

In 14c5cb7/rtems-source-builder:

```
5: Update rtems-tools
Pick up update to waf-2.0.19.
Update #3569.
```

**Comment 9**

1. **Sebastian Huber**, Wed, 26 Feb 2020 13:27:20 GMT

In e068cbf/rtems-docs:

```
waf: Update to waf-2.0.19
Update #3569.
```

**Comment 10**

1. **Sebastian Huber**, Thu, 27 Feb 2020 07:49:59 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

I updated also rtems-libbd and rtems-examples (these repositories seem to be not covered by the server Git hooks).

**3576 - gdb 8.0.1 sis does not build on Cygwin**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3576">https://devel.rtems.org/ticket/3576</a> ( <a href="https://devel.rtems.org/ticket/3576">https://devel.rtems.org/ticket/3576</a> )
<b>Id</b>	3576
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 October 2018 23:13:30
<b>Modified</b>	14 November 2018 18:47:45
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool/gdb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	sis, cygwin
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Attachments:**

- 1 **Joel Sherrill**, Tue, 30 Oct 2018 23:17:00 GMT  
**attach**: set to [gdb-8.0.1-sis-cygwin.diff](https://devel.rtems.org/ticket/3576/gdb-8.0.1-sis-cygwin.diff) (<https://devel.rtems.org/ticket/3576/gdb-8.0.1-sis-cygwin.diff>)

**Comment 1**

1. **Joel Sherrill**, Mon, 12 Nov 2018 20:13:15 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 84a94f7/rtems-source-builder:

```
rtems-gdb-8.0.1-1.cfg: Add Cygwin patch for ncurses not termcap
This also updates windows.py to distinguish between MSYS2 and Cygwin.
closes #3576.
```

**Comment 2**

1. **Joel Sherrill**, Wed, 14 Nov 2018 18:47:45 GMT

In 384ff19/rtems-source-builder:

```
rtems-gdb-8.0.1-1.cfg: Correct previous commit.
Updates #3576.
```

**3577 - Avoid CLoog and ISL host dependencies for target GCC**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3577">https://devel.rtems.org/ticket/3577</a> ( <a href="https://devel.rtems.org/ticket/3577">https://devel.rtems.org/ticket/3577</a> )
<b>Id</b>	3577
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 October 2018 07:21:59
<b>Modified</b>	6 November 2018 09:50:23
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Mon, 05 Nov 2018 07:12:29 GMT

Since GCC 5 the CLoog library is no longer necessary.

**Comment 2**

1. **Sebastian Huber**, Tue, 06 Nov 2018 09:50:16 GMT

In 509dfbd/rtems-source-builder:

```
Support in-tree CLoog and ISL libraries for GCC
Update #3577.
```

**Comment 3**

1. **Sebastian Huber**, Tue, 06 Nov 2018 09:50:23 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 9955b1a/rtems-source-builder:

```
5: Use in-tree ISL libraries for GCC
```

[Close #3577.](#)

### 3579 - testsuite's rtems-test-check.py python version support

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3579">https://devel.rtems.org/ticket/3579</a> ( <a href="https://devel.rtems.org/ticket/3579">https://devel.rtems.org/ticket/3579</a> )
<b>Id</b>	3579
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 November 2018 02:27:40
<b>Modified</b>	8 November 2018 23:20:25
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Chris Johns**, Thu, 08 Nov 2018 23:20:25 GMT
2. **owner:** set to **Chris Johns <chrisj@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 06ced25/rtems:

```
testsuite: Add python verison support to rtems-test-check.py
Closes #3579
```

### 3583 - Add rtems\_malloc() and rtems\_calloc()

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3583">https://devel.rtems.org/ticket/3583</a> ( <a href="https://devel.rtems.org/ticket/3583">https://devel.rtems.org/ticket/3583</a> )
<b>Id</b>	3583
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 11:56:08
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 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.

#### Comment 1

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:46 GMT

In c1f3c2b8/rtems:

```
score: Add and use malloc() family attributes
```

Update #3583.

#### Comment 2

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:54 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 6efc831/rtems:

Add `rtems_malloc()` and `rtems_calloc()`

Close #3583.

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

## 3585 - Deprecate `proc_ptr`

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3585">https://devel.rtems.org/ticket/3585</a> ( <a href="https://devel.rtems.org/ticket/3585">https://devel.rtems.org/ticket/3585</a> )
<b>Id</b>	3585
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 12:38:13
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3586
<b>Blocked by</b>	3599

#### Description

See comment in `basedefs.h`

```
/**
 * XXX: Eventually proc_ptr needs to disappear!!!
 */
typedef void * proc_ptr;
```

#### Comment 1

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:39:29 GMT
2. **blocking**: set to **3586**

#### Comment 2

1. **Sebastian Huber**, Thu, 08 Nov 2018 15:15:33 GMT
2. **blockedby**: set to **3599**

#### Comment 3

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:25 GMT

In b15b288/rtems:

score: Deprecate `proc_ptr`

Update #3585.

#### Comment 4

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:33 GMT

In 3faa8459/rtems:



rtems: Simplify rtems\_interrupt\_catch()  
Remove casts and superfluous inline functions.  
Update #3585.

#### **Comment 5**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:40 GMT

In d997aa1/rtems:

no\_cpu: Remove use of proc\_ptr  
Update #3585.

#### **Comment 6**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:48 GMT

In 685aa28/rtems:

arm: Remove use of proc\_ptr  
Update #3585.

#### **Comment 7**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:57 GMT

In 8203db45/rtems:

bfin: Remove use of proc\_ptr  
Update #3585.

#### **Comment 8**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:05 GMT

In a043ff8/rtems:

epiphany: Remove use of proc\_ptr  
Update #3585.

#### **Comment 9**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:13 GMT

In 3c6a6e8/rtems:

i386: Remove use of proc\_ptr  
Update #3585.

#### **Comment 10**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:21 GMT

In 0e16fa45/rtems:

lm32: Remove use of proc\_ptr  
Update #3585.

#### **Comment 11**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:29 GMT

In 5c6edee/rtems:

m68k: Remove use of proc\_ptr

Update #3585.

**Comment 12**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:36 GMT

In b6be8f33/rtems:

mips: Remove use of proc\_ptr

Update #3585.

**Comment 13**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:44 GMT

In 264e128/rtems:

moxie: Remove use of proc\_ptr

Update #3585.

**Comment 14**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:52 GMT

In 12dfa5e/rtems:

nios2: Remove use of proc\_ptr

Update #3585.

**Comment 15**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:42:59 GMT

In 54c5ffc/rtems:

or1k: Remove use of proc\_ptr

Update #3585.

**Comment 16**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:07 GMT

In ed9da8e/rtems:

powerpc: Remove use of proc\_ptr

Update #3585.

**Comment 17**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:15 GMT

In 510fbfc3/rtems:

sh: Remove use of proc\_ptr

Update #3585.

**Comment 18**1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:23 GMT

In ce37237f/rtems:

sparc: Remove use of proc\_ptr

Update #3585.

**Comment 19**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:31 GMT

In 70928bc9/rtems:

```
sparc64: Remove use of proc_ptr
Update #3585.
```

#### **Comment 20**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:43:38 GMT

In 4539e307/rtems:

```
x86_64: Remove use of proc_ptr
Update #3585.
```

#### **Comment 21**

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:18:18 GMT

This appears to have been resolved last year. There are no references to `proc_ptr` beyond the following:

```
b15b2881 cpukit/include/rtems/score/basedefs.h (Sebastian Huber 2018-11-08 06:25:06 +0100 564) typedef void * proc_ptr
RTEMS DEPRECA
```

#### **Comment 22**

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:18:26 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

#### **Comment 23**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

## **3587 - Deprecate rtems\_context**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3587">https://devel.rtems.org/ticket/3587</a> ( <a href="https://devel.rtems.org/ticket/3587">https://devel.rtems.org/ticket/3587</a> )
<b>Id</b>	3587
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 12:42:48
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3588
<b>Blocked by</b>	

#### **Description**

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.

#### **Comment 1**

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:43:40 GMT
2. **blocking**: set to **3588**

#### **Comment 2**

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:44:06 GMT
2. **component**: changed from **admin** to **rtems**

**Comment 3**

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:44:33 GMT
2. **description:** modified (diff)

**Comment 4**

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:46:12 GMT
2. **description:** modified (diff)

**Comment 5**

1. **Sebastian Huber**, Thu, 08 Nov 2018 07:11:27 GMT

In ef30eb1/rtems:

```
monitor: Remove dead code
Update #3587. Update #3589.
```

**Comment 6**

1. **Sebastian Huber**, Fri, 09 Nov 2018 06:25:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 0ac4a77/rtems:

```
rtems: Deprecate rtems_context
The rtems_context typedef as no corresponding API. A user can do nothing with it.
Close #3587.
```

**Comment 7**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

**3589 - Deprecate rtems\_context\_fp**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3589">https://devel.rtems.org/ticket/3589</a> ( <a href="https://devel.rtems.org/ticket/3589">https://devel.rtems.org/ticket/3589</a> )
<b>Id</b>	3589
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 12:45:29
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3590
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:45:47 GMT
2. **blocking:** **3588** deleted

**Comment 2**

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:47:08 GMT

2. **blocking:** set to **3590**

### Comment 3

1. **Sebastian Huber**, Thu, 08 Nov 2018 07:11:27 GMT

In ef30eb1/rtems:

```
monitor: Remove dead code
Update #3587. Update #3589.
```

### Comment 4

1. **Sebastian Huber**, Fri, 09 Nov 2018 06:25:59 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 7e86e00/rtems:

```
rtems: Deprecate rtems_context_fp
The rtems_context_fp typedef as no corresponding API. A user can do nothing with it.
Close #3589.
```

### Comment 5

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

## 3591 - Deprecate region\_information\_block

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3591">https://devel.rtems.org/ticket/3591</a> ( <a href="https://devel.rtems.org/ticket/3591">https://devel.rtems.org/ticket/3591</a> )
<b>Id</b>	3591
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 12:49:28
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3592
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:49:41 GMT
2. **blocking:** **3590** deleted

### Comment 2

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:50:21 GMT
2. **blocking:** set to **3592**

### Comment 3

1. **Sebastian Huber**, Fri, 09 Nov 2018 06:26:07 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In d53862a/rtems:

rtems: Deprecate region\_information\_block

The region\_information\_block typedef as no corresponding API. It has no proper namespace prefix. A user can do nothing with it.

Close #3591.

#### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords: qualification** added
- 

### 3593 - Deprecate rtems\_thread\_cpu\_usage\_t

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3593">https://devel.rtems.org/ticket/3593</a> ( <a href="https://devel.rtems.org/ticket/3593">https://devel.rtems.org/ticket/3593</a> )
<b>Id</b>	3593
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 12:52:54
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3594
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 07 Nov 2018 12:53:29 GMT
2. **blocking: set to 3594**

#### Comment 2

1. **Sebastian Huber**, Fri, 09 Nov 2018 06:26:15 GMT
2. **status: changed from assigned to closed**
3. **resolution: set to fixed**

In aacc7a0/rtems:

rtems: Deprecate rtems\_thread\_cpu\_usage\_t

The rtems\_thread\_cpu\_usage\_t typedef as no corresponding API. It violates the POSIX namespace. A user can do nothing with it.

Close #3593.

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords: qualification** added
- 

### 3595 - Deprecate rtems\_rate\_monotonic\_period\_time\_t

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3595">https://devel.rtems.org/ticket/3595</a> ( <a href="https://devel.rtems.org/ticket/3595">https://devel.rtems.org/ticket/3595</a> )
<b>Id</b>	3595
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	7 November 2018 13:00:28
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3596
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 07 Nov 2018 13:01:09 GMT
2. **blocking**: set to **3596**

#### Comment 2

1. **Sebastian Huber**, Fri, 09 Nov 2018 06:26:22 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1e039fb3/rtems:

```
rtems: Deprecate rtems_rate_monotonic_period_time_t
```

```
The rtems_rate_monotonic_period_time_t typedef as no corresponding API. It violates the POSIX namespace. A user can do nothing with it.
```

```
Close #3595.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords**: **qualification** added
- 

## **3598 - Move internal types of API objects to separate header file**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3598">https://devel.rtems.org/ticket/3598</a> ( <a href="https://devel.rtems.org/ticket/3598">https://devel.rtems.org/ticket/3598</a> )
<b>Id</b>	3598
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 November 2018 07:49:11
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The 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:

- 
- 

Use

-

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

#### Comment 1

1. **Sebastian Huber**, Thu, 08 Nov 2018 07:59:33 GMT
2. **description:** modified (diff)

#### Comment 2

1. **Sebastian Huber**, Thu, 08 Nov 2018 08:09:48 GMT
2. **description:** modified (diff)

#### Comment 3

1. **Sebastian Huber**, Thu, 08 Nov 2018 08:11:57 GMT
2. **description:** modified (diff)

#### Comment 4

1. **Sebastian Huber**, Thu, 08 Nov 2018 09:47:26 GMT
2. **description:** modified (diff)

#### Comment 5

1. **Sebastian Huber**, Thu, 08 Nov 2018 12:19:56 GMT
2. **description:** modified (diff)

#### Comment 6

1. **Sebastian Huber**, Thu, 08 Nov 2018 12:20:15 GMT

In ac8025c/rtems:

```
libcsupport: Add missing include
Update #3598.
```

#### Comment 7

1. **Sebastian Huber**, Thu, 08 Nov 2018 12:20:23 GMT

In 4f4ed2f0/rtems:

```
rtems: Add missing include
Update #3598.
```

#### Comment 8

1. **Sebastian Huber**, Fri, 09 Nov 2018 14:08:40 GMT

In 0288536/rtems:

```
bsps: Include missing header files
Update #3598.
```

#### Comment 9

1. **Sebastian Huber**, Fri, 09 Nov 2018 14:08:50 GMT



In fdd3b85/rtems:

```
bsp/motorola_powerpc: Include  
Update #3598.
```

#### **Comment 10**

1. **Sebastian Huber**, Fri, 09 Nov 2018 14:09:00 GMT

In 5841e0b/rtems:

```
bsp/lpc32xx: Include missing  
Update #3598.
```

#### **Comment 11**

1. **Sebastian Huber**, Fri, 09 Nov 2018 14:09:09 GMT

In 84aedca/rtems:

```
Include missing  
Update #3598.
```

#### **Comment 12**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:37:48 GMT

In 93fae332/rtems:

```
Include missing  
Update #3598.
```

#### **Comment 13**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:37:56 GMT

In 78bbe59/rtems:

```
rtems: Move internal structures to ratemondata.h  
Update #3598.
```

#### **Comment 14**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:05 GMT

In 257cf74/rtems:

```
rtems: Move internal structures to asrdata.h  
Update #3598.
```

#### **Comment 15**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:13 GMT

In bdd4eb8/rtems:

```
rtems: Remove Modes_Control  
Use rtems_mode directly. This is in line with rtems_attribute and rtems_option.  
Update #3598.
```

#### **Comment 16**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:22 GMT

In 395a49e1/rtems:

rtems: Move internal structures to barrierdata.h

Update #3598.

#### **Comment 17**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:30 GMT

In 72a4a42/rtems:

rtems: Move internal structures to dpmemdata.h

Update #3598.

#### **Comment 18**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:38 GMT

In efc227cd/rtems:

rtems: Move internal structures to eventdata.h

Update #3598.

#### **Comment 19**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:47 GMT

In 257668d/rtems:

rtems: Move internal structures to messagedata.h

Update #3598.

#### **Comment 20**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:38:56 GMT

In f00c5c6/rtems:

rtems: Move internal structures to partdata.h

Update #3598.

#### **Comment 21**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:04 GMT

In e8e914b3/rtems:

rtems: Move internal structures to regiondata.h

Update #3598.

#### **Comment 22**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:12 GMT

In 739df1f5/rtems:

rtems: Move internal structures to semdata.h

Update #3598.

#### **Comment 23**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:20 GMT

In b7af3e44/rtems:

rtems: Move internal structures to taskdata.h

Update #3598.

**Comment 24**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:29 GMT

In e1b7c188/rtems:

```
rtems: Move internal structures to timerdata.h
Update #3598.
```

**Comment 25**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:37 GMT

In 5fc855d/rtems:

```
rtems: Move internal structures to extensiondata.h
Update #3598.
```

**Comment 26**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:45 GMT

In 742d6db/rtems:

```
score: Remove empty
Update #3598.
```

**Comment 27**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:39:53 GMT

In a11b98c/rtems:

```
score: Avoid include of
Update #3598.
```

**Comment 28**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:01 GMT

In 98c01a5/rtems:

```
rtems: Avoid in API
Use a real function for rtems_clock_get_uptime_seconds().
Update #3598.
```

**Comment 29**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:10 GMT

In ccc6695/rtems:

```
score: Introduce
Separate the definitions related to watchdog ticks from the watchdog structures.
Update #3598.
```

**Comment 30**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:18 GMT

In 9763245/rtems:

```
rtems: Remove superfluous include
Update #3598.
```

**Comment 31**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:26 GMT

In 805f9c26/rtems:

```
score: Avoid complex include in heap.h
Update #3598.
```

#### **Comment 32**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:34 GMT

In 2fa014db/rtems:

```
rtems: Avoid include of
Update #3598.
```

#### **Comment 33**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:43 GMT

In e897c7d/rtems:

```
rtems: Avoid include of
Update #3598.
```

#### **Comment 34**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:40:51 GMT

In a6e7d5e4/rtems:

```
score: Move internal structures to objectdata.h
Update #3598.
```

#### **Comment 35**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:00 GMT

In 3b69a0e2/rtems:

```
rtems: Simplify includes in
Update #3598.
```

#### **Comment 36**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:08 GMT

In 356b07e6/rtems:

```
score: Includes in
Include implementation header files only if necessary.
Update #3598.
```

#### **Comment 37**

1. **Sebastian Huber**, Mon, 12 Nov 2018 14:41:17 GMT

In 963c6c2/rtems:

```
score: Move internal structures to userextdata.h
Update #3598.
```

#### **Comment 38**

1. **Sebastian Huber**, Tue, 13 Nov 2018 09:18:02 GMT

In 9f87c45/rtems-libbsd:

Include missing  
Update #3598.

#### **Comment 39**

1. **Sebastian Huber**, Wed, 14 Nov 2018 06:24:28 GMT

In dc563556/rtems:

Include missing  
Update #3598.

#### **Comment 40**

1. **Sebastian Huber**, Mon, 26 Nov 2018 11:31:39 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5fc727f/rtems:

score:  
Remove include from .  
Close #3598.

#### **Comment 41**

1. **Sebastian Huber**, Mon, 26 Nov 2018 11:31:42 GMT

In eaa5ea84/rtems:

score: Introduce  
Move Heap\_Information\_block to separate header file to hide heap implementation details from .  
Update #3598.

#### **Comment 42**

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:58 GMT

In ef23838/rtems:

score: Avoid sbintime\_t in API headers  
The sbintime\_t is a non-POSIX type and not visible if strict standard options are selected.  
Move implementation details from to .  
Update #3598.

#### **Comment 43**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

---

## **3599 - Remove m32c architecture port**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3599">https://devel.rtems.org/ticket/3599</a> ( <a href="https://devel.rtems.org/ticket/3599">https://devel.rtems.org/ticket/3599</a> )
<b>Id</b>	3599
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 November 2018 15:15:01
<b>Modified</b>	19 November 2018 09:00:10
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/m32c
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3143, 3585, 3613
<b>Blocked by</b>	

---

#### Description

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>

#### Comment 1

1. **Sebastian Huber**, Thu, 08 Nov 2018 15:15:33 GMT
2. **blocking**: set to **3585**

#### Comment 2

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:02:58 GMT

In bfcf1473/rtems:

```
m32c: Remove this target
```

```
Update #3599.
```

#### Comment 3

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:03:34 GMT

In 1a704cd/rtems-docs:

```
Remove m32c architecture port
```

```
Update #3599.
```

#### Comment 4

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:04:33 GMT

In bd59c23/rtems-tools:

```
Remove m32c support
```

```
Update #3599.
```

#### Comment 5

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:04:56 GMT

In 25a5f24/rtems-source-builder:

```
m32c: Remove this build set
```

```
Update #3599.
```

#### Comment 6

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:44:18 GMT
2. **blocking**: changed from **3585** to **3143, 3585**

**Comment 7**

1. **Sebastian Huber**, Wed, 14 Nov 2018 06:00:04 GMT

In d665fdb/rtems-source-builder:

```
5: Update RTEMS tools
Pick up m32c removal.
Update #3599.
```

**Comment 8**

1. **Sebastian Huber**, Mon, 19 Nov 2018 08:59:54 GMT
2. **blocking**: changed from **3143, 3585** to **3143, 3585, 3613**

**Comment 9**

1. **Sebastian Huber**, Mon, 19 Nov 2018 09:00:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**3600 - Update or1k tools to use GCC master**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3600">https://devel.rtems.org/ticket/3600</a> ( <a href="https://devel.rtems.org/ticket/3600">https://devel.rtems.org/ticket/3600</a> )
<b>Id</b>	3600
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 November 2018 14:46:19
<b>Modified</b>	12 December 2019 23:16:24
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	arch/or1k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:16:24 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Closing. Our gcc is now at:

```
~/rtems-cron-5/tools/5/bin/or1k-rtems5-gcc --version
or1k-rtems5-gcc (GCC) 9.2.0 20190812 (RTEMS 5, RSB 83fa79314dd87c0a8c78fd642b2cea3138be8dd6, Newlib d14714c69)
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

**3602 - Update or1k tool chain to use the upstream GCC**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3602">https://devel.rtems.org/ticket/3602</a> ( <a href="https://devel.rtems.org/ticket/3602">https://devel.rtems.org/ticket/3602</a> )
<b>Id</b>	3602
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 November 2018 06:45:12
<b>Modified</b>	14 November 2018 06:02:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/or1k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3143
<b>Blocked by</b>	

---

#### Description

#### Comment 1

1. **Sebastian Huber**, Mon, 12 Nov 2018 06:46:03 GMT
2. **blocking**: set to **3143**

#### Comment 2

1. **Sebastian Huber**, Wed, 14 Nov 2018 06:00:10 GMT

In c5ad16a/rtems-source-builder:

```
5: Use latest Binutils for riscv
```

```
This is a preparation to update or1k to use the latest GCC.
```

```
Update #3602.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 14 Nov 2018 06:00:16 GMT

In 55aff90/rtems-source-builder:

```
5: Use latest GCC for riscv
```

```
This is a preparation to update or1k to use the latest GCC.
```

```
Update #3602.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 14 Nov 2018 06:00:28 GMT

In 8241563/rtems-source-builder:

```
5: Use latest Binutils and GCC for or1k
```

```
Update #3602.
```

#### Comment 5

1. **Sebastian Huber**, Wed, 14 Nov 2018 06:02:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 28bf4ca/rtems:

```
or1k: Support GCC 9
```

```
Close #3602.
```

---

### **3603 - Remove support for 16-bit object identifiers**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3603">https://devel.rtems.org/ticket/3603</a> ( <a href="https://devel.rtems.org/ticket/3603">https://devel.rtems.org/ticket/3603</a> )
<b>Id</b>	3603
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 November 2018 07:49:11
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 21 Nov 2018 07:06:49 GMT

In 59e7209f/rtems:

```
score: Remove support for RTEMS_USE_16_BIT_OBJECT
```

```
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.
```

```
Update #3603.
```

#### Comment 2

1. **Sebastian Huber**, Wed, 21 Nov 2018 07:09:12 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 92745a4/rtems-docs:

```
c-user: Remove 16-bit object identifiers
```

```
Close #3603.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

### 3604 - RTL Unresolved Symbols from common section on i386/pc686 (cloned)

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3604">https://devel.rtems.org/ticket/3604</a> ( <a href="https://devel.rtems.org/ticket/3604">https://devel.rtems.org/ticket/3604</a> )
<b>Id</b>	3604
<b>Reporter</b>	Joseph Hickey
<b>Created</b>	13 November 2018 06:13:24
<b>Modified</b>	27 November 2018 06:12:05
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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)

#### Comment 1

1. **Chris Johns**, Tue, 13 Nov 2018 06:14:16 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **accepted**

#### Comment 2

1. **Chris Johns**, Thu, 22 Nov 2018 02:17:39 GMT

In 803eac9/rtems:

```
libdl: Manage the allocation of common uninitialised variables.

The use of separate text and data results in uninitialised variables being placed in the common section. There is no section in ELF for the common variables so the loader needs to create the section and allocate the variables in that section. This patch does that.

The patch adds a second pass over the symbols.

The issue can also be seen as a section 65522 error.

Updates #3604
```

#### Comment 3

1. **Chris Johns**, Tue, 27 Nov 2018 06:12:05 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

## **3605 - RTL Allows Unloading a Module other Modules Depend Upon (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3605">https://devel.rtems.org/ticket/3605</a> ( <a href="https://devel.rtems.org/ticket/3605">https://devel.rtems.org/ticket/3605</a> )
<b>Id</b>	3605
<b>Reporter</b>	Kevin Gordon
<b>Created</b>	13 November 2018 06:18:07
<b>Modified</b>	12 December 2019 18:19:17
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	RTL dlopen dlcase
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### Comment 1

1. **Chris Johns**, Thu, 22 Nov 2018 02:17:31 GMT

In 03139d5b/rtems:

libdl: Add object file dependencies to track references

Tracking references lets us manage when an object file can be unloaded. If an object file has references to it, it cannot be unloaded.

Modules that depend on each other cannot be unloaded.

Updates #3605

### **Comment 2**

1. **Chris Johns**, Thu, 12 Dec 2019 17:08:23 GMT

Kevin, is this fixed? It would be nice if we can close this ticket.

### **Comment 3**

1. **Chris Johns**, Thu, 12 Dec 2019 18:19:17 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

The email bounced. I will close this.

## **3609 - Update Spike Version in RSB (RISC-V simulator)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3609">https://devel.rtems.org/ticket/3609</a> ( <a href="https://devel.rtems.org/ticket/3609">https://devel.rtems.org/ticket/3609</a> )
<b>Id</b>	3609
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 November 2018 23:15:54
<b>Modified</b>	1 April 2020 23:21:54
<b>Owner</b>	Hesham Almatary
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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.

### **Comment 1**

1. **Hesham Almatary**, Fri, 16 Nov 2018 09:43:42 GMT

RSB should already build an updated version of Spike as of this commit:<https://github.com/RTEMS/rtems-source-builder/commit/693e6b518d1710793096cdb11f806d9e511a8972>

Do you have any issues running RTEMS with it?

### **Comment 2**

1. **Sebastian Huber**, Thu, 19 Dec 2019 11:19:28 GMT

Is this issue fixed?

### **Comment 3**

1. **Joel Sherrill**, Thu, 19 Dec 2019 14:05:20 GMT

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?

### **Comment 4**

1. **Joel Sherrill**, Wed, 01 Apr 2020 23:21:54 GMT

2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

I updated the RSB to have a functional Spike with a git version. Results have been posted to build@

---

### **3612 - RTL unresolved compaction does not update string indexes after removing a string**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3612">https://devel.rtems.org/ticket/3612</a> ( <a href="https://devel.rtems.org/ticket/3612">https://devel.rtems.org/ticket/3612</a> )
<b>Id</b>	3612
<b>Reporter</b>	Chris Johns
<b>Created</b>	19 November 2018 04:21:17
<b>Modified</b>	27 November 2018 06:13:13
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

The RTL unresolved compaction does not update the string indexes when compacting.

#### **Comment 1**

1. **Chris Johns**, Tue, 27 Nov 2018 06:13:13 GMT
  2. **status:** changed from **assigned** to **closed**
  3. **resolution:** set to **fixed**
- 

### **3620 - CommitTicketUpdater does not process commits in order**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3620">https://devel.rtems.org/ticket/3620</a> ( <a href="https://devel.rtems.org/ticket/3620">https://devel.rtems.org/ticket/3620</a> )
<b>Id</b>	3620
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 November 2018 11:39:26
<b>Modified</b>	14 December 2018 06:06:38
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

The new CommitTicketUpdater? does not process commits in order. For example see:

<https://devel.rtems.org/ticket/3598#comment:40> <https://devel.rtems.org/ticket/3598#comment:41>

Compare with Git commit order:

<https://git.rtems.org/rtems/log/?id=eea5ea84eaf1b3dab72d7a7a6578f0dc59e55396&qt=range&q=1947449a5d6f01a44ccc61eda3e78ef7e06da952..5fc727fe77a632f9df38161a8474007dab020608>

#### **Comment 1**

1. **Amar Takhar**, Wed, 05 Dec 2018 03:33:42 GMT

Hmm, this is the order that git-rev gives it to the script. I'll play around and try to figure out.

Since there are only two commits I can't tell if it's simply reversed I'd need at least 4 multiple times to see if I can simply reverse the order to fix this.

#### **Comment 2**

1. **Chris Johns**, Wed, 05 Dec 2018 03:39:39 GMT

Why not create a test repo as a personal repo and add the hooks for testing?

#### Comment 3

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:36:46 GMT

I pushed at least seven commits today in one rush:

<https://devel.rtems.org/ticket/3621>

They show up in reverse order.

#### Comment 4

1. **Amar Takhar**, Fri, 07 Dec 2018 13:38:34 GMT

Okay great thanks all I need to do is reverse the order of the commits fed into the updater. I'll do that shortly.

#### Comment 5

1. **Amar Takhar**, Fri, 07 Dec 2018 13:41:28 GMT

Replying to Chris Johns:

Why not create a test repo as a personal repo and add the hooks for testing?

Because we use quite a few scripts that do unique things for RTEMS infrastructure. It would be a lot of work to get the same environment running elsewhere for a check that can be done the next time 4 commits are pushed at the same time. Outside of aesthetics the tickets are still being updated. I'm not sure where the offending area is but now I think I know we'll see.

#### Comment 6

1. **Amar Takhar**, Fri, 07 Dec 2018 13:45:39 GMT

Since this is never been a problem before I didn't notice that git rev-list by default shows reverse chronological order. I added --reverse to the commandline hopefully that fixes this issue.

Please let me know if this fixes the issue.

#### Comment 7

1. **Sebastian Huber**, Fri, 14 Dec 2018 06:06:26 GMT

2. **milestone**: changed from **Indefinite** to **5.1**

Thanks, it works now:

<https://devel.rtems.org/ticket/3621#comment:11>

#### Comment 8

1. **Sebastian Huber**, Fri, 14 Dec 2018 06:06:38 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

## 3621 - Statically initialize object information structures

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3621">https://devel.rtems.org/ticket/3621</a> ( <a href="https://devel.rtems.org/ticket/3621">https://devel.rtems.org/ticket/3621</a> )
<b>Id</b>	3621
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 November 2018 12:50:51
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Statically initialize the object information structures to make the configuration easier to review and simplify the debugging.

The workspace size estimate generated by looks currently like this:

```
const rtems_configuration_table Configuration = { ( ( ( (ssize_t) (((((1 +
0) != 0 ? 1 : 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U))) *
(sizeof(Configuration_Thread_control)) != 0 ? 1 : 0) * (((((1 + 0) != 0 ? 1 :
0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U))) *
(sizeof(Configuration_Thread_control)) + (2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
((((sizeof(Heap_Block) + (8) - 1) - ((sizeof(Heap_Block) + (8) - 1) % (8))) -
1) - (((((1 + 0) != 0 ? 1 : 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U)))
* (sizeof(Configuration_Thread_control)) + (2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
((((sizeof(Heap_Block) + (8) - 1) - ((sizeof(Heap_Block) + (8) - 1) % (8)))
```

[more than 500 similar lines]

```
1) - (((sizeof(Configuration_Initial_Extensions) /
sizeof(Configuration_Initial_Extensions)[0])) *
sizeof(User_extensions_Switch_control) + (2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
((((sizeof(Heap_Block) + (8) - 1) - ((sizeof(Heap_Block) + (8) - 1) % (8))) -
1) % (((sizeof(Heap_Block) + (8) - 1) - ((sizeof(Heap_Block) + (8) - 1) %
(8)))) + 0 + 0 + (0 * 1024) + (((2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
(8) - 1) - ((2 * sizeof(uintptr_t) + (sizeof(Heap_Protection_block_begin) +
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.

#### Comment 1

1. **Chris Johns**, Tue, 27 Nov 2018 00:53:30 GMT

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?

#### Comment 2

1. **Sebastian Huber**, Tue, 27 Nov 2018 06:00:08 GMT

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.

#### Comment 3

1. **Chris Johns**, Tue, 27 Nov 2018 06:05:25 GMT

Great and thank you.

#### Comment 4

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:28 GMT

In f70079c/rtems:

```
score: Remove Objects_Information::the_api
Remove Objects_Information::the_class. This information is already contained in Objects_Information::maximum_id.
Update #3621.
```

#### Comment 5

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:31 GMT

In 1c2d178/rtems:

```
score: Remove Objects_Information::maximum
This information is already present in Objects_Information::maximum_id. Add and use _Objects_Get_maximum_index().
Update #3621.
```

#### Comment 6

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:35 GMT

In 3899bc1a/rtems:

```
score: Optimize object lookup
Use the maximum ID for the ID to object translation. Using the maximum ID gets rid of an additional load from the object information in
```

`_Objects_Get()`. In addition, object lookups fail for every ID in case the object information is cleared to zero. This makes it a bit more robust during system startup (see new tests in `spconfig02`).

The local table no longer needs a NULL pointer entry at array index zero. Adjust all the object iteration loops accordingly.

Remove `Objects_Information::minimum_id` since it contains only redundant information. Add `_Objects_Get_minimum_id()` to get the minimum ID.

Update #3621.

### Comment 7

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:38 GMT

In 359a3a3/rtems:

score: Rename `Objects_Information::allocation_size`

Rename `Objects_Information::allocation_size` in `Objects_Information::objects_per_block`. Adjust integer types in `_Objects_Shrink_information()` and `_Objects_Free()`.

Update #3621.

### Comment 8

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:41 GMT

In 0da9d80/rtems:

score: Rename `Objects_Information::size`

Rename `Objects_Information::size` to `Objects_Information::object_size`. Change its type from `size_t` to `uint16_t` and move it to reduce the size of `Objects_Information`.

Update #3621.

### Comment 9

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:44 GMT

In 9c9c6a9/rtems:

score: Remove `Objects_Information::is_string`

Use `Objects_Information::name_length` to store this information.

Update #3621.

### Comment 10

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:48 GMT

In d6e3473/rtems:

score: Remove dead code

Update #3621.

### Comment 11

1. **Sebastian Huber**, Fri, 14 Dec 2018 06:04:01 GMT

In 8b0e752/rtems:

score: Remove `Objects_Information::auto_extend`

Use `Objects_Information::objects_per_block` to provide this information. Add and use `_Objects_Is_auto_extend()`.

Update #3621.

### Comment 12

1. **Sebastian Huber**, Fri, 14 Dec 2018 06:04:05 GMT

In 0f5b2c09/rtems:

rtems: Use object information to get config max

Use functions instead of macros. Add missing `rtems_configuration_get_maximum_*` functions.

Update #3621.

**Comment 13**

1. **Sebastian Huber**, Fri, 14 Dec 2018 06:04:08 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 21275b58/rtems:

score: Static Objects\_Information initialization

Statically allocate the objects information together with the initial set of objects either via . Provide default object informations with zero objects via librtemscpu.a. This greatly simplifies the workspace size estimate. RTEMS applications which do not use the unlimited objects option are easier to debug since all objects reside now in statically allocated objects of the right types.

Close #3621.

**Comment 14**

1. **Sebastian Huber**, Thu, 02 Jan 2020 08:49:12 GMT

In a320aedd/rtems:

score: Fix objects node initialization

The objects node is statically initialized to one. Clear the node field before it is set.

Update #3621.

**Comment 15**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

**3622 - Remove cache routines working with a processor set**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3622">https://devel.rtems.org/ticket/3622</a> ( <a href="https://devel.rtems.org/ticket/3622">https://devel.rtems.org/ticket/3622</a> )
<b>Id</b>	3622
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 November 2018 12:57:27
<b>Modified</b>	28 November 2018 13:54:28
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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



```

/**
 * @brief Flushes multiple data cache lines for a set of processors
 *
 * Dirty cache lines covering the area are transferred to memory.
 * Depending on the cache implementation this may mark the lines as invalid.
 *
 * This operation should not be called from interrupt context.
 *
 * @param[in] addr The start address of the area to flush.
 * @param[in] size The size in bytes of the area to flush.
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_flush_multiple_data_lines_processor_set(
  const void *addr,
  size_t size,
  const size_t setsize,
  const cpu_set_t *set
);
/**
 * @brief Invalidates multiple data cache lines for a set of processors
 *
 * The cache lines covering the area are marked as invalid. A later read
 * access in the area will load the data from memory.
 *
 * In case the area is not aligned on cache line boundaries, then this
 * operation may destroy unrelated data.
 *
 * This operation should not be called from interrupt context.
 *
 * @param[in] addr The start address of the area to invalidate.
 * @param[in] size The size in bytes of the area to invalidate.
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_invalidate_multiple_data_lines_processor_set(
  const void *addr,
  size_t size,
  const size_t setsize,
  const cpu_set_t *set
);
/**
 * @brief Flushes the entire data cache for a set of processors
 *
 * This operation should not be called from interrupt context.
 *
 * @see rtems_cache_flush_multiple_data_lines().
 *
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_flush_entire_data_processor_set(
  const size_t setsize,
  const cpu_set_t *set
);
/**
 * @brief Invalidates the entire cache for a set of processors
 *
 * This function is responsible for performing a data cache
 * invalidate. It invalidates the entire cache for a set of
 * processors.
 *
 * This operation should not be called from interrupt context.
 *
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_invalidate_entire_data_processor_set(
  const size_t setsize,
  const cpu_set_t *set
);

```

### Comment 1

1. **Sebastian Huber**, Tue, 27 Nov 2018 07:09:13 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 0a75a4aa/rtems:

Remove `rtems_cache_*_processor_set()` functions

The following `rtems_cache_*_processor_set()` cache manager API functions are exotic, complex, very hard to use correctly, not used in the RTEMS code base, and apparently unused by applications.

Close #3622.

### Comment 2

1. **Sebastian Huber**, Wed, 28 Nov 2018 13:54:28 GMT

In 5bf0c1a/rtems:

bsps/sparc: Fix SMP build

Update #3622.

## 3624 - MSYS2 builds appear to ignore tcfg file

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3624">https://devel.rtems.org/ticket/3624</a> ( <a href="https://devel.rtems.org/ticket/3624">https://devel.rtems.org/ticket/3624</a> )
<b>Id</b>	3624
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	26 November 2018 23:44:53
<b>Modified</b>	11 November 2019 14:04:43
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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:

```
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
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'
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
collect2.exe: error: ld returned 1 exit status
make[5]: *** [Makefile:1910: fsdosfsname01.exe] Error 1
```

### Comment 1

1. **Chris Johns**, Mon, 11 Nov 2019 03:53:47 GMT
2. **component:** changed from **admin** to **build**

### Comment 2

1. **Sebastian Huber**, Mon, 11 Nov 2019 14:04:43 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

This will be fixed by the new build system, see #3818.

## 3625 - RTL Allows Unloading a Module other Modules Depend Upon (cloned)

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3625">https://devel.rtems.org/ticket/3625</a> ( <a href="https://devel.rtems.org/ticket/3625">https://devel.rtems.org/ticket/3625</a> )
<b>Id</b>	3625
<b>Reporter</b>	Kevin Gordon
<b>Created</b>	27 November 2018 06:15:09
<b>Modified</b>	27 November 2018 06:15:37
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	RTL dlopen dlclose
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.



closes #3626.

### 3629 - Add RSB reporting section to the documentation.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3629">https://devel.rtems.org/ticket/3629</a> ( <a href="https://devel.rtems.org/ticket/3629">https://devel.rtems.org/ticket/3629</a> )
<b>Id</b>	3629
<b>Reporter</b>	Chris Johns
<b>Created</b>	30 November 2018 00:39:06
<b>Modified</b>	5 April 2020 20:56:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	chris@...
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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:

```
$ ./source-builder/sb-reports 5/rtems-sparc
$ less 5-rtems-sparc.txt
```

#### Comment 1

1. **Gedare Bloom**, Sun, 05 Apr 2020 20:56:51 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In cbufde0/rtems-docs:

```
user/rsb: describe how to create configuration reports
```

Closes #3629.

### 3630 - Build of rtems-tools fails with i686-w64-mingw32

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3630">https://devel.rtems.org/ticket/3630</a> ( <a href="https://devel.rtems.org/ticket/3630">https://devel.rtems.org/ticket/3630</a> )
<b>Id</b>	3630
<b>Reporter</b>	Markus Bernd Moessner
<b>Created</b>	2 December 2018 16:01:32
<b>Modified</b>	28 April 2020 01:45:51
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Attachments:

---

**1 Markus Bernd Moessner, Sun, 02 Dec 2018 16:05:51 GMT**

**attach:** set to [rsb-report-rtems-tools-6db01e577fed1dc88018106b81dd531f2ecc1fd0-1.txt](https://devel.rtems.org/ticket/3630/rsb-report-rtems-tools-6db01e577fed1dc88018106b81dd531f2ecc1fd0-1.txt) (<https://devel.rtems.org/ticket/3630/rsb-report-rtems-tools-6db01e577fed1dc88018106b81dd531f2ecc1fd0-1.txt>)

**2 Markus Bernd Moessner, Sun, 02 Dec 2018 16:06:58 GMT**

**attach:** set to [0001-Allow-build-with-i686-w64-mingw32\\_patch](https://devel.rtems.org/ticket/3630/0001-Allow-build-with-i686-w64-mingw32_patch) ([https://devel.rtems.org/ticket/3630/0001-Allow-build-with-i686-w64-mingw32\\_patch](https://devel.rtems.org/ticket/3630/0001-Allow-build-with-i686-w64-mingw32_patch))

---

#### Comment 1

1. **Markus Bernd Moessner**, Mon, 03 Dec 2018 09:13:10 GMT
2. **component:** changed from **admin** to **arch/arm**

#### Comment 2

1. **Markus Bernd Moessner**, Mon, 03 Dec 2018 19:15:43 GMT

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>

#### Comment 3

1. **Chris Johns**, Tue, 04 Dec 2018 03:23:36 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **accepted**
4. **milestone:** set to **5.1**

Thanks. I will update the documentation and will close the ticket when I commit the change.

#### Comment 4

1. **Markus Bernd Moessner**, Thu, 06 Dec 2018 21:00:30 GMT

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

#### Comment 5

1. **Chris Johns**, Sun, 09 Dec 2018 23:41:50 GMT

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.

#### Comment 6

1. **Markus Bernd Moessner**, Mon, 10 Dec 2018 16:57:22 GMT

Ok, thank you for taking the time to clarify this.

#### Comment 7

1. **kaidoho**, Tue, 28 Apr 2020 01:45:51 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In a1a05c7/rtems-tools:

Allow build with i686-w64-mingw32

Closes #3630

**3636 - Add rtems\_scheduler\_get\_maximum\_priority()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3636">https://devel.rtems.org/ticket/3636</a> ( <a href="https://devel.rtems.org/ticket/3636">https://devel.rtems.org/ticket/3636</a> )
<b>Id</b>	3636
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 December 2018 08:55:46
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The maximum task priority depends on the scheduler instance. It is a configuration parameter. Add a function to get it at runtime.

```
/**
 * @brief Gets the maximum task priority of the specified scheduler instance.
 *
 * @param[in] scheduler_id Identifier of the scheduler instance.
 * @param[out] priority Pointer to a task priority value.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a priority parameter is @c NULL.
 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
 */
rtems_status_code rtems_scheduler_get_maximum_priority(
  rtems_id scheduler_id,
  rtems_task_priority *priority
);
```

**Comment 1**

1. **Sebastian Huber**, Fri, 07 Dec 2018 13:33:51 GMT

In 7ee6437/rtems:

```
rtems: Add rtems_scheduler_get_maximum_priority()
Update #3636.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 10 Dec 2018 08:20:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 16f33fd/rtems-docs:

```
c-user: rtems_scheduler_get_maximum_priority()
Close #3636.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords:** **qualification** added
- 

**3637 - Fix rtems\_task\_restart() argument type**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3637">https://devel.rtems.org/ticket/3637</a> ( <a href="https://devel.rtems.org/ticket/3637">https://devel.rtems.org/ticket/3637</a> )
<b>Id</b>	3637
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 December 2018 09:47:22
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 06 Dec 2018 10:03:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4e46ba8/rtems:

```
rtems: Fix rtems_task_restart() argument type
Close #3637.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords**: **qualification** added
- 

**3649 - Error with IRC announcing in examples-v2 commits.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3649">https://devel.rtems.org/ticket/3649</a> ( <a href="https://devel.rtems.org/ticket/3649">https://devel.rtems.org/ticket/3649</a> )
<b>Id</b>	3649
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	9 December 2018 15:42:37
<b>Modified</b>	13 February 2019 20:02:31
<b>Owner</b>	Amar Takhar
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	git, hooks
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```
remote: 1: mail vc@rtems.org
remote: 2: update github
remote: 4: IRC
remote: usage:
remote: 5: Buildbot
To ssh://joel@dispatch.rtems.org/data/git/examples-v2.git
ced6542..276a025A am -> master
```

**Comment 1**

1. **Chris Johns**, Sun, 09 Dec 2018 23:35:56 GMT

I suggest comparing the post commit hook in the hooks directory in the examples-v2 repo on dispatch.rtems.org with another working repo to see if something needs to be updated.

**Comment 2**

1. **Amar Takhar**, Wed, 13 Feb 2019 20:02:19 GMT
2. **status**: changed from **assigned** to **accepted**

This should have been fixed when I redid all the hooks I have not heard any complaints since then.

### Comment 3

1. **Amar Takhar**, Wed, 13 Feb 2019 20:02:31 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

Re-open if it's still an issue.

## 3651 - Sphinx 1.8 PDF (latex) on FreeBSD does not build

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3651">https://devel.rtems.org/ticket/3651</a> ( <a href="https://devel.rtems.org/ticket/3651">https://devel.rtems.org/ticket/3651</a> )
<b>Id</b>	3651
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 December 2018 23:09:32
<b>Modified</b>	12 December 2019 16:46:31
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	sphinx latex pdf
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The build fails with pdfindex complaining on an `__Undefined Control Sequence__`:

```
! Undefined control sequence.
\spxpagem
1.88 ..ecture}, \hyperindexformat{\spxpagem}{183}
```

The Tex is:

```
\item[{\Architecture\index{\Architecture@\spxentry{\Architecture}\spxpagem}\phantomsection\label{\detokenize{glossary/index:term-architecture}} \leavevmode
```

And the IDX entry from makeindex is:

```
\item \spxentry {\Architecture}, \hyperindexformat{\spxpagem}{183}
```

### Comment 1

1. **Chris Johns**, Tue, 08 Jan 2019 23:24:50 GMT

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:

```
export XINDYOPTS = -L english -C utf8 -M sphinx.xdy
```

The issue on FreeBSD with `texlive-full-20150521` is the lack of the xindy command:

```
$ type xindy
xindy: not found
```

And latexmk expects it to exist.

### Comment 2

1. **Chris Johns**, Thu, 12 Dec 2019 16:46:31 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

## 3664 - RSB config parsing slow on python3



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3664">https://devel.rtems.org/ticket/3664</a> ( <a href="https://devel.rtems.org/ticket/3664">https://devel.rtems.org/ticket/3664</a> )
<b>Id</b>	3664
<b>Reporter</b>	Chris Johns
<b>Created</b>	18 December 2018 00:52:25
<b>Modified</b>	25 December 2018 01:15:50
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	RSB python3
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The execute support on python3 is slow and this slows the config file parsing.

**Comment 1**

1. **Chris Johns**, Tue, 25 Dec 2018 01:15:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c2d2338/rtems-source-builder:

```
sb/execute: Port the rtemstoolkit performance fixes for python3
Close #3664.
```

---

**3665 - Add low level event recording infrastructure**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3665">https://devel.rtems.org/ticket/3665</a> ( <a href="https://devel.rtems.org/ticket/3665">https://devel.rtems.org/ticket/3665</a> )
<b>Id</b>	3665
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 December 2018 07:01:36
<b>Modified</b>	19 December 2019 09:26:09
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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

```
/**
 * @brief Produces a record item.
 *
 * @param event The record event without a time stamp for the item.
 * @param data The record data for the item.
 */
void rtems_record_produce( rtems_record_event event, rtems_record_data data );
```

function PowerPC machine code generated by GCC:

```

00000000 :
0: 7d 00 00 a6      mfmsr   r8
4: 7c 00 01 46      wrteei  0
8: 7d 2e 82 a6      mfspr   r9,526
c: 7d 50 42 a6      mfsprg  r10,0
10: 81 4a 02 b4      lwz     r10,692(r10)
14: 55 29 50 2a      rlwinm  r9,r9,10,0,21
18: 7d 23 1b 78      or      r3,r9,r3
1c: 81 2a 00 00      lwz     r9,0(r10)
20: 80 ca 00 08      lwz     r6,8(r10)
24: 38 e9 00 01      addi    r7,r9,1
28: 7d 29 30 38      and     r9,r9,r6
2c: 55 29 18 38      rlwinm  r9,r9,3,0,28
30: 7d 2a 4a 14      add     r9,r10,r9
34: 90 69 00 48      stw     r3,72(r9)
38: 90 89 00 4c      stw     r4,76(r9)
3c: 7c 20 04 ac      lwsync
40: 90 ea 00 00      stw     r7,0(r10)
44: 7d 00 01 06      wrtee   r8
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.

### Comment 1

1. **Sebastian Huber**, Tue, 29 Jan 2019 12:57:00 GMT

In dca6184/rtems:

Add low level event recording support

Add low level event recording infrastructure for system and user defined events. The infrastructure is able to record high frequency events such as

SMP lock acquire/release, interrupt entry/exit, thread switches, UMA zone allocate/free, and Ethernet packet input/output, etc. It allows post-mortem analysis in fatal error handlers, e.g. the last events are in the record buffer, the newest event overwrites the oldest event. It is 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 implementation supports high-end SMP machines (more than 1GHz processor frequency, more than four processors).

Add a new API instead. The implementation uses per-processor data structures and no atomic read-modify-write operations. It uses per-processor ring buffers to record the events.

The CPU counter is used to get the time of events. It is combined with periodic uptime events to synchronize it with CLOCK\_REALTIME.

The existing capture engine tries to solve this problem also, 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.

Update #3665.

### Comment 2

1. **Sebastian Huber**, Wed, 30 Jan 2019 10:32:21 GMT

In 03cdd5ea/rtems:

record: Add enum value for each event

Update #3665.

### Comment 3

1. **Sebastian Huber**, Fri, 01 Feb 2019 08:52:23 GMT

In d06b195/rtems-docs:

c-user: Add event recording configuration

Update #3665.

### Comment 4

1. **Sebastian Huber**, Fri, 01 Feb 2019 08:52:25 GMT

In 21c4a44/rtems-docs:

user: Add basic event recording documentation

Update #3665.

### Comment 5

1. **Sebastian Huber**, Tue, 12 Mar 2019 13:03:10 GMT

In d91951fb/rtems:

record: Rename internal per-CPU events

Update #3665.

#### **Comment 6**

1. **Sebastian Huber**, Tue, 12 Mar 2019 13:03:14 GMT

In ebb8c28e/rtems:

record: Add system call entry/exit events

This corresponds to the Linux `syscall_entry_*` and `syscall_exit_*` events.

Update #3665.

#### **Comment 7**

1. **Sebastian Huber**, Tue, 12 Mar 2019 13:03:17 GMT

In 01a5ced5/rtems:

record: Add more system events

Update #3665.

#### **Comment 8**

1. **Sebastian Huber**, Tue, 20 Aug 2019 20:51:11 GMT

In f9dce02/rtems-tools:

record: New program

Update #3665.

#### **Comment 9**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:47:34 GMT

In a8af7a14/rtems:

record: Fix thread names on 64-bit targets

Also fixes the thread names on signed char targets.

Update #3665.

#### **Comment 10**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:47:37 GMT

In e273e7a9/rtems:

record: Add data size to client

This is necessary to get the thread names properly on 32-bit and 64-bit targets.

Update #3665.

#### **Comment 11**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:52:40 GMT

In 577f986/rtems-tools:

record: Move per-CPU variables to separate context

Update #3665.

#### **Comment 12**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:52:42 GMT

In 91d0d1d/rtems-tools:

record: Simplify packet context setup

Update #3665.

#### **Comment 13**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:52:44 GMT

In e488c98/rtems-tools:

record: Move base context to client context

Update #3665.

#### **Comment 14**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:52:46 GMT

In 6c4b770/rtems-tools:

record: Add CPU to idle thread names

Update #3665.

#### **Comment 15**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:52:48 GMT

In 3f45f38/rtems-tools:

record: Add data size to client

This is necessary to get the thread names properly on 32-bit and 64-bit targets.

Update #3665.

#### **Comment 16**

1. **Sebastian Huber**, Tue, 27 Aug 2019 06:52:50 GMT

In 3c42656/rtems-tools:

record: Support thread names on 32-bit targets

Update #3665.

#### **Comment 17**

1. **Sebastian Huber**, Wed, 28 Aug 2019 14:02:53 GMT

In a2684c2b/rtems:

record: Use BSS section instead of per-CPU data

The .rtemsrwset section is used for the per-CPU data. This section has loadable content. Place the ring buffers in the BSS section to avoid large executable image sizes.

Not using the per-CPU data makes it possible to initialize the record support earlier.

Update #3665.

#### **Comment 18**

1. **Sebastian Huber**, Wed, 28 Aug 2019 14:02:56 GMT

In 3eb8d783/rtems:

record: Introduce

This helps to get rid of the dependency in .

Update #3665.

#### **Comment 19**

1. **Sebastian Huber**, Wed, 28 Aug 2019 14:03:00 GMT

In 956a2ef/rtems:

record: Add variants for critical sections  
Update #3665.

#### **Comment 20**

1. **Sebastian Huber**, Thu, 29 Aug 2019 14:02:42 GMT

In 58bd67b/rtems:

record: Add more system events  
Reduce the system dependencies to allow tracing of very low level functions, for example the interrupt disable/enable.  
Introduce general purpose RTEMS\_RECORD\_CALLER and RTEMS\_RECORD\_LINE events.  
Update #3665.

#### **Comment 21**

1. **Sebastian Huber**, Thu, 29 Aug 2019 14:05:45 GMT

In b1abc7d/rtems-tools:

record: Synchronize with RTEMS  
Update #3665.

#### **Comment 22**

1. **Sebastian Huber**, Fri, 30 Aug 2019 07:01:18 GMT

In d78082c/rtems:

record: Introduce \_Record\_Drain()  
This allows its use in crash dump procedures.  
Update #3665.

#### **Comment 23**

1. **Sebastian Huber**, Fri, 30 Aug 2019 07:01:22 GMT

In 11f196d6/rtems:

record: Simplify configuration  
Update #3665.

#### **Comment 24**

1. **Sebastian Huber**, Fri, 30 Aug 2019 07:01:27 GMT

In 1e18f64/rtems:

record: Initialize records earlier  
The \_Record\_Initialize() function depends only initialized read-only data. Call it as the first initialization step to allow tracing of the complete system initialization.  
Update #3665.

#### **Comment 25**

1. **Sebastian Huber**, Fri, 30 Aug 2019 09:49:35 GMT

In 8ace7ead/rtems:

record: Add system events  
Add system events to identify the target system. Add system events to transfer blocks of memory and register sets.  
Update #3665.

#### **Comment 26**

1. **Sebastian Huber**, Fri, 30 Aug 2019 09:53:09 GMT

In 67f7638/rtems-tools:

```
record: Synchronize with RTEMS
Update #3665.
```

#### **Comment 27**

1. **Sebastian Huber**, Fri, 30 Aug 2019 13:03:47 GMT

In 1c72ad7/rtems:

```
record: Add system events
Add system events for memory allocation/free.
Update #3665.
```

#### **Comment 28**

1. **Sebastian Huber**, Fri, 30 Aug 2019 17:50:29 GMT

In f127341/rtems-tools:

```
record: Synchronize with RTEMS
Update #3665.
```

#### **Comment 29**

1. **Sebastian Huber**, Mon, 02 Sep 2019 05:56:58 GMT

In e41e9961/rtems:

```
record: Add system events
Update #3665.
```

#### **Comment 30**

1. **Sebastian Huber**, Mon, 02 Sep 2019 06:14:50 GMT

In 7cb3a0f/rtems-tools:

```
record: Synchronize with RTEMS
Update #3665.
```

#### **Comment 31**

1. **Sebastian Huber**, Tue, 03 Sep 2019 13:03:20 GMT

In e0ac299/rtems-tools:

```
record: Convert to C++
Formatted with:
clang-format -style=Chromium -i trace/record/record-main-lttng.cc
Update #3665.
```

#### **Comment 32**

1. **Sebastian Huber**, Tue, 03 Sep 2019 13:03:22 GMT

In a124bdb/rtems-tools:

```
record: Add Client base class
Update #3665.
```

#### **Comment 33**

1. **Sebastian Huber**, Wed, 04 Sep 2019 11:48:07 GMT

In fb5b75a/rtems-tools:

```
record: Use exceptions
Update #3665.
```

#### **Comment 34**

1. **Sebastian Huber**, Wed, 04 Sep 2019 11:48:10 GMT

In ce308fa/rtems-tools:

```
record: Only create necessary stream files
Rename the files to stream_* so that they appear after the metadata file. This makes it easier to open a new trace in Trace Compass.
Update #3665.
```

#### **Comment 35**

1. **Sebastian Huber**, Wed, 04 Sep 2019 11:48:12 GMT

In ff942d5/rtems-tools:

```
record: Simplify CopyThreadName>()
Update #3665.
```

#### **Comment 36**

1. **Sebastian Huber**, Wed, 04 Sep 2019 11:48:15 GMT

In 0df7b2f/rtems-tools:

```
record: Add support for interrupt handlers
Update #3665.
```

#### **Comment 37**

1. **Sebastian Huber**, Wed, 04 Sep 2019 11:48:17 GMT

In 58edee9/rtems-tools:

```
record: Simplify content and packet size
Update #3665.
```

#### **Comment 38**

1. **Sebastian Huber**, Wed, 04 Sep 2019 12:03:39 GMT

In 876ace8/rtems-tools:

```
record: Simplify command line options
Update #3665.
```

#### **Comment 39**

1. **Sebastian Huber**, Wed, 04 Sep 2019 12:43:10 GMT

In 71929ce/rtems-tools:

```
record: Add limit option
Update #3665.
```

#### **Comment 40**

1. **Sebastian Huber**, Thu, 05 Sep 2019 08:50:08 GMT

In 0b12f00/rtems-tools:

record: Clean up metadata  
Update #3665.

#### **Comment 41**

1. **Sebastian Huber**, Thu, 05 Sep 2019 08:50:26 GMT

In 07829ca/rtems-tools:

record: Use C++ header files and namespace std  
Update #3665.

#### **Comment 42**

1. **Sebastian Huber**, Thu, 05 Sep 2019 08:50:28 GMT

In f8f91d6/rtems-tools:

record: Add generic record events  
Update #3665.

#### **Comment 43**

1. **Sebastian Huber**, Mon, 09 Sep 2019 05:05:59 GMT

In c331bdc/rtems:

record: Allow tracing of ISR disable/enable

Directly use the CPU port API in boot\_card() to allow tracing of the higher level interrupt disable/enable routines, e.g. ISR\_Local\_disable() and ISR\_Local\_enable(). Currently, there is no configuration option to enable this. Below is a patch. It may be used to investigate some nasty low level bugs in the system.

Update #3665.

```
diff --git a/cpukit/include/rtems/score/isrlevel.h b/cpukit/include/rtems/score/isrlevel.h index c42451d010..46d361ddc2 100644 ---
a/cpukit/include/rtems/score/isrlevel.h +++ b/cpukit/include/rtems/score/isrlevel.h @@ -40,6 +40,10 @@ extern "C" {
```

```
*/
```

```
typedef uint32_t ISR_Level;
```

```
+uint32_t rtems_record_interrupt_disable( void ); +void rtems_record_interrupt_enable( uint32_t level ); +
```

```
/__ __
```

@brief Disables interrupts on this processor.

```
*
@@ -56,8 +60,7 @@ typedef uint32_t ISR_Level;
```

```
*/
```

```
`#define _ISR_Local_disable( _level ) \ `
```

```
do { \
```

```
_CPU_ISR_Disable( _level ); \ RTEMS_COMPILER_MEMORY_BARRIER(); \
+ _level = rtems_record_interrupt_disable(); \
```

```
} while (0)
```

```
/__ __
```

```
@@ -72,10 +75,7 @@ typedef uint32_t ISR_Level;
*_ISR_Local_disable().
```

```
*/
`#define _ISR_Local_enable( _level ) \ `
do { \ RTEMS_COMPILER_MEMORY_BARRIER(); \ _CPU_ISR_Enable( _level ); \ } while (0)
+ rtems_record_interrupt_enable( _level )
```

```
/__ __
```

@brief Temporarily enables interrupts on this processor.

```
@@ -98,9 +98,8 @@ typedef uint32_t ISR_Level;
```

```
*/
```



```

`#define _ISR_Local_flash( _level ) \ `
do { \
RTEMS_COMPILER_MEMORY_BARRIER(); \ _CPU_ISR_Flash( _level ); \ RTEMS_COMPILER_MEMORY_BARRIER(); \
+ rtems_record_interrupt_enable( _level ); \ + _level = rtems_recoFd_interrupt_disable(); \
} while (0)
/

```

**Comment 44**

1. **Sebastian Huber**, Tue, 01 Oct 2019 07:55:23 GMT

In c1eb577/rtems:

```

libtests/record01: Fix test failure
Update #3665.

```

**Comment 45**

1. **Sebastian Huber**, Wed, 02 Oct 2019 04:38:31 GMT

In a314544a/rtems:

```

record: Add wrappers for malloc() functions
Introduce new library librtmsrecordwrap.a which contains wrappers for operating system functions which produce entry/exit events.
The wrappers can be selected during link time via the GNU ld --wrap option.
Update #3665.

```

**Comment 46**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:26:09 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

All the basic functionality is integrated. New features/bugs should use new tickets.

**3666 - Add support for C++17 std::aligned\_alloc**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3666">https://devel.rtems.org/ticket/3666</a> ( <a href="https://devel.rtems.org/ticket/3666">https://devel.rtems.org/ticket/3666</a> )
<b>Id</b>	3666
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 December 2018 07:56:55
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

In C++17 there is a `std::aligned_alloc()`:  
[https://en.cppreference.com/w/cpp/memory/c/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](https://gcc.gnu.org/bugzilla/show_bug.cgi?id=85904)  
Provide `aligned_alloc()` and `memalign()` (as a strong alias to `aligned_allo()`) by RTEMS.

**Comment 1**

1. **Sebastian Huber**, Fri, 21 Dec 2018 06:56:55 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 2158621/rtems:

```
Add aligned_alloc() and memalign()
Ensure that the C++17 aligned new operator works.
Close #3666.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 10 Jan 2019 10:35:55 GMT

In 8eaf136d/rtems:

```
memalign: Add missing attributes to fix warning
Update #3666.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

## 3667 - Support data cache disable on ARMv7-AR

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3667">https://devel.rtems.org/ticket/3667</a> ( <a href="https://devel.rtems.org/ticket/3667">https://devel.rtems.org/ticket/3667</a> )
<b>Id</b>	3667
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	21 December 2018 09:32:08
<b>Modified</b>	10 January 2019 07:12:37
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

#### Comment 1

1. **Sebastian Huber**, Fri, 21 Dec 2018 09:33:17 GMT

In ba85655/rtems:

```
ARM_CACHE_L1_CPU_SUPPORT_PROVIDES_RANGE_FUNCTIONS
Remove this superfluous define.
Update #3667.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 21 Dec 2018 09:33:21 GMT

In a6f70e1/rtems:

```
bsps: Remove superfluous comments in cacheimpl.h
Remove superfluous blank lines.
Update #3667.
```

#### Comment 3

1. **Sebastian Huber**, Fri, 21 Dec 2018 09:33:24 GMT

In 5e0ab02/rtems:

bsps: Update cache manager documentation  
Update #3667.

#### **Comment 4**

1. **Sebastian Huber**, Fri, 21 Dec 2018 09:33:28 GMT

In b0c2d48/rtems:

bsps: Add CPU\_CACHE\_SUPPORT\_PROVIDES\_DISABLE\_DATA  
Update #3667.

#### **Comment 5**

1. **Sebastian Huber**, Fri, 21 Dec 2018 09:33:31 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 41a557bc/rtems:

bsps/arm: Add ARMv7-AR disable data cache  
Close #3667.

#### **Comment 6**

1. **Thomas Dörfler**, Thu, 10 Jan 2019 07:12:34 GMT

In 0abe47f/rtems:

bsps/arm: Fix typo in disable cache for ARMv7-AR  
Update #3667.

#### **Comment 7**

1. **Sebastian Huber**, Thu, 10 Jan 2019 07:12:37 GMT

In e7d623e7/rtems:

bsps/arm: Conditional ARMv7-AR data cache disable  
Update #3667. Close #3674.

---

### **3668 - Commit message in examples-v2 and libbsd didn't trigger a ticket update.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3668">https://devel.rtems.org/ticket/3668</a> ( <a href="https://devel.rtems.org/ticket/3668">https://devel.rtems.org/ticket/3668</a> )
<b>Id</b>	3668
<b>Reporter</b>	Christian Mauderer
<b>Created</b>	21 December 2018 15:22:00
<b>Modified</b>	2 April 2020 20:11:17
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

On 19.12.2018 I pushed a commit to the rtems-libbsd with a keyword that should have updated a ticket. But the ticket didn't pick up the commit:

Commit: <https://git.rtems.org/rtems-libbsd/commit/?id=91566dda7f52b5eba04df159770b4797ba652f20>

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

Ticket: <https://devel.rtems.org/ticket/3569>

The same message format worked from rtems-tools and rtems-source-builder. Did I something wrong?

#### Comment 1

1. **Sebastian Huber**, Mon, 07 Jan 2019 07:46:27 GMT
2. **summary:** changed from **Commit message in Libbsd didn't trigger a ticket update.** to **Commit message in examples-v2 and libbsd didn't trigger a ticket update.**

#### Comment 2

1. **Amar Takhar**, Thu, 02 Apr 2020 20:11:17 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**
4. **milestone:** set to **5.1**

This was fixed a long time ago the issue was in the update scripts not updating multiple commits in one push only the first one was being handled.

### 3669 - rtems-docs.git does not build with Sphinx 1.8.2 and 1.8.3

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3669">https://devel.rtems.org/ticket/3669</a> ( <a href="https://devel.rtems.org/ticket/3669">https://devel.rtems.org/ticket/3669</a> )
<b>Id</b>	3669
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 December 2018 22:46:14
<b>Modified</b>	6 February 2019 21:30:22
<b>Owner</b>	Amar Takhar
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

The docs do not build with Sphinx 1.8. Recent posts indicate some changes to support unicode indexes via xindy have caused this and the solution being discussed is to use the generate Makefile ...

<https://github.com/rtdf/readthedocs.org/issues/4454>

The need to use the Makefile is debatable however what it contains is important as it defines what needs to happen.

This recent issue can be seen in the Tex generated file for the User Manual (user.tex). It contains:

```
\item[{\Waf\index{\Waf@\spxentry{\Waf}|spxpagem}\phantomsection\label{\detokenize{glossary/index:term-waf`}} \leavevmode
Waf build system. For more information see \sphinxurl{http://www.waf.io/}
```

Our current build uses pdflatex directly and there is an error as spxpagem is not defined.

If you inspect a version 1.8 generated Makefile the command latexmk is used. This wraps the PDF generation so the correct number of passes are performed. Using this tool should be considered.

The Makefile contains:

```
export XINDYOPTS = -L english -C utf8 -M sphinx.xdy
```

The sphinx.xdy contains the needed spxpagem. I can only conclude sphinx needs to be built with xindy because the reference is always generated.

The problem for building FreeBSD is xindy is not an available command.

#### Comment 1

1. **Amar Takhar**, Tue, 25 Dec 2018 00:11:19 GMT
2. **owner:** set to **Amar Takhar**
3. **status:** changed from **new** to **accepted**

I'll sort this out, I've been aware this change was going to happen for a while now but since FreeBSD ports only has Sphinx 1.6.5 I haven't hit it yet.

#### Comment 2

1. **Joel Sherrill**, Wed, 26 Dec 2018 18:52:50 GMT

FWIW I tried two CentOS 7 computers with Sphinx 1.8. Neither gets anywhere close to this point. Neither even creates a Makefile in the build tree. They both fail immediately with this:

```
joel@devel rtems-docs]$ ./waf
Waf: Entering directory `/home/joel/rtems-work/rtems-docs/build'
Waf: Leaving directory `/home/joel/rtems-work/rtems-docs/build'
invalid number of source/target for bld(posted=True, target=[/home/joel/rtems-work/rtems-docs/build/user/latex/capt-of.sty,
/home/joel/rtems-work/rtems-docs/build/user/latex/eqparbox.sty, /home/joel/rtems-work/rtems-docs/build/user/latex/environ.sty,
/home/joel/rtems-work/rtems-docs/build/user/latex/ifplatform.sty, /home/joel/rtems-work/rtems-docs/build/user/latex/trimspaces.sty,
/home/joel/rtems-work/rtems-docs/build/user/latex/slantsc.sty, /home/joel/rtems-work/rtems-docs/build/user/latex/upquote.sty,
/home/joel/rtems-work/rtems-docs/build/user/latex/rtemsextrafonts.sty], idx=1, meths=['process subst', 'process rule',
'process source'], sources=['../common/latex/capt-of.sty', '../common/latex/eqparbox.sty', '../common/latex/environ.sty',
'../common/latex/ifplatform.sty', '../common/latex/trimspaces.sty', '../common/latex/slantsc.sty', '../common/latex/upquote.sty'],
path=/home/joel/rtems-work/rtems-docs/user, is copy=True, features=['subst']) in /home/joel/rtems-work/rtems-docs/user
```

Both have a texlive install from around 20 Nov 2018. There is nothing much in the build/ directory after running waf configure and waf.

```
joel@devel rtems-docs]$ find build -type f
build/c4che/build.config.py
build/c4che/ cache.py
build/config.log
build/.lock-waf linux2 build
```

### Comment 3

1. **Sebastian Huber**, Thu, 03 Jan 2019 11:37:22 GMT

On openSUSE 15.0 I use a sphinx 1.8.1 with Python 3 and it works. I don't have a xindy tool installed.

### Comment 4

1. **Sebastian Huber**, Thu, 03 Jan 2019 11:51:00 GMT

I updated to sphinx 1.8.2 and 1.8.3. On both versions I experience the reported issue, e.g.

```
cd build/user/latex
pdflatex -shell-escape user.tex
...
[182] [183]
! Undefined control sequence.
\spxpagem
l.88 ...ecture}, \hyperindexformat{\spxpagem}{181}
?
```

### Comment 5

1. **Sebastian Huber**, Thu, 03 Jan 2019 11:51:21 GMT
2. **summary:** changed from **rtems-docs.git does not build with Sphinx 1.8** to **rtems-docs.git does not build with Sphinx 1.8.2 and 1.8.3**

### Comment 6

1. **Chris Johns**, Mon, 07 Jan 2019 05:31:20 GMT

I suspect all future versions will behave the same way.

### Comment 7

1. **Chris Johns**, Tue, 05 Feb 2019 09:35:41 GMT

For FreeBSD we need to wait until a texlive update. This bug is tracking the progress:

[https://bugs.freebsd.org/bugzilla/show\\_bug.cgi?id=211997](https://bugs.freebsd.org/bugzilla/show_bug.cgi?id=211997)

### Comment 8

1. **Chris Johns**, Wed, 06 Feb 2019 02:59:17 GMT

With the help of the sphinx project I have resolved the issue. The issue in github is:

<https://github.com/sphinx-doc/sphinx/issues/6021>

I will be working on a patch to sort this out.

### Comment 9

1. **Chris Johns**, Wed, 06 Feb 2019 21:30:22 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In a3b0a40/rtems-docs:

```
Fix building with Sphinx 1.8 and later.
Provide the pytnon.ist file for makeindex. Add support for xelatex building so we can switch if we want too.
Closes #3669
```

## 3670 - examples-v2 uses deprecated or obsolete RTEMS interfaces

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3670">https://devel.rtems.org/ticket/3670</a> ( <a href="https://devel.rtems.org/ticket/3670">https://devel.rtems.org/ticket/3670</a> )
<b>Id</b>	3670
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 December 2018 00:39:19
<b>Modified</b>	7 January 2019 07:45:58
<b>Owner</b>	joel@...
<b>Type</b>	defect
<b>Component</b>	examples
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The examples need to be change to use what ever is the newer method of doing something.

```

../../filesystem/fat_ramdisk/init.c:46:3: warning: 'rtems_blkdev_generic_open' is deprecated [-Wdeprecated-declarations]
open_entry:          rtems_blkdev_generic_open,
^~~~~~
In file included from /opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/ramdisk.h:17:0,
                 from ../../filesystem/fat_ramdisk/init.c:16:
/opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/blkdev.h:408:1: note: declared here
rtems_blkdev_generic_open(
^~~~~~
../../filesystem/fat_ramdisk/init.c:47:3: warning: 'rtems_blkdev_generic_close' is deprecated [-Wdeprecated-declarations]
close_entry:         rtems_blkdev_generic_close,
^~~~~~

```

```

In file included from ../../ticker/low_ticker/init.c:88:0:
/opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/confdefs.h:3276:4: warning: #warning "The
CONFIGURE_TERMIOS_DISABLED configuration option is obsolete since RTEMS 5.1" [-Wcpp]
#warning "The CONFIGURE_TERMIOS_DISABLED configuration option is obsolete since RTEMS 5.1"
^~~~~~

```

### Comment 1

1. **Sebastian Huber**, Fri, 04 Jan 2019 06:55:37 GMT

Should the examples work with all RTEMS versions or just RTEMS 5?

### Comment 2

1. **Chris Johns**, Mon, 07 Jan 2019 05:29:58 GMT

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.

### Comment 3

1. **Sebastian Huber**, Mon, 07 Jan 2019 07:45:58 GMT

2. **status:** changed from **new** to **closed**

3. **resolution:** set to **fixed**

I fixed the issues. Trac didn't update the ticket.

## 3672 - No i386 BSP can link all tests after cache manager changes

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3672">https://devel.rtems.org/ticket/3672</a> ( <a href="https://devel.rtems.org/ticket/3672">https://devel.rtems.org/ticket/3672</a> )
<b>Id</b>	3672
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 January 2019 00:22:19
<b>Modified</b>	29 January 2019 08:03:10
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

```
/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 function
`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/c/src/lib/libbsp/i386/pc386/../../../../b/bsp/i386/shared/cache/../../../../shared/cache/cacheimpl.h:350:
undefined reference to `_CPU_cache_invalidate_entire_instruction'
```

**Comment 1**

1. **Sebastian Huber**, Thu, 10 Jan 2019 06:39:04 GMT
2. **owner: Sebastian Huber** deleted
3. **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.

**Comment 2**

1. **Sebastian Huber**, Tue, 29 Jan 2019 08:03:10 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

Fixed by [12dfe5dcb1412db47c51d4736551d81a7c77d064/rtems].

---

**3673 - xilinx\_zynq\_a9\_qemu - fails to link psxconfig01**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3673">https://devel.rtems.org/ticket/3673</a> ( <a href="https://devel.rtems.org/ticket/3673">https://devel.rtems.org/ticket/3673</a> )
<b>Id</b>	3673
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 January 2019 00:24:33
<b>Modified</b>	10 January 2019 07:12:41
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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/psxconfig01/init.c:499: undefined reference to `timer_create'
collect2: error: ld returned 1 exit status
```

**Comment 1**

1. **Joel Sherrill**, Thu, 10 Jan 2019 00:27:19 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Sebastian Huber**, Thu, 10 Jan 2019 07:06:34 GMT

Interesting, this is due to the -O0 optimization level. For the erc32 the empty loop is optimized away and there is no reference.

**Comment 3**

1. **Sebastian Huber**, Thu, 10 Jan 2019 07:12:41 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 3a5c71d/rtems:

```
psxconfig01: Fix pre-processor conditions
Do not rely on compiler optimizations to throw away empty loops.
Close #3673.
```

**3674 - Raspberry Pi Fails to Build**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3674">https://devel.rtems.org/ticket/3674</a> ( <a href="https://devel.rtems.org/ticket/3674">https://devel.rtems.org/ticket/3674</a> )
<b>Id</b>	3674
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 January 2019 00:25:36
<b>Modified</b>	10 January 2019 07:12:37
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```
../../../../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/../../../../bsps/arm/shared/cache/cache-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
```

**Comment 1**

1. **Sebastian Huber**, Thu, 10 Jan 2019 07:12:37 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In e7d623e7/rtems:

```
bsps/arm: Conditional ARMv7-AR data cache disable
Update #3667. Close #3674.
```

**3675 - RSB: Change default prefix to OS prefix + "rtems" + \$rtems\_version**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3675">https://devel.rtems.org/ticket/3675</a> ( <a href="https://devel.rtems.org/ticket/3675">https://devel.rtems.org/ticket/3675</a> )
<b>Id</b>	3675
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 January 2019 10:34:17
<b>Modified</b>	18 February 2019 13:42:25
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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".

### Comment 1

1. **Sebastian Huber**, Thu, 17 Jan 2019 10:34:30 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **accepted**

### Comment 2

1. **Sebastian Huber**, Tue, 22 Jan 2019 08:57:44 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In d523d4c/rtems-source-builder:

```
sb: Change default prefix
Use OS prefix + "rtems" + $rtems_version as the default prefix to automatically separate different RTEMS versions.
Close #3675.
```

### Comment 3

1. **Sebastian Huber**, Mon, 18 Feb 2019 13:42:25 GMT

In eae5454/rtems-docs:

```
user: Rework Prefixes section
Rename it to "Choose an Installation Prefix".
Update #3675.
```

---

## 3677 - ARM BSP contains ARM code in THUMB only build

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3677">https://devel.rtems.org/ticket/3677</a> ( <a href="https://devel.rtems.org/ticket/3677">https://devel.rtems.org/ticket/3677</a> )
<b>Id</b>	3677
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 January 2019 00:41:14
<b>Modified</b>	29 January 2019 08:04:26
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

The xilinx\_zynq\_a9\_gemu 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:

```
from __future__ import print_function
import sys
for line in sys.stdin:
    ls = line.split()
    if len(ls) == 8 and ls[0][-1] == ':' and ls[3] == 'FUNC':
        addr = int(ls[1], 16)
        if addr & 1 == 0:
            print(ls[7])
```

Command with output:

```
$ arm-rtems5-readelf -a `find . -name hello.exe` | python ./arm-thumb.py
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:

```
$ rtems-exeinfo -a `find . -name hello.exe`
```

is:

```
GNU AS 2.31.1: 14 objects
| arm_exc_interrupt.S
| armv4-exception-default.S
| bpabi.S
| bpabi.S
| bsp-start-memcpy.S
| cpu_asm.S
| liblfuncs.S
| liblfuncs.S
| liblfuncs.S
| memchr.S
| memcpy-armv7a.S
| start.S
| strcmp-armv7.S
| 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.

### Comment 1

1. **Chris Johns**, Mon, 21 Jan 2019 00:44:30 GMT

Hmmmm .... <https://github.com/RTEMS/sourceware-mirror-newlib-cygwin/blob/master/newlib/libc/machine/arm/memcpy-armv7a.S#L47>

### Comment 2

1. **Sebastian Huber**, Mon, 21 Jan 2019 06:17:19 GMT

The interworking support is mandatory in ARM EABI. The memcpy() code is from ARM, I guess they know what they are doing.

### Comment 3

1. **Sebastian Huber**, Tue, 29 Jan 2019 08:04:26 GMT

2. **status**: changed from **new** to **closed**

3. **resolution**: set to **wontfix**

## 3678 - Add RISC-V BSP with support for the grlib

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3678">https://devel.rtems.org/ticket/3678</a> ( <a href="https://devel.rtems.org/ticket/3678">https://devel.rtems.org/ticket/3678</a> )
<b>Id</b>	3678
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	22 January 2019 10:18:53
<b>Modified</b>	13 December 2019 19:17:33
<b>Owner</b>	Jiri Gaisler
<b>Type</b>	project
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

## Description

### Comment 1

1. **Sebastian Huber**, Tue, 22 Jan 2019 11:53:23 GMT

In 31720925/rtems:

```
glibc: Move header files
Update #3678.
```

### Comment 2

1. **Sebastian Huber**, Tue, 22 Jan 2019 11:53:26 GMT

In 7eb606d3/rtems:

```
glibc: Move source files
Update #3678.
```

### Comment 3

1. **Jiri Gaisler**, Tue, 22 Jan 2019 11:53:29 GMT

In 411c297/rtems:

```
glibc: make apbuart driver independent of bsp
Update #3678.
```

### Comment 4

1. **Jiri Gaisler**, Tue, 22 Jan 2019 11:53:33 GMT

In 5981c8ca/rtems:

```
glibc: use rtems_interrupt_handler_install()
Update #3678.
```

### Comment 5

1. **Jiri Gaisler**, Tue, 22 Jan 2019 11:53:36 GMT

In 9b2b389/rtems:

```
glibc: use cpu-independent routines for uncached access
Update #3678.
```

### Comment 6

1. **Jiri Gaisler**, Tue, 22 Jan 2019 11:53:39 GMT

In c1dcd6af/rtems:

glibc: make memory coherency cpu-independent  
Update #3678.

**Comment 7**

1. **Jiri Gaisler**, Tue, 22 Jan 2019 11:53:43 GMT

In d3d4e77/rtems:

riscv: add griscv bsp  
Update #3678.

**Comment 8**

1. **Sebastian Huber**, Tue, 22 Jan 2019 11:59:09 GMT

In 5973f92/rtems-docs:

user: Stub documentation for griscv BSP  
Update #3678.

**Comment 9**

1. **Joel Sherrill**, Fri, 13 Dec 2019 15:22:53 GMT

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.

**Comment 10**

1. **Jiri Gaisler**, Fri, 13 Dec 2019 19:17:33 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

RISC-V glibc support merged and functioning well. Documentation somewhat lacking but ticket can be closed.

**3682 - Add BSP for Xilinx Zynq UltraScale+ MPSoC platform**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3682">https://devel.rtems.org/ticket/3682</a> ( <a href="https://devel.rtems.org/ticket/3682">https://devel.rtems.org/ticket/3682</a> )
<b>Id</b>	3682
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	23 January 2019 08:30:54
<b>Modified</b>	19 December 2019 08:05:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Nils Hölscher**, Tue, 26 Mar 2019 09:26:36 GMT

Hi,

I am interested in realizing this Project during GSoC 2019. Hoping to find interested mentors.

Best, Nils Hölscher

**Comment 2**

1. **Sebastian Huber**, Wed, 27 Mar 2019 06:36:53 GMT

This project is probably too complex for a GSoC project. I am not available as a mentor.

### Comment 3

1. **Jeff Kubascik**, Thu, 11 Apr 2019 05:29:34 GMT

In b0c420b9/rtems:

```
bsp/zynq-uart: Remove zynq_uart_instances from header
This variable is BSP specific and should be removed from the driver header file.
Update #3682.
```

### Comment 4

1. **Jeff Kubascik**, Thu, 11 Apr 2019 05:29:38 GMT

In b004430/rtems:

```
bsp/zynq-uart: Move Zynq UART driver to shared directory
This driver will be shared with the xilinx-zynqmp BSP.
Update #3682.
```

### Comment 5

1. **Jeff Kubascik**, Thu, 11 Apr 2019 05:29:42 GMT

In 677d5167/rtems:

```
bsp/xilinx-zynqmp: Stub out Xilinx MPSoC BSP
Source files were copied from xilinx-zynq.
Update #3682.
```

### Comment 6

1. **Jeff Kubascik**, Thu, 11 Apr 2019 05:29:46 GMT

In 77f9a1b/rtems:

```
bsp/xilinx-zynqmp: Implement Ultra96 target
Modifications to get xilinx-zynqmp BSP working on an Ultra96 board.
Update #3682.
```

### Comment 7

1. **Sebastian Huber**, Thu, 19 Dec 2019 08:05:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c9f5e20/rtems-docs:

```
user: Mention xilinx-zynqmp BSP
Close #3682.
```

---

## **3683 - Git clone via HTTPS does not give much interactive feedback**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3683">https://devel.rtems.org/ticket/3683</a> ( <a href="https://devel.rtems.org/ticket/3683">https://devel.rtems.org/ticket/3683</a> )
<b>Id</b>	3683
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	28 January 2019 12:19:27
<b>Modified</b>	12 December 2019 16:56:24
<b>Owner</b>	
<b>Type</b>	infra
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

```
git clone https://git.rtems.org/rtems-libbsd
Cloning into 'rtems-libbsd'...
Checking out files: 100% (5159/5159), done.
```

vs.

```
git clone git://git.rtems.org/rtems-libbsd.git
Cloning into 'rtems-libbsd'...
remote: Counting objects: 34566, done.
remote: Compressing objects: 100% (8700/8700), done.
remote: Total 34566 (delta 24457), reused 34566 (delta 24457)
Receiving objects: 100% (34566/34566), 30.33 MiB | 1.34 MiB/s, done.
Resolving deltas: 100% (24457/24457), done.
Checking out files: 100% (5159/5159), done.
```

### Comment 1

1. **Sebastian Huber**, Mon, 28 Jan 2019 12:35:07 GMT

Cloning the RSB via HTTPS doesn't work for me:

```
git clone https://git.rtems.org/rtems-source-builder rsb
Cloning into 'rsb'...
```

### Comment 2

1. **Sebastian Huber**, Tue, 29 Jan 2019 07:15:57 GMT

Ok, a git clone works via HTTPS, but it is extremely slow:

```
time git clone https://git.rtems.org/rtems-source-builder rsb
Cloning into 'rsb'...
real    6m41.242s
user    0m5.766s
sys     0m3.054s
```

```
time git clone git://git.rtems.org/rtems-source-builder.git rsb
Cloning into 'rsb'...
remote: Counting objects: 8758, done.
remote: Compressing objects: 100% (5222/5222), done.
remote: Total 8758 (delta 6078), reused 5028 (delta 3494)
Receiving objects: 100% (8758/8758), 2.89 MiB | 1.12 MiB/s, done.
Resolving deltas: 100% (6078/6078), done.
real    0m4.469s
user    0m0.415s
sys     0m0.083s
```

### Comment 3

1. **Chris Johns**, Tue, 12 Feb 2019 21:30:12 GMT

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>

### Comment 4

1. **Chris Johns**, Thu, 12 Dec 2019 16:56:24 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

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 cgkit.

## 3684 - rtems\_print\_buffer is broken

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3684">https://devel.rtems.org/ticket/3684</a> ( <a href="https://devel.rtems.org/ticket/3684">https://devel.rtems.org/ticket/3684</a> )
<b>Id</b>	3684
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 January 2019 03:37:14
<b>Modified</b>	8 February 2019 23:08:03
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Consider this call:

```
#include
rtems_print_buffer ((const unsigned char *) "\x12\x23\x56\x78", 4);
```

On psim you get:

```
|f 2f 5f 7f |. #Vx |
```

**Comment 1**

1. **Chris Johns**, Tue, 29 Jan 2019 03:39:55 GMT

The line in Dump\_Line:

```
rtems_putc(hexlist[0xf]);
```

should be:

```
rtems_putc(hexlist[c & 0xf]);
```

**Comment 2**

1. **Sebastian Huber**, Tue, 29 Jan 2019 09:10:42 GMT

Yes, looks good.

**Comment 3**

1. **Chris Johns**, Sat, 02 Feb 2019 04:21:28 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 4**

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:03 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 2d8a9c79/rtems:

```
libmisc: Fix rtems_print_buffer
Closes #3684
```

---

**3685 - Add large memory support to libdl**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3685">https://devel.rtems.org/ticket/3685</a> ( <a href="https://devel.rtems.org/ticket/3685">https://devel.rtems.org/ticket/3685</a> )
<b>Id</b>	3685
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 February 2019 04:32:04
<b>Modified</b>	2 January 2020 11:54:11
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:11 GMT

In b08278e/rtems:

```
powerpc/psim: Increase the psim memory to 256M
This allows test dl09 to run and test PowePC backend trampoline support.
Updates #3685
```

### Comment 2

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:35 GMT

In d8c70ba6/rtems:

```
libdl: Add support for trampolines
Trampolines or fixups for veneers provide long jump support
for instruction sets that implement short relative address
branches. The linker provides trampolines when creating a
static image. This patch adds trampoline support to libdl
and the ARM architecture. The dl09 test requires enough memory so modules are outside
the relative branch instruction ranges for the architecture.
Updates #3685
```

### Comment 3

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:38 GMT

In 194eb403/rtems:

```
libdl: Add support for large memory programs
Add trampolines to support relocs that are out of range on
support architectures. Support not loading separate text/data sections in an object
file if the symbol provided in the section is a duplicate.
A base image may have pulled in part of an object and another
part needs to be dynamically loaded. Refactor the unresolved handling to scale to hundreds of
unresolved symbols when loading large number of files.
Updates #3685
```

### Comment 4

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:42 GMT

In 6c9f017/rtems:

```
libdl: Add powerpc large memory and small data support.
Add support for architecture sections that can be handled by the
architecture back end. Add trampoline/fixup support for PowerPC. This means the PowerPC
now supports large memory loading of applications. Add a bit allocator to manage small block based regions of memory. Add small data
(sdata/sbss) support for the PowerPC. The support
makes the linker allocated small data region of memory a global
resource available to libdl loaded object files.
Updates #3687 Updates #3685
```



**Comment 5**1. **Chris Johns**, Tue, 19 Feb 2019 22:09:47 GMT

In 22afb034/rtems:

```
libdl/alloc: Add a locking interface to the allocator.
Allow an allocator to lock the allocations. This is needed to
lock the heap allocator so the text and trampoline table are
as close together as possible to allow for the largest possible
object file size. Update the default heap allocator to lock the heap allocator. Update ELF loading to lock the allocator.
Updates #3685
```

**Comment 6**1. **Sebastian Huber**, Fri, 13 Dec 2019 08:33:02 GMT

b08278e/rtems leads to the following run-time error on PSIM:

```
BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0
BATs must not overlap; area 0x0c000000..0xd0000000 hits DBAT 0
```

The RAM overlaps with the PCI area:

```
/*
 * Setup BATs and enable MMU
 */
/* Memory */
setdbat(0, 0x0<<28, 0x0<<28, 1<<28, _PAGE_RW);
setibat(0, 0x0<<28, 0x0<<28, 1<<28, _PAGE_0);
/* PCI */
setdbat(1, 0x8<<24, 0x8<<24, 1<<24, IO_PAGE);
setdbat(2, 0xc<<24, 0xc<<24, 1<<24, IO_PAGE);
```

**Comment 7**1. **Sebastian Huber**, Fri, 13 Dec 2019 08:41:49 GMT

Increasing the RAM size to 256MiB (0x10000000) on PSIM breaks also the shared memory support:

```
typedef struct {
/* 0x0c000000 - 0x0c007FFF - AMD 29F040 */
volatile uint8_t Flash[ 512 * 1024 ];
/* 0x0c080000 - 0x0c0FFFFF - NVRAM/NVRAM */
volatile uint8_t nvram[ 512 * 1024 ];
/* 0x0c100000 - 0x0c100007 - NVRAM/RTC */
psim_rtc_t RTC;
/* 0x0c100008 - 0x0c10000F - NVRAM/RTC */
uint8_t gap1[8];
/* 0x0c100010 - 0x0c10001b - System V IPC Semaphore */
psim_sysv_sem_t Semaphore;
/* 0x0c10001c - 0x0c10001f - NVRAM/RTC */
uint8_t gap2[4];
/* 0x0c100020 - 0x0c10005F - Ethernet */
volatile uint8_t Ethtap[ 64 ];
/* 0x0c100060 - 0x0c10FFFF - NVRAM/RTC */
uint8_t gap3[65440];
/* 0x0c110000 - 0x0c12FFFF - System V IPC Shared Memory */
uint8_t SharedMemory[ 128 * 1024 ];
/* 0x0c130000 - 0x0c170000 - OpenPIC IRQ Controller */
volatile uint8_t OpenPIC[ 256 * 1024 ];
} psim_registers_t;
```

I suggest to revert this change.

**Comment 8**1. **Chris Johns**, Tue, 17 Dec 2019 20:18:36 GMT2. **status:** changed from **assigned** to **closed**3. **resolution:** set to **fixed**

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.

**Comment 9**1. **Sebastian Huber**, Thu, 02 Jan 2020 11:54:11 GMT

See #3849.

**3686 - Add library searching and loading to libdl**

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3686">https://devel.rtems.org/ticket/3686</a> ( <a href="https://devel.rtems.org/ticket/3686">https://devel.rtems.org/ticket/3686</a> )
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 February 2019 04:55:41
<b>Modified</b>	1 June 2020 11:17:38
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Provide support to search library files (archives) for symbols loading the object file that contains the symbol. The support shall:

- 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.
- 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.
- 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.
- Add support to check if there are any system wide unresolved symbols.
- Automatically unloaded archive object files that are not referenced.
- 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.

**Comment 1**

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:15 GMT

In 89c59be/rtems:

```
libdl: Add symbol searching and loading from archives.
Load archive symbol tables to support searching of archives
for symbols. Search archive symbols and load the object file that contains
the symbol. Search the global and archives until all remaining unresolved symbols
are not found. Group the loaded object files in the pending queue. Run the object file and loaded dependents as a group before adding to the
main object list. Remove orphaned object files after references are removed.
Updates #3686
```

**Comment 2**

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:19 GMT

In 85b59974/rtems:

```
libtests/dl02: Update the rtl-shell path.
Updates #3686
```

**Comment 3**

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:23 GMT

In bac53634/rtems:

```
libtests/dl02: Update the rtl-shell path. More verbose test.
Updates #3686
```

**Comment 4**

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:26 GMT

In a7c6176/rtems:

```
libtest/dl08: Add a test for archives.
Create 2 archives. Load 1 object file which loads 6 object files from the libraries.
Updates #3686
```

**Comment 5**

1. **Chris Johns**, Tue, 19 Feb 2019 22:09:52 GMT

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

In be62def9/rtems:

```
libdl/archive: Return false on read failure.  
Coverity issue 1442641  
Updates #3686
```

#### **Comment 6**

1. **Chris Johns**, Tue, 19 Feb 2019 22:09:56 GMT

In 62b01ab/rtems:

```
libdl/archive: Fix the config file string index while removing trailing white space.  
Coverity issue 1442540  
Updates #3686
```

#### **Comment 7**

1. **Chris Johns**, Tue, 19 Feb 2019 22:10:00 GMT

In 7aa0530/rtems:

```
libdl/archive: Check for an overflow of the symbol table.  
Coverity 1442636  
Updates #3686
```

#### **Comment 8**

1. **Chris Johns**, Tue, 19 Feb 2019 22:10:03 GMT

In c5615ddc/rtems:

```
libdl/unresolved: Fix return value for rtems_rtl_unresolved_remove  
Coverity 1399717  
Updates #3686
```

#### **Comment 9**

1. **Sebastian Huber**, Wed, 13 Mar 2019 07:15:22 GMT

In 286e935/rtems:

```
Regenerate cpukit/headers.am  
Updates #3686.
```

#### **Comment 10**

1. **Chris Johns**, Wed, 26 Feb 2020 03:51:41 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

#### **Comment 11**

1. **Sebastian Huber**, Mon, 01 Jun 2020 11:16:17 GMT
2. **blocking**: set to **3993**

#### **Comment 12**

1. **Sebastian Huber**, Mon, 01 Jun 2020 11:17:38 GMT
2. **blocking**: **3993** deleted

---

**3687** - Add architecture section support to libdl and support PowerPC's small data.

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3687">https://devel.rtems.org/ticket/3687</a> ( <a href="https://devel.rtems.org/ticket/3687">https://devel.rtems.org/ticket/3687</a> )
<b>Id</b>	3687
<b>Reporter</b>	Chris Johns
<b>Created</b>	2 February 2019 05:18:03
<b>Modified</b>	26 February 2020 03:52:04
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Chris Johns**, Fri, 08 Feb 2019 23:08:42 GMT

In 6c9f017/rtems:

```
libdl: Add powerpc large memory and small data support.
Add support for architecture sections that can be handled by the
architecture back end. Add trampoline/fixup support for PowerPC. This means the PowerPC
now supports large memory loading of applications. Add a bit allocator to manage small block based regions of memory. Add small data
(sdata/sbss) support for the PowerPC. The support
makes the linker allocated small data region of memory a global
resource available to libdl loaded object files.
Updates #3687 Updates #3685
```

### Comment 2

1. **Sebastian Huber**, Mon, 11 Feb 2019 10:43:14 GMT

In eec706e2/rtems:

```
bsps/powerpc: Fix small data area section

Fix small data area in case no fixed size is desired. Rename bsp_section_set_sdata_sbss_size into bsp_section_small_data_area_size since
this symbol reflects the overall small data area size (including space for libdl). Do not use bsp_section_sbss_size before definition in
linker command file. Add new symbols to .

Update #3687.
```

### Comment 3

1. **Chris Johns**, Mon, 18 Feb 2019 00:28:02 GMT

In 3ecb207/rtems:

```
libdl/rap: Add the section alloc call after section load was split

Updates #3687
```

### Comment 4

1. **Chris Johns**, Wed, 06 Mar 2019 19:34:29 GMT

In ec1dd51a/rtems:

```
libdl: Add small data support to the remaining PowerPC BSPs.

Updates #3687
```

**Comment 5**

1. **Chris Johns**, Wed, 26 Feb 2020 03:52:04 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**3688 - rtems-docs fails to build with python3**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3688">https://devel.rtems.org/ticket/3688</a> ( <a href="https://devel.rtems.org/ticket/3688">https://devel.rtems.org/ticket/3688</a> )
<b>Id</b>	3688
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 February 2019 09:07:24
<b>Modified</b>	12 December 2019 17:00:59
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Generating generated-posix-compliance.rst fails with Python3 as reported in <https://github.com/sphinx-doc/sphinx/issues/6021#issuecomment-460701861>

**Comment 1**

1. **Chris Johns**, Thu, 12 Dec 2019 17:00:59 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

<https://lists.rtems.org/pipermail/devel/2019-February/024753.html>

**3692 - libdl does not honour write unlock/lock for sections**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3692">https://devel.rtems.org/ticket/3692</a> ( <a href="https://devel.rtems.org/ticket/3692">https://devel.rtems.org/ticket/3692</a> )
<b>Id</b>	3692
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 February 2019 02:59:42
<b>Modified</b>	14 February 2019 23:06:22
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The allocator does not honour write unlock and lock for read-only sections as it should. This can be used to write protect executable memory.

**Comment 1**

1. **Chris Johns**, Thu, 14 Feb 2019 23:06:22 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In e309f77/rtems:

```
libdl: Allocator does not unlock and lock memory on loading.
```

---

## **3693 - libdl incorrectly handles MIPS16hi/lo relocs**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3693">https://devel.rtems.org/ticket/3693</a> ( <a href="https://devel.rtems.org/ticket/3693">https://devel.rtems.org/ticket/3693</a> )
<b>Id</b>	3693
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 February 2019 23:13:30
<b>Modified</b>	28 April 2020 04:00:12
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	libdl mips
<b>Cc</b>	sergkruglov@...
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

This issue was reported back in 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>

### Attachments:

- 
- 1 **Chris Johns, Fri, 15 Feb 2019 02:29:55 GMT**  
**attach:** set to [libdl-rtl-mdreloc-mips-hi16-lo16.diff](https://devel.rtems.org/ticket/3693/libdl-rtl-mdreloc-mips-hi16-lo16.diff) (<https://devel.rtems.org/ticket/3693/libdl-rtl-mdreloc-mips-hi16-lo16.diff>)
- 

### Comment 1

1. **Chris Johns**, Thu, 14 Feb 2019 23:15:51 GMT

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?

### Comment 2

1. **Chris Johns**, Tue, 28 Apr 2020 04:00:12 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 0b416759/rtems:

```
libdl/mips: Fix MIPS16hi/lo relocation support.
```

```
This patch is an updated version from:
```

```
https://lists.rtems.org/pipermail/users/2016-January/029740.html
```

```
Closes #3693
```

---

## **3694 - shm\_open has logically unreachable code (Coverity ID: 1399706, 1399714)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3694">https://devel.rtems.org/ticket/3694</a> ( <a href="https://devel.rtems.org/ticket/3694">https://devel.rtems.org/ticket/3694</a> )
<b>Id</b>	3694
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	19 February 2019 18:10:33
<b>Modified</b>	14 March 2019 19:26:24
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	coverity
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Coverity ID: 1399706 and 1399714  
 File: shmopen.c  
 Method: shm\_open for first

```

dead_error_condition: The condition oflag & 0 cannot be true.
289 if ( oflag & O_RDONLY ) {
CID 1399706 (#1 of 1): Logically dead code (DEADCODE)
dead_error_line: Execution cannot reach this statement: flags != 2U;.
290 flags != LIBIO_FLAGS_READ;
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:

```

197 int flags;
dead_error_condition: The condition oflag & 0 cannot be true.
198 if ( oflag & O_RDONLY ) {
CID 1399714 (#1 of 1): Logically dead code (DEADCODE)
dead_error_line: Execution cannot reach this statement: flags = 4;.
199 flags = RTEMS_FS_PERMS_READ;
200 } else {

```

**Comment 1**

1. **Joel Sherrill**, Tue, 19 Feb 2019 18:12:13 GMT
2. **description:** modified (diff)
3. **summary:** changed from **shm\_open has logically unreachable code (Coverity ID: 1399706)** to **shm\_open has logically unreachable code (Coverity ID: 1399706, 1399714)**

**Comment 2**

1. **Gedare Bloom**, Thu, 14 Mar 2019 16:08:10 GMT

the fix is something along the lines of

```
(oflag & O_ACCMODE) == O_RDONLY
```

to check for read-only

**Comment 3**

1. **Joel Sherrill**, Thu, 14 Mar 2019 19:26:24 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 31e8f1b/rtems:

```

shmopen.c: Fix logically unreachable code (Coverity ID: 1399706, 1399714)
Closes #3694.

```

**3696 - Basic Support for Trace Compass**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3696">https://devel.rtems.org/ticket/3696</a> ( <a href="https://devel.rtems.org/ticket/3696">https://devel.rtems.org/ticket/3696</a> )
<b>Id</b>	3696
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	20 February 2019 12:02:45
<b>Modified</b>	2 April 2020 08:58:00
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	SoC,statistics
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

## Description

The Trace Compass is a tool to analyse and display trace data. Trace data can be gathered from RTEMS applications via various means, for example:

- RTEMS Trace Linker
- Event Recording
- Capture Engine

The goal of this project is to enable the Trace Compass to analyse and display some basic information using the Event Recording infrastructure. Basic information is defined by the Linux kernel trace support (ltng) and includes (see Trace Compass project explorer Tracing -> Traces -> Something):

- kernel
  - Views
    - CPU usage
      - CPU usage
    - IRQ Analysis
      - IRQ Statistics
      - IRQ Table
      - IRQ vs Count
      - IRQ vs Time
    - Linux Kernel
      - Control Flow
      - Resources

Example data can be obtained from the Trace Visualization Labs.

Advanced support for Trace Compass could include dynamic memory traces, stack usage, network packet flow, etc.

There are four main problems.

- Generation of sufficient trace events, currently the interrupt entry/exit events are not available for example.
- The trace data must be transferred from the target system running the RTEMS application to a host computer running the Trace Compass (transfer via TCP is available, for UDP based transfer see #3695).
- The Trace Compass must be able to analyse and display the information obtained from the Event Recording.
- The RTEMS user must be able to use this infrastructure. This requires that it is easy to use, availability of tutorials and documentation.

To tackle problem 3. there are two approaches possible. You can extend the Trace Compass to work with the trace data provided by RTEMS as is. Alternatively, the RTEMS trace data could be converted to Linux kernel trace data (ltng) which Trace Compass already understands.

Related topics are Common Trace Format, Babeltrace, barectf, #2961 and #3028.

### \_\_Skills Needed\_\_

You need good C and C++ skills with a proven record. You need to show socket level and networking programming skills. In case Trace Compass needs to be extended this requires Java skills and familiarity with the Eclipse framework. Knowledge of YAML and XML is helpful. High end RTEMS targets can generate a huge number of events per second (10MiB/s trace data is 13'10720 events per second; on a 4GHz host processor this is 3051 instructions per event under real-time processing conditions) which imposes a considerable work load to modern host computers, so the host programs must work efficiently.

### \_\_Difficulty\_\_

We consider this an advanced project.

## Comment 1

1. **Gedare Bloom**, Thu, 28 Feb 2019 21:07:23 GMT
2. **keywords: SoC testing** added; **GSoC** removed

## Comment 2

1. **Gedare Bloom**, Thu, 28 Feb 2019 21:09:32 GMT
2. **keywords: statistics** added; **testing** removed

## Comment 3

1. **Ravindra Kumar Meena**, Fri, 31 May 2019 10:01:13 GMT

The current stable version 1.5.6 of babeltrace does not have feature to convert live trace stream into CTF. This feature is currently in development and will be released in babeltrace 2.0

## Comment 4

1. **Christian Mauderer**, Mon, 10 Feb 2020 20:30:04 GMT



This project has been at least partially done during GSoC 2019 and further developed since then. For everyone picking up this project: Check carefully what can be extended.

#### Comment 5

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:58:00 GMT
  2. **status**: changed from **assigned** to **closed**
  3. **version**: set to **5**
  4. **resolution**: set to **fixed**
  5. **milestone**: set to **5.1**
- 

### **3699 - Wrong system register specified for ARM virtual timer value retrieval**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3699">https://devel.rtems.org/ticket/3699</a> ( <a href="https://devel.rtems.org/ticket/3699">https://devel.rtems.org/ticket/3699</a> )
<b>Id</b>	3699
<b>Reporter</b>	Kinsey Moore
<b>Created</b>	21 February 2019 19:23:32
<b>Modified</b>	22 February 2019 07:29:53
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	gpt,timer,arm
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### Comment 1

1. **Sebastian Huber**, Fri, 22 Feb 2019 07:27:47 GMT
2. **owner**: set to **Sebastian Huber**
3. **status**: changed from **new** to **accepted**
4. **version**: set to **5**
5. **milestone**: set to **5.1**

#### Comment 2

1. **Kinsey Moore**, Fri, 22 Feb 2019 07:29:53 GMT
2. **status**: changed from **accepted** to **closed**
3. **resolution**: set to **fixed**

In 7abc497/rtems:

```
bsps/arm: Fix system register for virtual timer
```

The system register in use for retrieval of the virtual timer value was mistakenly copied from the physical timer value retrieval function. Virtual timer value retrieval should use the same system register as the virtual timer value setter.

```
Close #3699.
```

---

### **3708 - Remove Doxygen comments from confdefs.h**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3708">https://devel.rtems.org/ticket/3708</a> ( <a href="https://devel.rtems.org/ticket/3708">https://devel.rtems.org/ticket/3708</a> )
<b>Id</b>	3708
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	26 February 2019 14:22:06
<b>Modified</b>	1 June 2020 11:27:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3705
<b>Blocked by</b>	

---

**Description**

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](https://docs.rtems.org/branches/master/c-user/configuring_a_system.html)

**Comment 1**

1. **Chris Johns**, Wed, 27 Feb 2019 23:48:33 GMT

Can a link be added so doxygen generate docs point to the documentation?

**Comment 2**

1. **Joel Sherrill**, Wed, 27 Feb 2019 23:52:08 GMT

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.

**Comment 3**

1. **Sebastian Huber**, Thu, 28 Feb 2019 14:18:19 GMT

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.

**Comment 4**

1. **Sebastian Huber**, Mon, 01 Jun 2020 11:27:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **version**: changed from **6** to **5**
4. **resolution**: set to **fixed**
5. **milestone**: changed from **6.1** to **5.1**

Removing the Doxygen markup from 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.

---

**3720 - mfill shell command uses the wrong arguments for the memset()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3720">https://devel.rtems.org/ticket/3720</a> ( <a href="https://devel.rtems.org/ticket/3720">https://devel.rtems.org/ticket/3720</a> )
<b>Id</b>	3720
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	8 March 2019 06:38:41
<b>Modified</b>	8 March 2019 06:40:08
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.9
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

<file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html>

### Comment 1

1. **Jonathan Brandmeyer**, Fri, 08 Mar 2019 06:40:08 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 2e8a66d/rtems:

```
shell: Correct argument order of mfill
Close #3720.
```

---

## 3724 - bsp/lpc24xx: Convert SSP driver to Linux API

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3724">https://devel.rtems.org/ticket/3724</a> ( <a href="https://devel.rtems.org/ticket/3724">https://devel.rtems.org/ticket/3724</a> )
<b>Id</b>	3724
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 March 2019 14:58:39
<b>Modified</b>	18 March 2019 09:28:16
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

### Comment 1

1. **Sebastian Huber**, Tue, 12 Mar 2019 15:00:06 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1400210/rtems:

```
bsp/lpc24xx: Convert SSP driver to Linux API
Use interrupts instead of polled or DMA driven mode. Change license to BSD-2-Clause.
Close #3724.
```

### Comment 2

1. **Sebastian Huber**, Mon, 18 Mar 2019 08:54:22 GMT

In 4480a83/rtems-docs:

```
bsp-howto: Update SPI chapter
Update #3724.
```

### Comment 3

1. **Sebastian Huber**, Mon, 18 Mar 2019 09:28:16 GMT

In 808ef17/rtems-docs:

```
user: Add basic lpc24xx description
Update #3724. Update #3725.
```

---

## 3725 - bsp/lpc24xx: Convert I2C driver to Linux API

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3725">https://devel.rtems.org/ticket/3725</a> ( <a href="https://devel.rtems.org/ticket/3725">https://devel.rtems.org/ticket/3725</a> )
<b>Id</b>	3725
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 March 2019 14:59:01
<b>Modified</b>	8 May 2019 11:13:18
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

#### Comment 1

1. **Sebastian Huber**, Mon, 18 Mar 2019 08:33:00 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 007d4e12/rtems:

```
bsp/lpc24xx: Convert I2C driver to Linux API
Change license to BSD-2-Clause.
Close #3725.
```

#### Comment 2

1. **Sebastian Huber**, Mon, 18 Mar 2019 08:54:24 GMT

In 15f4670/rtems-docs:

```
bsp-howto: Update I2C chapter
Update ##3725.
```

#### Comment 3

1. **Sebastian Huber**, Mon, 18 Mar 2019 09:28:16 GMT

In 808ef17/rtems-docs:

```
user: Add basic lpc24xx description
Update #3724. Update #3725.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 08 May 2019 11:13:18 GMT

In 271b8a6/rtems:

```
bsp/lpc24xx: Remove obsolete BSP options
Update #3725.
```

---

### **3728 - Set small data section to max size for mvme5500 and motorola\_powerpc BSPs**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3728">https://devel.rtems.org/ticket/3728</a> ( <a href="https://devel.rtems.org/ticket/3728">https://devel.rtems.org/ticket/3728</a> )
<b>Id</b>	3728
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 March 2019 22:38:50
<b>Modified</b>	1 April 2019 03:24:56
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

These are large memory targets that can support libdl. Make the small data memory the maximum size.

**Comment 1**

1. **Chris Johns**, Mon, 01 Apr 2019 03:24:56 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 294c6f4/rtems:

```
Set the small data section size to max. for mvme5500 and mvme2100 BSPs
Closes #3728
```

---

**3731 - Add rtems\_scheduler\_get\_processor()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3731">https://devel.rtems.org/ticket/3731</a> ( <a href="https://devel.rtems.org/ticket/3731">https://devel.rtems.org/ticket/3731</a> )
<b>Id</b>	3731
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 April 2019 07:33:54
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3989
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:11:49 GMT

In 03c9f24/rtems:

```
rtems: Add rtems_scheduler_get_processor()

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.

Deprecate rtems_get_current_processor().

Update #3731.
```

**Comment 2**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:13:06 GMT
2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In 3495a91/rtems-docs:

```
c-user: Document rtems_scheduler_get_processor()
Close #3731.
```

**Comment 3**

1. **Sebastian Huber**, Thu, 28 May 2020 13:28:09 GMT
2. **blocking:** set to **3989**

**Comment 4**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

**3732 - Add rtems\_scheduler\_get\_processor\_maximum()**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3732">https://devel.rtems.org/ticket/3732</a> ( <a href="https://devel.rtems.org/ticket/3732">https://devel.rtems.org/ticket/3732</a> )
<b>Id</b>	3732
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 April 2019 07:36:27
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3990
<b>Blocked by</b>	

---

**Description**

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()`.

**Comment 1**

1. **Sebastian Huber**, Fri, 05 Apr 2019 06:17:36 GMT
2. **description:** modified (diff)
3. **summary:** changed from **Add rtems\_scheduler\_get\_maximum\_processor()** to **Add rtems\_scheduler\_get\_processor\_maximum()**

**Comment 2**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:11:52 GMT

In f9219db/rtems:

```
rtems: Add rtems_scheduler_get_processor_maximum()
```

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()`.

```
Update #3732.
```

**Comment 3**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:13:08 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 53300c8/rtems-docs:

```
c-user: rtems_scheduler_get_processor_maximum()
Close #3732.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 11 Apr 2019 07:19:29 GMT

In cfd6dc9/rtems:

```
score: Rename _SMP_Processor_count
Rename _SMP_Processor_count in _SMP_Processor_maximum to be in line with the API level rtems_scheduler_get_processor_maximum().
Update #3732.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 11 Apr 2019 07:19:32 GMT

In ad87de4/rtems:

```
score: Rename _SMP_Get_processor_count()
Rename _SMP_Get_processor_count() in _SMP_Get_processor_maximum() to be in line with the API level rtems_scheduler_get_processor_maximum().
Update #3732.
```

**Comment 6**

1. **Sebastian Huber**, Thu, 28 May 2020 13:29:14 GMT
2. **blocking**: set to **3990**

**Comment 7**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

**3733 - Add general reg support to libdebugger**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3733">https://devel.rtems.org/ticket/3733</a> ( <a href="https://devel.rtems.org/ticket/3733">https://devel.rtems.org/ticket/3733</a> )
<b>Id</b>	3733
<b>Reporter</b>	Chris Johns
<b>Created</b>	5 April 2019 06:13:28
<b>Modified</b>	9 April 2019 05:05:23
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	lib/debugger
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Testing master on a Zynq reports:

```
(gdb) target remote 10.10.5.45:1122
Remote debugging using 10.10.5.45:1122
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:

```
(gdb) maint print registers
Name      Nr  Rel Offset  Size  Type
r0         0   0     0      4  uint32_t
r1         1   1     4      4  uint32_t
r2         2   2     8      4  uint32_t
r3         3   3    12     4  uint32_t
r4         4   4    16     4  uint32_t
r5         5   5    20     4  uint32_t
r6         6   6    24     4  uint32_t
r7         7   7    28     4  uint32_t
r8         8   8    32     4  uint32_t
r9         9   9    36     4  uint32_t
r10        10  10   40     4  uint32_t
r11        11  11   44     4  uint32_t
r12        12  12   48     4  uint32_t
sp         13  13   52     4  *1
lr         14  14   56     4  uint32_t
pc         15  15   60     4  *1
f0         16  16   64    12  _arm_ext
f1         17  17   76    12  _arm_ext
f2         18  18   88    12  _arm_ext
f3         19  19  100    12  _arm_ext
f4         20  20  112    12  _arm_ext
f5         21  21  124    12  _arm_ext
f6         22  22  136    12  _arm_ext
f7         23  23  148    12  _arm_ext
fps        24  24  160     4  uint32_t
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.

#### Comment 1

1. **Chris Johns**, Sat, 06 Apr 2019 00:39:37 GMT
2. **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.

#### Comment 2

1. **Chris Johns**, Sat, 06 Apr 2019 00:43:24 GMT

Adding support for offsets to the ARM backend has things working. The following is with master RSB, kernel and libbsd:



```

$ /opt/work/rtems/5/bin/arm-rtems5-gdb ./build/arm-rtems5-xilinx_zynq_zedboard-default/debugger01.exe
GNU gdb (GDB) 8.2.1
Copyright (C) 2018 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
This GDB was configured as "--host=x86_64-freebsd11.2 --target=arm-rtems5".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:

.
Find the GDB manual and other documentation resources online at:

.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from ./build/arm-rtems5-xilinx_zynq_zedboard-default/debugger01.exe...done.
(gdb) target remote 10.10.5.45:1122
Remote debugging using 10.10.5.45:1122
0x00000030 in ?? ()
(gdb) info threads
      Id Target Id                                         Frame
* 1   Thread 1.167837697 (UI1 (0a010001), priority(c:508 r:508), stack(s: 32768 a:0x44dda0), state(TIME:SUSP:IS)) 0x00000030 in ?? ()
  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
(gdb) info reg
r0      0x2c7184      2912644
r1      0x2c7184      2912644
r2      0x2c7184      2912644
r3      0x2c7184      2912644
r4      0x30be70      3194480
r5      0x40e660      4253280
r6      0x7184be70     1904524912
r7      0x7184002c     1904476204
r8      0x7184002c     1904476204
r9      0x7184002c     1904476204
r10     0xbe70002c     3195011116
r11     0xea680030     3932684336
r12     0xbe700040     3195011136
sp      0xc5000030     0xc5000030
lr      0xbe6c0044     3194748996
pc      0x30         0
cpsr    0x0         0
(gdb) thread 2
[Switching to thread 2 (Thread 1.167837698)]
#0  arm_interrupt_disable () at /opt/work/chris/rtems/kernel/rtems.git/cpukit/score/cpu/arm/include/rtems/score/cpu.h:299
299      __asm__ volatile (
(gdb) bt
#0  arm_interrupt_disable () at /opt/work/chris/rtems/kernel/rtems.git/cpukit/score/cpu/arm/include/rtems/score/cpu.h:299
#1  Thread Do dispatch (cpu_self=, level=) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/threaddispatch.c:309
#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
#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
#4  fillBufferQueue (tty=0x455da8) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/libcsupport/src/termios.c:1509
#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
#6  0x0022562c in rtems_termios_ifms_read (iop=0x44aec8, buffer=0x44c94b <_sf+67>, count=1) at
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/libcsupport/src/termios.c:2052
#7  0x00223be8 in read (fd=, buffer=, count=) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/libcsupport/src/read.c:44
#8  0x00241c12 in __sread (ptr=, cookie=0x44c908 <_sf>, buf=, n=) at ../../../../../../gcc-7.4.0/newlib/libc/stdio/stdio.c:47
#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
#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
#11 0x0023abfc in fgetc (fp=fp@entry=0x44c908 <_sf>) at ../../../../../../gcc-7.4.0/newlib/libc/stdio/fgetc.c:110
#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
#13 0x00231704 in rtems_shell_line_editor (size=128, out=0x44c988 <_sf+128>, in=0x44c908 <_sf>, prompt=, count=, cmds=0x45e360) at
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/libmisc/shell/shell.c:225
#14 rtems_shell_main_loop (shell_env_arg=) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/libmisc/shell/shell.c:880
#15 0x0023255e in rtems_shell_task (Task argument=) at
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/libmisc/shell/shell.c:679
#16 0x0022ad3a in Thread_Handler () at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/threadhandler.c:135
#17 0x0022abbc in Thread_Do_dispatch (cpu_self=, level=) at
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/threaddispatch.c:299
#18 0x00000000 in ?? ()
Backtrace stopped: previous frame identical to this frame (corrupt stack?)
(gdb)

```

**Comment 3**

1. **Chris Johns**, Tue, 09 Apr 2019 05:05:23 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 2c09b71/rtems:

libdebugger: Use an offset table to format GDB g packets.

Adding support for a register offset table lets FPU registers be supported if added to the backend.

Closes #3733.

**3734 - Add RTEMS\_CONST attribute**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3734">https://devel.rtems.org/ticket/3734</a> ( <a href="https://devel.rtems.org/ticket/3734">https://devel.rtems.org/ticket/3734</a> )
<b>Id</b>	3734
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 April 2019 06:41:32
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Add RTEMS\_CONST attribute to make the compiler specific attribute ((const)) available.

**Comment 1**

1. **Sebastian Huber**, Fri, 05 Apr 2019 06:42:35 GMT
2. **component**: changed from **rtems** to **score**

**Comment 2**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:11:45 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 3c50c328/rtems:

```
score: Add RTEMS_CONST
Close #3734.
```

**Comment 3**

1. **Sebastian Huber**, Tue, 09 Apr 2019 06:18:43 GMT

In 71c5b005/rtems:

```
spmisc01: Use RTEMS_CONST
Update #3734.
```

**Comment 4**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords**: **qualification** added
- 

**3735 - Remove CONFIGURE\_HAS\_OWN\_MULTIPROCESSING\_TABLE**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3735">https://devel.rtems.org/ticket/3735</a> ( <a href="https://devel.rtems.org/ticket/3735">https://devel.rtems.org/ticket/3735</a> )
<b>Id</b>	3735
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 April 2019 06:59:10
<b>Modified</b>	17 December 2019 07:56:09
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3490
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:35 GMT

In d24b301/rtems:

```
config: CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE
Obsolete the CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE configuration option.
Update #3735.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:41 GMT

In 24f8915/rtems:

```
config: Add _MPCI_Configuration
Replace the user MPCI configuration table with a system provided _MPCI_Configuration.
Update #3735.
```

**Comment 3**

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:44 GMT

In 1d9f509e/rtems:

```
config: Statically allocate MP thread proxies
Update #3735.
```

**Comment 4**

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:48 GMT

In 3fba9de2/rtems:

```
config: Statically allocate MP object controls
Update #3735.
```

**Comment 5**

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:51 GMT

In 78211376/rtems:

```
score: Remove _Workspace_Allocate_or_fatal_error()
This function is unused.
Update #3735.
```

**Comment 6**

1. **Sebastian Huber**, Fri, 13 Dec 2019 13:07:10 GMT

In 93d5323/rtems-docs:

```
c-user: CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE
Obsolete the CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE configuration option.
Update #3735.
```

**Comment 7**

1. **Sebastian Huber**, Tue, 17 Dec 2019 07:56:09 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

### **3736 - PowerPC Beatnik BSP C++ exceptions broken**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3736">https://devel.rtems.org/ticket/3736</a> ( <a href="https://devel.rtems.org/ticket/3736">https://devel.rtems.org/ticket/3736</a> )
<b>Id</b>	3736
<b>Reporter</b>	Chris Johns
<b>Created</b>	11 April 2019 00:08:08
<b>Modified</b>	11 November 2019 03:51:30
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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:

```

config addr is 0xf1000cf8
config data is 0xf1000cfc
Welcome to RTEMS rtems-5.0.0 (PowerPC/Generic (classic FPU)/beatnik)
CPU: MPC7457
Board Type: MVME5500-0161 (S/N E1712C9)
Bus Clock Freq: 133333333 Hz
CPU Clock Freq: 1000000000 Hz
Memory: 536870912 bytes
-----
Now BSP_mem_size = 0x1fe00000
Configuration.work_space_size = a170
Page table setup finished; will activate it NOW...
Going to start PCI buses scanning and initialization
Number of PCI buses found is : 3
MSR 0x2003032
Exit from bspstart
Universe II PCI-VME bridge detected at 0x82000000, IRQ 76
Universe Master Ports:
Port VME-Addr Size PCI-Adrs Mode:
0: 0x20000000 0x0e000000 0x90000000 A32, D64 [MBLT], Dat, Sup
1: 0x00000000 0x00ff0000 0x9f000000 A24, D64 [MBLT], Dat, Sup
2: 0x00000000 0x00010000 0x9fff0000 A16, D64, Dat, Sup
7: 0x00000000 0x01000000 0x9e000000 CSR, D64, Dat, Sup
Universe Slave Ports:
Port VME-Addr Size PCI-Adrs Mode:
0: 0x90000000 0x1fe00000 0x00000000 A32, Pgm, Dat, Sup, Usr, PWEN, PRE
N
vmeUniverse IRQ manager: looking for registers on VME...
Trying to find CRG on VME...
vmeUniverse IRQ manager - registers not found on VME; falling back to PCI
*** BEGIN OF TEST CONSTRUCTOR/DESTRUCTOR ***
*** TEST VERSION: 5.0.0.8a8b95aal6932ba9d2acd7a785100f7d0919205-modified
*** TEST STATE: EXPECTED-PASS
*** TEST BUILD: RTEMS NETWORKING RTEMS POSIX API
*** TEST TOOLS: 7.4.0_20181206 (RTEMS 5, RSB_9a3e12e5820918057633798c3fe2
alf952fb4e56, Newlib 1d35a003f)
GLOBAL: Hey I'm in base class constructor number 1 for 0x5c404.
GLOBAL: Hey I'm in base class constructor number 2 for 0x5c410.
GLOBAL: Hey I'm in derived class constructor number 3 for 0x5c410.
LOCAL: Hey I'm in base class constructor number 4 for 0x6cbdc.
LOCAL: Hey I'm in base class constructor number 5 for 0x6cbd0.
LOCAL: Hey I'm in base class constructor number 6 for 0x6cbc4.
LOCAL: Hey I'm in base class constructor number 7 for 0x6cbb8.
LOCAL: Hey I'm in derived class constructor number 8 for 0x6cbb8.
IO Stream not tested
LOCAL: Hey I'm in derived class destructor number 8 for 0x6cbb8.
Derived class - Instantiation order 8
LOCAL: Hey I'm in base class destructor number 7 for 0x6cbb8.
Derived class - Instantiation order 8
LOCAL: Hey I'm in base class destructor number 6 for 0x6cbc4.
Derived class - Instantiation order 6
LOCAL: Hey I'm in base class destructor number 5 for 0x6cbd0.
Derived class - Instantiation order 5
LOCAL: Hey I'm in base class destructor number 4 for 0x6cbdc.
Derived class - Instantiation order 5
*** TESTING C++ EXCEPTIONS ***
fatal source: RTEMS FATAL SOURCE EXIT
bsp_fatal_extension(): RTEMS terminated

```

#### Comment 1

1. **Sebastian Huber**, Thu, 11 Apr 2019 06:42:09 GMT

Maybe related to #3339.

#### Comment 2

1. **Chris Johns**, Thu, 11 Apr 2019 07:06:51 GMT

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.

### Comment 3

1. **Sebastian Huber**, Tue, 07 May 2019 08:32:31 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In f6895c6/rtems:

```
bsps/powerpc: Fix C++ exception handling
Close #3736.
```

### Comment 4

1. **Chris Johns**, Mon, 11 Nov 2019 03:51:30 GMT
2. **component:** changed from **admin** to **arch/powerpc**

## 3741 - libdl loading ELF objects from libbsd NFS file system ends in a deadlock

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3741">https://devel.rtems.org/ticket/3741</a> ( <a href="https://devel.rtems.org/ticket/3741">https://devel.rtems.org/ticket/3741</a> )
<b>Id</b>	3741
<b>Reporter</b>	dufault
<b>Created</b>	27 April 2019 12:51:51
<b>Modified</b>	4 May 2019 02:22:01
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	run-time-loader libdl
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Chris Johns**, Sun, 28 Apr 2019 01:44:02 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **accepted**
4. **milestone:** set to **5.1**

### Comment 2

1. **Chris Johns**, Tue, 30 Apr 2019 07:25:22 GMT

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.

### Comment 3

1. **Chris Johns**, Thu, 02 May 2019 01:45:27 GMT

2. **summary:** changed from **libdl load of ELF objects on NFS file system lock up** to **libdl loadinf ELF objects from libbsd NFS file system ends in a deadlock**

I have:

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. 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. 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:

```
RTL List:
/dl09-o1.o
trampolines:
  slots      : 3
  size       : 48
  slot size  : 16
  used       : 1
  relocs     : 0
  unresolved: 3
  yield      : 33%
/dl09-o2.o
trampolines:
  slots      : 7
  size       : 112
  slot size  : 16
  used       : 7
  relocs     : 6
  unresolved: 1
  yield      : 100%
/dl09-o5.o
trampolines:
  slots      : 6
  size       : 96
  slot size  : 16
  used       : 6
  relocs     : 6
  unresolved: 0
  yield      : 100%
/dl09-o3.o
trampolines:
  slots      : 37
  size       : 592
  slot size  : 16
  used       : 13
  relocs     : 12
  unresolved: 25
  yield      : 35%
/dl09-o4.o
trampolines:
  slots      : 8
  size       : 128
  slot size  : 16
  used       : 8
  relocs     : 7
  unresolved: 1
  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:

```

RTL List:
/dl08-o1.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 0
    unresolved: 1
    yield     : 0%
/libdl08_1.a:dl08-o2.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 0
    unresolved: 1
    yield     : 0%
/libdl08_2.a:dl08-o3.o
  trampolines:
    slots      : 25
    size       : 400
    slot size  : 16
    used       : 0
    relocs    : 0
    unresolved: 25
    yield     : 0%
/libdl08_1.a:dl08-o4.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 0
    unresolved: 1
    yield     : 0%
/libdl08_2.a:dl08-o6-123456789-123456789.o
  trampolines: no slots allocated
/libdl08_2.a:dl08-o5.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 0
    unresolved: 1
    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`.

#### Comment 4

1. **Chris Johns**, Thu, 02 May 2019 01:47:14 GMT
2. **summary:** changed from `libdl loadinif 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`

#### Comment 5

1. **Chris Johns**, Fri, 03 May 2019 00:12:02 GMT

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:

```

RTL List:
/dl09-o1.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 1
    relocs    : 1
    unresolved: 0
    yield     : 100%
/dl09-o2.o
  trampolines:
    slots      : 7
    size       : 112
    slot size  : 16
    used       : 7
    relocs    : 7
    unresolved: 0
    yield     : 100%
/dl09-o5.o
  trampolines:
    slots      : 6
    size       : 96
    slot size  : 16
    used       : 6
    relocs    : 6
    unresolved: 0
    yield     : 100%
/dl09-o3.o
  trampolines:
    slots      : 13
    size       : 208
    slot size  : 16
    used       : 13
    relocs    : 13
    unresolved: 0
    yield     : 100%
/dl09-o4.o
  trampolines:
    slots      : 8
    size       : 128
    slot size  : 16
    used       : 8
    relocs    : 8
    unresolved: 0
    yield     : 100%

```

The dl08 results still have a 0% yield but the number of slots is lower:

```

RTL List:
/dl08-o1.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 1
    unresolved: 0
    yield     : 0%
/libdl08_1.a:dl08-o2.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 1
    unresolved: 0
    yield     : 0%
/libdl08_2.a:dl08-o3.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 1
    unresolved: 0
    yield     : 0%
/libdl08_1.a:dl08-o4.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 1
    unresolved: 0
    yield     : 0%
/libdl08_2.a:dl08-o6-123456789-123456789.o
  trampolines:
    slots      : 0
    size       : 0
    slot size  : 16
    used       : 0
    relocs    : 0
    unresolved: 0
    yield     : 0%
/libdl08_2.a:dl08-o5.o
  trampolines:
    slots      : 1
    size       : 16
    slot size  : 16
    used       : 0
    relocs    : 1
    unresolved: 0
    yield     : 0%

```

#### Comment 6

1. **Chris Johns**, Fri, 03 May 2019 00:46:02 GMT

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.

#### Comment 7

1. **Chris Johns**, Sat, 04 May 2019 02:22:01 GMT

2. **status:** changed from **accepted** to **closed**

3. **resolution:** set to **fixed**

In b36c5209/rtems:

```

libdl: Do not access the ELF file while the allocator is locked.
  Load symbols before allocation. Parse reloc records and place any reloc recs in a cache to use
  while the allocator is locked. Relocate symbols after section allocation. Split section loading into allocation/locating and loading. Update
  all arch back-ends with a new reloc interface to control
  tramp handling. Add -a and -t to the object list shell command.
  Closes #3741

```

### 3742 - T\_config conflicting type qualifiers for 'config'



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3742">https://devel.rtems.org/ticket/3742</a> ( <a href="https://devel.rtems.org/ticket/3742">https://devel.rtems.org/ticket/3742</a> )
<b>Id</b>	3742
<b>Reporter</b>	Chris Johns
<b>Created</b>	4 May 2019 02:20:37
<b>Modified</b>	6 May 2019 05:57:55
<b>Owner</b>	joel@...
<b>Type</b>	defect
<b>Component</b>	test
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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:

```
error: testsuites/libtests/ttest01/init.c:146:23: error: conflicting type qualifiers for 'config'
```

The builder command line is:

```
/opt/work/chris/rtems/rt/rtems-tools.git/tester/rtems-bsp-builder \
--rtems-tools=/opt/work/rtems/5 \
--rtems=/opt/work/chris/rtems/kernel/rtems.git \
--log=everything-tests \
--profile=everything \
--build=tests \
--jobs=7/6
```

A BSP configure command line is:

```
/opt/work/chris/rtems/kernel/rtems.git/configure \
--target=mips-rtems5 --enable-rtemsbsp=csb350 --prefix=/opt/rtems/5 \
--enable-tests --disable-smp
```

**Comment 1**

1. **Sebastian Huber**, Mon, 06 May 2019 05:57:55 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

In 8bd4f61c/rtems:

```
bsps: Remove bogus config declaration
Replace it with a proper struct rtems_bsdnet_ifconfig forward declaration.
Close #3742.
```

**3743 - RSB os and arch config logic is broken**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3743">https://devel.rtems.org/ticket/3743</a> ( <a href="https://devel.rtems.org/ticket/3743">https://devel.rtems.org/ticket/3743</a> )
<b>Id</b>	3743
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 May 2019 23:13:46
<b>Modified</b>	10 May 2019 02:44:45
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

#### Comment 1

1. **Chris Johns**, Fri, 10 May 2019 02:44:45 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 0956a2c/rtems-source-builder:

```
sb/config: Fix os and arch conditional logic.
Correctly split the argument list and check each element.
Closes #3743
```

## 3746 - libdl test dl05.exe failing

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3746">https://devel.rtems.org/ticket/3746</a> ( <a href="https://devel.rtems.org/ticket/3746">https://devel.rtems.org/ticket/3746</a> )
<b>Id</b>	3746
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 May 2019 00:17:57
<b>Modified</b>	14 May 2019 00:19:54
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3745
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Chris Johns**, Mon, 13 May 2019 22:57:17 GMT
2. **owner**: set to **Chris Johns <chrisj@...>**
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 74883be5/rtems:

```
libdl: Fix loading symbol that reference unknown sections.
Make the symbol parsing and loading stage match. Check for possible overflow of the tables when loading.
Closes #3746
```

#### Comment 2

1. **Chris Johns**, Tue, 14 May 2019 00:19:54 GMT

In d0f627d/rtems:

```
libdl: Fix size bug in loading symbols.
This was introduced in 74883be5d4b5fa166179d6003032f6eac2e0f544.
Updates #3746
```

## 3747 - Address Cortex-M3 Errata 602117

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3747">https://devel.rtems.org/ticket/3747</a> ( <a href="https://devel.rtems.org/ticket/3747">https://devel.rtems.org/ticket/3747</a> )
<b>Id</b>	3747
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 May 2019 13:23:15
<b>Modified</b>	21 May 2019 04:44:10
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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](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:

```
diff --git a/gcc/config/arm/t-rtems b/gcc/config/arm/t-rtems
index 026a5895662..e276b4f3e57 100644
--- a/gcc/config/arm/t-rtems
+++ b/gcc/config/arm/t-rtems
@@ -1,7 +1,7 @@
 # Custom RTEMS multilibs for ARM
-MULTILIB_OPTIONS = mbig-endian mthumb march=armv6-m/march=armv7-a/march=armv7-r/march=armv7-m/mcpu=cortex-m7
mcpu=neon/mcpu=vfp/mcpu=vfpv3-d16/mcpu=fpv4-sp-d16/mcpu=fpv5-d16 mfloat-abi=hard
-MULTILIB_DIRNAMES = eb thumb armv6-m armv7-a armv7-r armv7-m cortex-m7 neon vfp vfpv3-d16 fpv4-sp-d16 fpv5-d16 hard
+MULTILIB_OPTIONS = mbig-endian mthumb march=armv6-m/march=armv7-a/march=armv7-r/mcpu=cortex-m3/mcpu=cortex-m4/mcpu=cortex-m7
mcpu=neon/mcpu=vfp/mcpu=vfpv3-d16/mcpu=fpv4-sp-d16/mcpu=fpv5-d16 mfloat-abi=hard
+MULTILIB_DIRNAMES = eb thumb armv6-m armv7-a armv7-r cortex-m3 cortex-m4 cortex-m7 neon vfp vfpv3-d16 fpv4-sp-d16 fpv5-d16 hard
 # Enumeration of multilibs
@@ -16,7 +16,8 @@ MULTILIB_REQUIRED += mthumb/march=armv7-a/mcpu=neon/mfloat-abi=hard
MULTILIB_REQUIRED += mthumb/march=armv7-a
MULTILIB_REQUIRED += mthumb/march=armv7-r/mcpu=vfpv3-d16/mfloat-abi=hard
MULTILIB_REQUIRED += mthumb/march=armv7-r
-MULTILIB_REQUIRED += mthumb/march=armv7-m/mcpu=fpv4-sp-d16/mfloat-abi=hard
+MULTILIB_REQUIRED += mthumb/mcpu=cortex-m3
+MULTILIB_REQUIRED += mthumb/mcpu=cortex-m4
+MULTILIB_REQUIRED += mthumb/mcpu=cortex-m4/mcpu=fpv4-sp-d16/mfloat-abi=hard
MULTILIB_REQUIRED += mthumb/mcpu=cortex-m7/mcpu=fpv5-d16/mfloat-abi=hard
-MULTILIB_REQUIRED += mthumb/march=armv7-m
MULTILIB_REQUIRED += mthumb
```

## Comment 1

1. **Sebastian Huber**, Tue, 14 May 2019 06:56:12 GMT

In 72271f6/rtems-source-builder:

```
5: Update GCC 7 baseline
```

```
Pick up ARM multilib changes to address Cortex-M3 Errata 602117.
```

```
Update #3747.
```

## Comment 2

1. **Sebastian Huber**, Tue, 14 May 2019 09:08:23 GMT

In b446457/rtems:

```
bsps/arm: Adjust machine flags for ARMv7-M
```

```
Update machine flags for Cortex-M3 and Cortex-M4 based BSPs to account for Cortex-M3 Errata 602117 which required GCC multilib changes.
```

```
Update #3747.
```

## Comment 3

1. **Sebastian Huber**, Wed, 15 May 2019 05:21:31 GMT

In 7f51440/rtems-docs:

```
cpu-supplement: Update ARM multilibs
```

```
Update #3747.
```

## Comment 4

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Sebastian Huber**, Tue, 21 May 2019 04:44:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

The GCC multilib changes are now in GCC 7, 8, 9 and trunk (10).

---

### **3748 - libdl uses a linear symbol search on object file symbols**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3748">https://devel.rtems.org/ticket/3748</a> ( <a href="https://devel.rtems.org/ticket/3748">https://devel.rtems.org/ticket/3748</a> )
<b>Id</b>	3748
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 May 2019 00:32:24
<b>Modified</b>	22 May 2019 00:03:14
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Chris Johns**, Wed, 22 May 2019 00:03:14 GMT
2. **owner**: set to **Chris Johns** <chrisj@...>
3. **status**: changed from **assigned** to **closed**
4. **resolution**: set to **fixed**

In 327e45da/rtems:

```
libdl: Sort object file symbols and use a binary search to find
Replace the linear object file symbol search with a binary search. Sort the object file symbols after loading.
Closes #3748
```

---

### **3751 - No documentation on Region Get Information Directives**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3751">https://devel.rtems.org/ticket/3751</a> ( <a href="https://devel.rtems.org/ticket/3751">https://devel.rtems.org/ticket/3751</a> )
<b>Id</b>	3751
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	20 May 2019 22:29:14
<b>Modified</b>	12 December 2019 22:07:25
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	classic, region
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Joel Sherrill**, Thu, 12 Dec 2019 22:07:25 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 43e0d78/rtems-docs:

```
region_manager.rst: Add docs for region get info and get free info
closes #3751.
```

## **3753 - Rename CONFIGURE\_LIBIO\_MAXIMUM\_FILE\_DESCRIPTOR**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3753">https://devel.rtems.org/ticket/3753</a> ( <a href="https://devel.rtems.org/ticket/3753">https://devel.rtems.org/ticket/3753</a> )
<b>Id</b>	3753
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	21 May 2019 15:43:26
<b>Modified</b>	19 December 2019 07:57:47
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

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?

### **Comment 1**

1. **Sebastian Huber**, Wed, 22 May 2019 05:45:29 GMT

I like CONFIGURE\_MAXIMUM\_FILE\_DESCRIPTOR 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

```
#if RTEMS_VERSION >= 5
`#define CONFIGURE_MAXIMUM_FILE_DESCRIPTOR X`
`#else`
`#define CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR X`
`#endif
```

### **Comment 2**

1. **Chris Johns**, Thu, 12 Dec 2019 23:30:31 GMT

Sebastian, can this be worked on while you are playing with the config?

### **Comment 3**

1. **Sebastian Huber**, Fri, 13 Dec 2019 06:04:11 GMT

Yes, I work on this. I hope to finish the configuration related stuff by end of next week.

### **Comment 4**

1. **Sebastian Huber**, Thu, 19 Dec 2019 07:55:54 GMT

In 3cec2df/rtems:

```
config: CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR
Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR into CONFIGURE_MAXIMUM_FILE_DESCRIPTOR.
Update #3753.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 19 Dec 2019 07:57:47 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 2c58b5f/rtems-docs:

```
c-user: CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORs
Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORs in CONFIGURE_MAXIMUM_FILE_DESCRIPTORs.
Close #3753.
```

**3754 - Users Guide Ubuntu Instructions Have Typo**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3754">https://devel.rtems.org/ticket/3754</a> ( <a href="https://devel.rtems.org/ticket/3754">https://devel.rtems.org/ticket/3754</a> )
<b>Id</b>	3754
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 June 2019 16:19:42
<b>Modified</b>	15 August 2019 21:04:38
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

sudo should be sudo

**Comment 1**

1. **Joel Sherrill**, Mon, 03 Jun 2019 16:21:34 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Joel Sherrill**, Thu, 15 Aug 2019 21:04:38 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 13baaca/rtems-docs:

```
hosts/posix.rst: Fix typo of sudo to sudo
Closes #3754.
```

**3756 - Condition codes in PSR are destroyed by lazy FP context switch**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3756">https://devel.rtems.org/ticket/3756</a> ( <a href="https://devel.rtems.org/ticket/3756">https://devel.rtems.org/ticket/3756</a> )
<b>Id</b>	3756
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 June 2019 06:37:59
<b>Modified</b>	6 June 2019 06:41:41
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/sparc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

<https://lists.rtems.org/pipermail/devel/2019-June/026014.html>

#### Comment 1

1. **Sebastian Huber**, Thu, 06 Jun 2019 06:41:38 GMT

In 7d7cbf3c/rtems:

```
sparc: Improve _CPU_Context_validate()
Use the FPU and check that the condition codes in the PSR are preserved.
Update #3756.
```

#### Comment 2

1. **Maksim E. Kozlov**, Thu, 06 Jun 2019 06:41:41 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In a3818705/rtems:

```
sparc: Fix missed restoring of PSR in syscall_lazy_fp_switch
It is needed to restore PSR just before return because condition codes are dirty after the CMP instructions and this may cause undefined program behavior after returning from the switching procedure (on following branch instruction, for example).
Close #3756.
```

---

## 3760 - BBB MMU update crashes

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3760">https://devel.rtems.org/ticket/3760</a> ( <a href="https://devel.rtems.org/ticket/3760">https://devel.rtems.org/ticket/3760</a> )
<b>Id</b>	3760
<b>Reporter</b>	Chris Johns
<b>Created</b>	17 June 2019 02:46:24
<b>Modified</b>	12 August 2019 23:01:20
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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 Zynq (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.

**Comment 1**

1. **Chris Johns**, Tue, 25 Jun 2019 10:08:06 GMT

The implementation is:

```
ARM_CP15_TEXT_SECTION static inline void
arm_cp15_tlb_invalidate_entry_all_asids(const void *mva)
{
  ARM_SWITCH_REGISTERS;
  mva = ARM_CP15_TLB_PREPARE_MVA(mva);
  asm volatile (
    ARM_SWITCH_TO_ARM
    "mcr p15, 0, %[mva], c8, c7, 3\n"
    ARM_SWITCH_BACK
    : ARM_SWITCH_OUTPUT
    : [mva] "r" (mva)
  );
}
```

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.

**Comment 2**

1. **Sebastian Huber**, Tue, 25 Jun 2019 10:42:44 GMT

Can the availability checked via a feature register at runtime?

**Comment 3**

1. **Chris Johns**, Tue, 25 Jun 2019 10:44:49 GMT

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.

**Comment 4**

1. **Chris Johns**, Tue, 30 Jul 2019 22:38:00 GMT

2. **owner:** set to **Chris Johns** <chrisj@...>

3. **status:** changed from **new** to **closed**

4. **resolution:** set to **fixed**

In 98d6792/rtems:

```
arm: Select the TLB invalidate based on the core's Id variant.
Closes #3760
```

**Comment 5**

1. **Chris Johns**, Mon, 12 Aug 2019 23:01:20 GMT

In 15b6f44d/rtems:

```
arm/tlb: Fix the MP affinity check to invalidate ASIDs.
The TI's CortexA7 MP MPIDR register returns 0
Updates #3760
```

---

## **3762 - Return the current handler from ARM cp15 set exception call**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3762">https://devel.rtems.org/ticket/3762</a> ( <a href="https://devel.rtems.org/ticket/3762">https://devel.rtems.org/ticket/3762</a> )
<b>Id</b>	3762
<b>Reporter</b>	Chris Johns
<b>Created</b>	25 June 2019 08:39:58
<b>Modified</b>	27 June 2019 23:04:23
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Chris Johns**, Thu, 27 Jun 2019 23:04:23 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c43071f/rtems:

```
arm: Return the current handler from arm_cp15_set_exception_handler
```

```
Closes #3762
```

---

### 3763 - RSB SIS build fails on FreeBSD

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3763">https://devel.rtems.org/ticket/3763</a> ( <a href="https://devel.rtems.org/ticket/3763">https://devel.rtems.org/ticket/3763</a> )
<b>Id</b>	3763
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 June 2019 22:36:11
<b>Modified</b>	24 July 2019 05:01:30
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The RSB SIS build for RISC-V fails on FreeBSD with:

```

+ 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='
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... build-aux/install-sh -c -d
checking for gawk... no
checking for mawk... no
checking for nawk... nawk
checking whether make sets $(MAKE)... yes
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
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
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
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
checking for style of include used by make... GNU
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
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
checking for grep that handles long lines and -e... /usr/bin/grep
checking for egrep... /usr/bin/grep -E
checking for ANSI C header files... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
checking for memory.h... yes
checking for strings.h... yes
checking for inttypes.h... yes
checking for stdint.h... yes
checking for unistd.h... yes
checking fcntl.h usability... yes
checking fcntl.h presence... yes
checking for fcntl.h... yes
checking stddef.h usability... yes
checking stddef.h presence... yes
checking for stddef.h... yes
checking for stdlib.h... (cached) yes
checking for string.h... (cached) yes
checking sys/time.h usability... yes
checking sys/time.h presence... yes
checking for sys/time.h... yes
checking for unistd.h... (cached) yes
checking termios.h usability... yes
checking termios.h presence... yes
checking for termios.h... yes
checking for readline in -lreadline... no
configure: error: the required "readline" library is missing

```

**Comment 1**

1. **Chris Johns**, Wed, 24 Jul 2019 05:01:30 GMT
2. **owner:** set to **Chris Johns** <chrisj@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 5eb4282/rtems-source-builder:

```

devel/sis: Fix building the SIS on FreeBSD
Update to SIS 2.17 which has internal readline support for
the hosts which do not have readline.
Closes #3763

```

**3768 - Add staging support to Makefile.inc**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3768">https://devel.rtems.org/ticket/3768</a> ( <a href="https://devel.rtems.org/ticket/3768">https://devel.rtems.org/ticket/3768</a> )
<b>Id</b>	3768
<b>Reporter</b>	Chris Johns
<b>Created</b>	19 July 2019 07:52:06
<b>Modified</b>	21 July 2019 22:20:20
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Add support to allow staging of an RTEMS BSP build so dependent packages can be built in a single RBS buildset build.

**Comment 1**

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

1. **Chris Johns**, Sun, 21 Jul 2019 22:20:20 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 270c5df5/rtems:

```
Makefile.inc: Add support for staged builds.
Allow the RTEMS_ROOT to be conditionally supplied. This
can be a staging area before being moved to the final
install prefix location. Update the default.cfg to use RTEMS_ROOT and to not rely on
the exec prefix so it's paths can be staged. Fix and add the needed configure subs.
Closes #3768
```

## 3769 - RSB BSP Buildsets

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3769">https://devel.rtems.org/ticket/3769</a> ( <a href="https://devel.rtems.org/ticket/3769">https://devel.rtems.org/ticket/3769</a> )
<b>Id</b>	3769
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 July 2019 22:29:18
<b>Modified</b>	22 July 2019 21:58:10
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Add support to the RSB for BSP build sets. The support includes building 3rd party packages for a BSP.

- Add BSP buildset support
- Build packages for a BSP
- Stage buildset builds if not the outer build so dependent packages and be built before a package and used
- Fix packages to support staged builds

### Comment 1

1. **Chris Johns**, Mon, 22 Jul 2019 21:58:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 831ae05/rtems-source-builder:

```
rtems/bsp: Build packages for the beagle BSP.
Closes #3769
```

## 3770 - RSB 3rd party packages failing to build

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3770">https://devel.rtems.org/ticket/3770</a> ( <a href="https://devel.rtems.org/ticket/3770">https://devel.rtems.org/ticket/3770</a> )
<b>Id</b>	3770
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 July 2019 22:40:55
<b>Modified</b>	12 December 2019 17:05:47
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The following packages do not build or have issues and will be removed if they are not updated:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

- ntp
- microwindows
- nxlib
- 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.

#### Comment 1

1. **Chris Johns**, Thu, 12 Dec 2019 17:05:47 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

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?

### **3773 - RPi fails to boot**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3773">https://devel.rtems.org/ticket/3773</a> ( <a href="https://devel.rtems.org/ticket/3773">https://devel.rtems.org/ticket/3773</a> )
<b>Id</b>	3773
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 July 2019 00:31:57
<b>Modified</b>	26 July 2019 07:25:32
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

The RPi BSP fails to boot with the current master. A bsect of the repo shows the failure appears after this change [bdec62c4/rtems].

#### Comment 1

1. **Sebastian Huber**, Fri, 26 Jul 2019 07:25:25 GMT

In 0f5c1d53/rtems:

```
bsps/arm: Remove register init for ARMv7-M
There are no known ARMv7-M chips with a dual lockstep mode.
Update #3773.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 26 Jul 2019 07:25:28 GMT

In 0ee2125/rtems:

```
bsps/arm: Move register init to start.S
This makes it easier to review changes in start.S.
Update #3773.
```

#### Comment 3

1. **Sebastian Huber**, Fri, 26 Jul 2019 07:25:32 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1e6380b/rtems:

```
bsps/arm: Move HYP to SVC change to start.S
This fixes the corruption of r3 by the call to bsp_start_arm_drop_hyp_mode().
```

Moving the code makes it easier to review changes in start.S.

Close #3773.

## 3774 - RPi2 SMP does not build

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3774">https://devel.rtems.org/ticket/3774</a> ( <a href="https://devel.rtems.org/ticket/3774">https://devel.rtems.org/ticket/3774</a> )
<b>Id</b>	3774
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 July 2019 00:28:09
<b>Modified</b>	30 July 2019 09:03:30
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

```
arm-rtems5-gcc -march=armv7-a -mthumb -mcpu=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 -grtems -
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
/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'
/opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/./././././arm-rtems5/bin/ld: section .start VMA [0000000000000040,000000000002003f]
overlaps section .rtemsstack VMA [0000000000000040,000000000002003f]
/opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/./././././arm-rtems5/bin/ld: region `VECTOR_RAM' overflowed by 114752 bytes
```

### Configured with ...

```
/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
```

### Comment 1

1. **Sebastian Huber**, Tue, 30 Jul 2019 09:03:30 GMT
2. **owner:** set to **Sebastian Huber** <sebastian.huber@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In c5fd79cd/rtems:

```
arm/raspberrypi: Fix linker map
```

```
Add NULL-pointer protection. Make MMU table read-only. Move vector table to start section.
```

Close #3774.

## 3775 - libdl does not handle ARM mode reloc tramp parsing

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3775">https://devel.rtems.org/ticket/3775</a> ( <a href="https://devel.rtems.org/ticket/3775">https://devel.rtems.org/ticket/3775</a> )
<b>Id</b>	3775
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 July 2019 23:13:30
<b>Modified</b>	27 July 2019 23:17:12
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The BBB fails on libdl tests because the trampoline parsing of reloc records does not handle the ABS type relocations when the code is built in ARM mode.

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

**Comment 1**

1. **Chris Johns**, Sat, 27 Jul 2019 23:17:12 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5a678de/rtems:

```
libdl/arm: Fix ARM mode trampoline parsing of relocs
No need to dump globals syms in test dl01 when tracing
Closes #3775
```

**3776 - libdl ARM does not support ARM mode trampolines.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3776">https://devel.rtems.org/ticket/3776</a> ( <a href="https://devel.rtems.org/ticket/3776">https://devel.rtems.org/ticket/3776</a> )
<b>Id</b>	3776
<b>Reporter</b>	Chris Johns
<b>Created</b>	28 July 2019 04:55:42
<b>Modified</b>	4 August 2019 02:36:16
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The BBB is ARM mode and crashes dl09.exe. This is due to only Thumb mode trampoline support.

**Comment 1**

1. **Chris Johns**, Sun, 04 Aug 2019 02:36:16 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8c66acc8/rtems:

```
libdl/arm: Add support for ARM trampolines
Closes #3776
```

**3777 - libdl object unload debugger delete support is broken**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3777">https://devel.rtems.org/ticket/3777</a> ( <a href="https://devel.rtems.org/ticket/3777">https://devel.rtems.org/ticket/3777</a> )
<b>Id</b>	3777
<b>Reporter</b>	Chris Johns
<b>Created</b>	4 August 2019 05:14:30
<b>Modified</b>	11 August 2019 22:53:16
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 \_rtd\_linkmap\_delete() list code is broken. The object module's block should not be walked to the end.

**Comment 1**

1. **Chris Johns**, Sun, 11 Aug 2019 22:53:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 9cb19ded/rtems:

```
libdl/debugger: Fix the broken list delete when unloading an object module.
Closes #3777
```

**3781 - RSB crashes in case the host as an unreadable directory in "/"**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3781">https://devel.rtems.org/ticket/3781</a> ( <a href="https://devel.rtems.org/ticket/3781">https://devel.rtems.org/ticket/3781</a> )
<b>Id</b>	3781
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 August 2019 10:42:57
<b>Modified</b>	3 December 2019 05:53:07
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```
butrfeld@elektra:~/rtemsSMP/src/rsb/rtems$ ./source-builder/sb-set-builder --source-only-download 5/rtems-sparc
RTEMS Source Builder - Set Builder, 5 (29fab0500e22)
Traceback (most recent call last):
  File "../source-builder/sb/cmd-set-builder.py", line 26, in
    setbuilder.run()
  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/setbuilder.py", line 674, in run
    if not check.host_setup(opts):
  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/check.py", line 127, in host_setup
    if not path_check(opts):
  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/check.py", line 115, in path_check
    elif not path.exists(p):
  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 131, in exists
    return _exists(shell(paths))
  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 124, in _exists
    return basename(p) in ['.'] + listdir(dirname(p))
  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 118, in listdir
    return os.listdir hp)
OSError: [Errno 13] Permission denied: '/adm'
```

The root directory "/" looks like this:

```
butrfeld@elektra:/$ ls -ls
total 89
 4 drwxr-x---+ 6 root root 4096 Nov  5 2018 adm
 4 drwxr-xr-x  2 root root 4096 Apr 10 06:17 bin
```

**Comment 1**

1. **Sebastian Huber**, Fri, 09 Aug 2019 10:49:09 GMT

In source-builder/sb/check.py:

```
def path_check(opts, silent = False):
    if 'PATH' in os.environ:
        paths = os.environ['PATH'].split(os.pathsep)
        for p in paths:
            if len(p.strip()) == 0:
                if not silent:
                    log.notice('error: environment PATH contains an empty path')
                return False
            elif not options.host_windows and (p.strip() == '.' or p.strip() == '..'):
                if not silent:
                    log.notice('error: environment PATH invalid path: %s' % (p))
                return False
            elif not path.exists(p):
                if not silent and opts.warn_all():
                    log.notice('warning: environment PATH not found: %s' % (p))
            elif not path.isdir(p):
                if not silent and opts.warn_all():
                    log.notice('warning: environment PATH not a directory: %s' % (p))
    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?

**Comment 2**

1. **Sebastian Huber**, Wed, 27 Nov 2019 13:52:12 GMT

This bug is still open. It is a show stopper on some systems.

### Comment 3

1. **Sebastian Huber**, Wed, 27 Nov 2019 13:55:58 GMT
2. **owner:** set to **Sebastian Huber**
3. **status:** changed from **new** to **accepted**

I suggest to remove this check. I think the RSB tries to be smarter than necessary here.

### Comment 4

1. **Sebastian Huber**, Fri, 29 Nov 2019 06:34:35 GMT

I am not sure if these hard errors are really useful, e.g.

```
$ export PATH=::$PATH
$ ./source-builder/sb-set-builder --prefix=/build/rtems/5 5/rtems-arm --source-only-download
RTEMS Source Builder - Set Builder, 5 (f3b44b25d135)
error: environment PATH contains an empty path
error: host build environment is not set up correctly
Build FAILED
```

Why don't we just issue a warning? If something goes wrong the warning will show up in the logs.

### Comment 5

1. **Chris Johns**, Sun, 01 Dec 2019 23:14:09 GMT

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.

### Comment 6

1. **Sebastian Huber**, Mon, 02 Dec 2019 08:48:07 GMT

Nannying fits quite well. The empty path check is not superfluous. If I remove it, then RSB fails with:

```
$ export PATH=::$PATH
$ ../source-builder/sb-set-builder 5/rtems-arm --source-only-download
error: unknown application load error
error: unknown application load error
```

### Comment 7

1. **Sebastian Huber**, Tue, 03 Dec 2019 05:53:07 GMT
2. **status:** changed from **accepted** to **closed**
3. **resolution:** set to **fixed**

In 784f518/rtems-source-builder:

```
Be more resilient against $PATH errors
Close #3781.
```

## 3783 - MSYS2 RSB build error

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3783">https://devel.rtems.org/ticket/3783</a> ( <a href="https://devel.rtems.org/ticket/3783">https://devel.rtems.org/ticket/3783</a> )
<b>Id</b>	3783
<b>Reporter</b>	jameszsj
<b>Created</b>	12 August 2019 07:55:10
<b>Modified</b>	9 September 2019 14:31:06
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

I tried to update the compiler to RSB master, and encountered an error.  
command line:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html



```
./source-builder/sb-set-builder --dry-run --with-download 5/rtems-arm
```

error message:

```
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 Build FAILED
Build Set: Time 0:00:47.324763
Build FAILED __
```

#### Attachments:

- 
- 1 **jameszsj**, Mon, 12 Aug 2019 07:57:03 GMT  
 attach: set to [errmsg.png \(https://devel.rtems.org/ticket/3783/errmsg.png\)](https://devel.rtems.org/ticket/3783/errmsg.png)
- 

#### Comment 1

1. **jameszsj**, Mon, 09 Sep 2019 14:31:06 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

This error is the same as #3972, #3972 has been fixed.

---

## 3785 - Add RISC-V BSP with support for the Freedom E310 Arty A7 FPGA

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3785">https://devel.rtems.org/ticket/3785</a> ( <a href="https://devel.rtems.org/ticket/3785">https://devel.rtems.org/ticket/3785</a> )
<b>Id</b>	3785
<b>Reporter</b>	pragnesh
<b>Created</b>	16 August 2019 10:26:44
<b>Modified</b>	16 April 2020 23:47:04
<b>Owner</b>	
<b>Type</b>	task
<b>Component</b>	arch/riscv
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	#RISCV, #FREEDOME310, #ARTYA7
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

#### Comment 1

1. **Joel Sherrill**, Fri, 16 Aug 2019 13:25:22 GMT

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.

#### Comment 2

1. **pragnesh**, Fri, 16 Aug 2019 13:38:55 GMT

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](mailto: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.

#### Comment 3

1. **pragnesh**, Mon, 19 Aug 2019 08:59:01 GMT

Link for the hardware and manuals

<https://www.sifive.com/documentation> (Freedom FE310-G002 Manual) <https://www.digikey.com/eewiki/display/LOGIC/Diligent+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](https://sifive.cdn.prismic.io/sifive%2Fed96de35-065f-474c-a432-9f6a364af9c8_sifive-e310-arty-gettingstarted-v1.0.6.pdf)

#### Comment 4

1. **Pragnesh Patel**, Wed, 23 Oct 2019 06:12:46 GMT

In a7f5e42c/rtems:

```
riscv: add freedom E310 Arty A7 bsp  
Added support for Sifive Freedom FE310 soc on Arty A7 FPGA board. Update #3785.  
Signed-off-by: Pragnesh Patel
```

#### Comment 5

1. **Sebastian Huber**, Thu, 14 Nov 2019 10:49:33 GMT

In df9426f/rtems:

```
bsp/riscv: riscv_get_core_frequency()  
Always provide this function. Return 0 by default. Fix formatting. Simplify function.  
Update #3785.
```

#### Comment 6

1. **Sebastian Huber**, Thu, 14 Nov 2019 10:49:36 GMT

In 5a1bc179/rtems:

```
bsp/riscv: Remove bogus Automake conditional  
Update #3785.
```

#### Comment 7

1. **Sebastian Huber**, Thu, 14 Nov 2019 10:49:43 GMT

In ae554670/rtems:

```
bsp/riscv: Fix format and warnings  
Update #3785.
```

#### Comment 8

1. **Pragnesh Patel**, Fri, 29 Nov 2019 07:46:02 GMT

In f0864b3/rtems-docs:

```
user: Add frdme310arty BSP variant  
Signed-off-by: Pragnesh Patel  
Update #3785.
```

#### Comment 9

1. **Joel Sherrill**, Thu, 12 Dec 2019 17:19:47 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Closing. The BSP and user manual contents are merged. Thank you for submitting the BSP

---

### **3789 - TMS570 applciation build error**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3789">https://devel.rtems.org/ticket/3789</a> ( <a href="https://devel.rtems.org/ticket/3789">https://devel.rtems.org/ticket/3789</a> )
<b>Id</b>	3789
<b>Reporter</b>	Andreas Werner
<b>Created</b>	23 August 2019 08:47:26
<b>Modified</b>	19 December 2019 10:00:52
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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 armb 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

### Comment 1

1. **Andreas Werner**, Fri, 23 Aug 2019 08:51:44 GMT

I can't upload Atachments the patches and files can be found under: <https://www.cs.hs-rm.de/~werner/rtems/bugreport/>

### Comment 2

1. **Sebastian Huber**, Mon, 26 Aug 2019 05:57:34 GMT

2. **owner**: set to **Sebastian Huber**

3. **status**: changed from **new** to **accepted**

4. **component**: changed from **bsps** to **arch/arm**

5. **milestone**: set to **5.1**

The problem is triggered by the TMS570\_USE\_HWINIT\_STARTUP=1 BSP option. In bspstarthooks-hwinit.c we have:

```
#if 1
/*
 * Do not depend on link register to be restored to
 * correct value from stack. If TCRAM self test is enabled
 * the all stack content is zeroed there.
 */
bsp_start_hook_0_done();
#endif
```

Leading to:

```
bsps/arm/tms570/start/bspstarthooks-hwinit.c:375: undefined reference to `bsp_start_hook_0_done'
```

### Comment 3

1. **Sebastian Huber**, Thu, 19 Dec 2019 10:00:52 GMT

2. **status**: changed from **accepted** to **closed**

3. **resolution**: set to **fixed**

In 2497da06/rtems:

bsps/arm: Export bsp\_start\_hook\_0\_done  
Close #3789.

## 3792 - RSB fails to build on MSYS2

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3792">https://devel.rtems.org/ticket/3792</a> ( <a href="https://devel.rtems.org/ticket/3792">https://devel.rtems.org/ticket/3792</a> )
<b>Id</b>	3792
<b>Reporter</b>	Jeff Mayes
<b>Created</b>	5 September 2019 14:02:25
<b>Modified</b>	6 September 2019 01:53:14
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Fresh install of Windows 10, with updates. Then installed MSYS2 as instructed here: <https://docs.rtems.org/branches/master/user/hosts/windows.html#msys2>  
Fetched 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 --ldflags | awk 'BEGIN{FS=" "}/python/{for(i=1;i
Build Set: Time 0:07:19.564000
Build FAILED _
```

This happens when using Python3 and also when using Python2.

### Comment 1

1. **Chris Johns**, Thu, 05 Sep 2019 23:24:07 GMT

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.

### Comment 2

1. **Chris Johns**, Thu, 05 Sep 2019 23:31:43 GMT

The failing command on Windows is:

```
sh -c "/mingw64/bin/python2-config --ldflags | awk 'BEGIN{FS=" "}/python/{for(i=1;i
```

### Comment 3

1. **Chris Johns**, Fri, 06 Sep 2019 01:53:14 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In d8b2719/rtems-source-builder:

```
sb/config: Escape double quotes on Windows for shell macros
Closes #3792
```

**3793 - trace record tool does not build on Windows**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3793">https://devel.rtems.org/ticket/3793</a> ( <a href="https://devel.rtems.org/ticket/3793">https://devel.rtems.org/ticket/3793</a> )
<b>Id</b>	3793
<b>Reporter</b>	Chris Johns
<b>Created</b>	6 September 2019 01:59:33
<b>Modified</b>	12 December 2019 16:56:09
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The error is:

```
../trace/record/record-main-lttng.c:32:10: fatal error: sys/queue.h: No such file or directory
#include
```

This is with the version the RSB is using

**Comment 1**

1. **Chris Johns**, Fri, 06 Sep 2019 02:15:05 GMT

rtems-tools master is also broken ...

```
Waf: Leaving directory `D:/opt/rtems/rtems-tools.git/build'
../trace/record/record-client-base.cc:30:10: fatal error: arpa/inet.h: No such file or directory
#include `
^~~~~~
compilation terminated.
Build failed
```

**Comment 2**

1. **Chris Johns**, Thu, 12 Dec 2019 16:53:04 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

Fixed.

**Comment 3**

1. **Chris Johns**, Thu, 12 Dec 2019 16:55:56 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **wontfix** deleted

Reopen to fix the close reason.

**Comment 4**

1. **Chris Johns**, Thu, 12 Dec 2019 16:56:09 GMT
  2. **status:** changed from **reopened** to **closed**
  3. **resolution:** set to **fixed**
- 

**3794 - Initial POSIX Signals Mask Incorrect**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3794">https://devel.rtems.org/ticket/3794</a> ( <a href="https://devel.rtems.org/ticket/3794">https://devel.rtems.org/ticket/3794</a> )
<b>Id</b>	3794
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	10 September 2019 17:53:23
<b>Modified</b>	1 October 2019 07:16:54
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX, signals, compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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.

- Internal system threads should have no signals enabled. They have no business executing user signal handlers -- especially IDLE.
- 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 initialization tasks/threads (e.g. before the system is up).
- 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:

```
static void block_all_signals(void)
{
    int          sc;
    sigset_t     mask;
    sc = sigfillset( &mask );
    // check sc == 0
    sc = pthread_sigmask( SIG_BLOCK, &mask, NULL );
    // check sc == 0
}
```

## Comment 1

1. **Joel Sherrill**, Wed, 25 Sep 2019 19:52:37 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8798372/rtems:

Correct initial POSIX signals mask

+ Modify POSIX thread create extension to ensure expected

initial signal mask is provided to system threads, initial tasks and threads, and inherited by tasks and threads.

+ Adds psxsignal07 to verify functionality when using a POSIX

Initialization thread and POSIX threads.

+ Adds psxsignal08 to verify functionality when using a Classic API

Initialization task and Classic API tasks.

Closes #3794.

## Comment 2

1. **Sebastian Huber**, Tue, 01 Oct 2019 07:16:54 GMT

In aeb981e/rtems:

psxtests/psxualarm: Fix test failure

Update #3794.

**3796 - docs/develenv directory structure bitrot**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3796">https://devel.rtems.org/ticket/3796</a> ( <a href="https://devel.rtems.org/ticket/3796">https://devel.rtems.org/ticket/3796</a> )
<b>Id</b>	3796
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	12 September 2019 04:38:01
<b>Modified</b>	12 December 2019 23:04:10
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Thu, 12 Dec 2019 23:04:10 GMT
2. **owner:** set to **Joel Sherrill <joel@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 2e3dc9f/rtems-docs:

```
develenv/directory.rst: Update directory structure description
closes #3796.
```

**3797 - Add LLVM as a package**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3797">https://devel.rtems.org/ticket/3797</a> ( <a href="https://devel.rtems.org/ticket/3797">https://devel.rtems.org/ticket/3797</a> )
<b>Id</b>	3797
<b>Reporter</b>	Chris Johns
<b>Created</b>	14 September 2019 23:48:01
<b>Modified</b>	12 December 2019 23:34:49
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Add 5/rtems-llvm to build LLVM for supported hosts.

This can be used to help resolve the dependency the recent trace changes have created by using LLVM symbol/dwarf support.

**Comment 1**

1. **Chris Johns**, Thu, 12 Dec 2019 23:34:49 GMT
  2. **status:** changed from **assigned** to **closed**
  3. **resolution:** set to **fixed**
-

**3798 - Add socketmark to libbsd**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3798">https://devel.rtems.org/ticket/3798</a> ( <a href="https://devel.rtems.org/ticket/3798">https://devel.rtems.org/ticket/3798</a> )
<b>Id</b>	3798
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	25 September 2019 17:05:00
<b>Modified</b>	19 December 2019 09:52:34
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	POSIX-Compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:52:34 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Ticket updates via commits didn't work.

---

**3800 - termios - Add Capability to Generate SIGINTR and SIGQUIT**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3800">https://devel.rtems.org/ticket/3800</a> ( <a href="https://devel.rtems.org/ticket/3800">https://devel.rtems.org/ticket/3800</a> )
<b>Id</b>	3800
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 October 2019 21:48:42
<b>Modified</b>	7 May 2020 13:07:43
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	termios, POSIX, EINTR
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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()`.

```
rtems_termios_isig_status_code rtems_termios_register_isig_handler(
    rtems_termios_isig_handler handler
);
```

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.

**Comment 1**

1. **Joel Sherrill**, Mon, 07 Oct 2019 21:39:22 GMT
2. **keywords:** **EINTR** added
3. **description:** modified (diff)

**Comment 2**



1. **Joel Sherrill**, Wed, 09 Oct 2019 19:34:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 667501a/rtems:

termios: Add Capability to Generate SIGINTR and SIGQUIT

This patch adds the ability for termios to send SIGINTR on receipt of VINTR and SIGQUIT for VKILL and return -1/EINTR from read() on a termios channel. Importantly, this patch does not alter the default behavior or force POSIX signal code in just because termios is used. The application must explicitly enable the POSIX behavior of generating a signal upon receipt of these characters. This is discussed in the POSIX standard:

[https://pubs.opengroup.org/onlinepubs/9699919799/basedefs/V1\\_chap11.html](https://pubs.opengroup.org/onlinepubs/9699919799/basedefs/V1_chap11.html)

Closes #3800.

### Comment 3

1. **Sebastian Huber**, Sat, 01 Feb 2020 14:03:08 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

The implementation breaks the canonical input mode as shown by test case termios09.

### Comment 4

1. **Sebastian Huber**, Sat, 01 Feb 2020 14:11:27 GMT

The implementation introduced a new enum:

```
/**
 * @brief Type returned by all input processing (isig) methods
 */
typedef enum {
    /**
     * This indicates that the input character was processed
     * and possibly placed into the buffer.
     */
    RTEMS_TERMIOISIG_WAS_PROCESSED,
    /**
     * This indicates that the input character was not processed and
     * subsequent processing is required.
     */
    RTEMS_TERMIOISIG_WAS_NOT_PROCESSED,
    /**
     * This indicates that the character was processed and determined
     * to be one that requires a signal to be raised (e.g. VINTR or
     * VKILL). The tty must be in the right termios mode for this to
     * occur. There is no further processing of this character required and
     * the pending read() operation should be interrupted.
     */
    RTEMS_TERMIOISIG_INTERRUPT_READ
} rtems_termios_isig_status_code;
```

What was the rationale for the two status codes RTEMS\_TERMIOISIG\_WAS\_PROCESSED and RTEMS\_TERMIOISIG\_WAS\_NOT\_PROCESSED?

What should a handler do if it returns RTEMS\_TERMIOISIG\_WAS\_PROCESSED? The default handler just returns RTEMS\_TERMIOISIG\_WAS\_NOT\_PROCESSED.

### Comment 5

1. **Sebastian Huber**, Mon, 10 Feb 2020 08:01:48 GMT

In 90f11edd/rtems:

termios: Fix input canonical mode

Canonical input processing was broken by 667501a314ba75f80f1c13c6b43dd35d0a00efd1 as shown by test case termios09.

Update #3800.

### Comment 6

1. **Joel Sherrill**, Thu, 02 Apr 2020 01:03:02 GMT

Sebastian can this be closed now?

### Comment 7

1. **Sebastian Huber**, Thu, 02 Apr 2020 05:07:40 GMT

Replying to Joel Sherrill:

Sebastian can this be closed now?

See comment 4.

**Comment 8**

1. **Chris Johns**, Tue, 28 Apr 2020 01:53:39 GMT

Ping?

**Comment 9**

1. **Sebastian Huber**, Mon, 04 May 2020 14:55:44 GMT

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

```
rtems_termios_isig_status_code rtems_termios_posix_isig_handler(
  unsigned char c,
  struct rtems_termios_tty *tty
)
{
  if (c == tty->termios.c_cc[VINTR]) {
    raise(SIGINT);
    return RTEMS_TERMIOIS_ISIG_INTERRUPT_READ;
  }
  if (c == tty->termios.c_cc[VQUIT]) {
    raise(SIGQUIT);
    return RTEMS_TERMIOIS_ISIG_INTERRUPT_READ;
  }
  return RTEMS_TERMIOIS_ISIG_WAS_NOT_PROCESSED;
}
```

doesn't use `RTEMS_TERMIOIS_ISIG_WAS_PROCESSED` for example. The "unsigned char" should be probably `cc_t`.

**Comment 10**

1. **Joel Sherrill**, Mon, 04 May 2020 15:30:41 GMT

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_TERMIOIS_IPROC_CONTINUE` and then the enum `RTEMS_TERMIOIS_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.

```
static rtems_termios_iproc_status_code
iproc (unsigned char c, struct rtems_termios_tty *tty)
{
  /*
   * If signals are enabled, then allow possibility of VINTR causing
   * SIGINTR and VQUIT causing SIGQUIT. Invoke user provided isig handler.
   */
  if ((tty->termios.c_lflag & ISIG)) {
    if ((c == tty->termios.c_cc[VINTR]) || (c == tty->termios.c_cc[VQUIT])) {
      rtems_termios_isig_status_code rc;
      rc = (*termios_isig_handler)(c, tty);
      if (rc == RTEMS_TERMIOIS_ISIG_INTERRUPT_READ) {
        return RTEMS_TERMIOIS_IPROC_INTERRUPT;
      }
      return RTEMS_TERMIOIS_IPROC_CONTINUE;
    }
  }
}
```

**Comment 11**

1. **Chris Johns**, Tue, 05 May 2020 02:28:14 GMT

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

**Comment 12**

1. **Sebastian Huber**, Thu, 07 May 2020 13:07:43 GMT

2. **status:** changed from **reopened** to **closed**

3. **resolution:** set to **fixed**

In 153b2669/rtems:

```
termios: Replace rtems_termios_isig_status_code

Merge the rtems_termios_isig_status_code and rtems_termios_iproc_status_code enums into a single rtems_termios_iproc_status_code which is now a part of the API.

Simplify rtems_termios_posix_isig_handler() to avoid unreachable code.

Close #3800.
```

**3802 - RSB Build of Spike Fails on Second Time (bug in upstream spike)**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3802">https://devel.rtems.org/ticket/3802</a> ( <a href="https://devel.rtems.org/ticket/3802">https://devel.rtems.org/ticket/3802</a> )
<b>Id</b>	3802
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	17 October 2019 13:25:35
<b>Modified</b>	13 December 2019 15:21:06
<b>Owner</b>	Hesham Almatary
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Attachments:****1 Joel Sherrill, Thu, 17 Oct 2019 13:50:42 GMT**

**attach:** set to [0001-Correct-Permission-on-Installed-Headers-and-Binaries.patch](https://devel.rtems.org/ticket/3802/0001-Correct-Permission-on-Installed-Headers-and-Binaries.patch) (<https://devel.rtems.org/ticket/3802/0001-Correct-Permission-on-Installed-Headers-and-Binaries.patch>)

---

**Comment 1****1. Joel Sherrill, Wed, 23 Oct 2019 22:55:00 GMT**

In 68870df/rtems-source-builder:

```
Update Spike RSB recipe and correct installed permissions
Updates #3802.
```

**Comment 2****1. Joel Sherrill, Thu, 24 Oct 2019 12:32:44 GMT**

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.

**Comment 3****1. Hesham Almatary, Thu, 24 Oct 2019 14:34:58 GMT**

OK to push this one? <https://lists.rtems.org/pipermail/devel/2019-October/055910.html>

**Comment 4****1. Chris Johns, Thu, 24 Oct 2019 23:17:08 GMT**

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?

**Comment 5****1. Joel Sherrill, Fri, 13 Dec 2019 15:21:06 GMT**

- status:** changed from **assigned** to **closed**
- resolution:** set to **fixed**

Spike builds now. The commit that fixed this probably missed including the ticket number.

---

**3803 - RSB ssl context error fetching qemu patches**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3803">https://devel.rtems.org/ticket/3803</a> ( <a href="https://devel.rtems.org/ticket/3803">https://devel.rtems.org/ticket/3803</a> )
<b>Id</b>	3803
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	28 October 2019 22:04:27
<b>Modified</b>	5 April 2020 04:56:23
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

It looks like there is a bug in the code that fetches source/patches. Jiri's site is a simple https:

```
making dir: /home/joel/rtems-work/rtems-source-builder/bare/patches
url: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch -> /home/joel/rtems-work/rtems-source-builder/bare/patches/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch
download: (full) https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch -> patches/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch
download: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch -> patches/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch
download: no ssl context
download: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch: error:
error: downloading https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch: all paths have failed, giving up
```

This is a build with the following script:

```
version=5
# variant="-couverture"
time ./source-builder/sb-set-builder \
--trace \
--log=l-qemu.txt \
--prefix=${HOME}/rtems-work/tools/${version} \
devel/qemu${variant}
```

## Comment 1

1. **Chris Johns**, Tue, 29 Oct 2019 04:36:13 GMT

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.

## Comment 2

1. **Joel Sherrill**, Tue, 29 Oct 2019 15:22:07 GMT

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.

## Comment 3

1. **Chris Johns**, Tue, 29 Oct 2019 18:28:21 GMT

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.

## Comment 4

1. **Jiri Gaisler**, Wed, 30 Oct 2019 11:23:58 GMT

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.

**Comment 5**

1. **Joel Sherrill**, Wed, 30 Oct 2019 12:42:04 GMT

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.

**Comment 6**

1. **Chris Johns**, Wed, 30 Oct 2019 20:50:27 GMT

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.

**Comment 7**

1. **Gedare Bloom**, Sun, 05 Apr 2020 04:56:23 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **invalid**

**3804 - sb-get-sources: Error repo\_mail referenced before assignment**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3804">https://devel.rtems.org/ticket/3804</a> ( <a href="https://devel.rtems.org/ticket/3804">https://devel.rtems.org/ticket/3804</a> )
<b>Id</b>	3804
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 October 2019 12:31:47
<b>Modified</b>	5 April 2020 04:50:56
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

This occurred on CentOS 7 with Python 2.7.5 and 3.6.

```
$ ../source-builder/sb-get-sources bare/qemu
RTEMS Source Builder - Get Sources, 5 (5ecf0181b494)
Traceback (most recent call last):
  File "../source-builder/sb/cmd-get-sources.py", line 26, in
    getsources.run()
  File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py", line 631, in run
    opts = load_options(args, argopts)
  File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py", line 588, in load_options
    opts = options(argv, argopts, defaults)
  File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py", line 167, in __init__
    self.sb_git()
  File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py", line 276, in sb_git
    if repo_mail is not None:
UnboundLocalError: local variable 'repo_mail' referenced before assignment
```

**Comment 1**

1. **Gedare Bloom**, Sun, 05 Apr 2020 04:50:56 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

This appears to have been fixed in [443b8ce3/rtems-source-builder]

**3805 - libdebugger build error on atsamv**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3805">https://devel.rtems.org/ticket/3805</a> ( <a href="https://devel.rtems.org/ticket/3805">https://devel.rtems.org/ticket/3805</a> )
<b>Id</b>	3805
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	30 October 2019 13:30:05
<b>Modified</b>	30 October 2019 20:48:48
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/debugger
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

This was caught in a build sweep using rtems-bsp-builder.

Configure command:

```
/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:

```
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 -mfpu=fpv5-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 &&\nmv -f $depbase.Tpo $depbase.Po\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'arm_debug mmap_enable':\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:826:12: warning: unused variable 'abort_handler' [-Wunused-variable]\n    void* abort_handler;\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'arm_debug unlock_abort':\n/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)\n    #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:1609:3: note: in expansion of macro\n'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^\n/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\n    #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:1609:3: note: in expansion of macro\n'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^\n/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]\n    CPU_Exception_frame* frame;\n    ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c: In function\n'target_exception_undefined_instruction':\n/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)\n    #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:1619:3: note: in expansion of macro\n'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_supervisor_call':\n/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)\n    #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:1642:3: note: in expansion of macro\n'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_prefetch_abort':\n/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)\n    #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:1659:3: note: in expansion of macro\n'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_data_abort':\n/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)\n    #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg\n        ^\n/home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c:1676:3: note: in expansion of macro\n'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^\nAt top level:\n/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]\n    arm_debug_unlock_abort(void)
```

## Comment 1

1. Chris Johns, Wed, 30 Oct 2019 20:47:02 GMT

2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**

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.

### Comment 2

1. **Chris Johns**, Wed, 30 Oct 2019 20:48:48 GMT

<https://git.rtems.org/rtems/commit?id=32c9b831094e5d8474e07e87e978bc33f1472f1c> <https://git.rtems.org/rtems/commit?id=2fdbdbc8b17a40837c53d70106f99eb8ec7c7988>

## 3806 - Add fatal error for heap errors

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3806">https://devel.rtems.org/ticket/3806</a> ( <a href="https://devel.rtems.org/ticket/3806">https://devel.rtems.org/ticket/3806</a> )
<b>Id</b>	3806
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 October 2019 12:10:55
<b>Modified</b>	5 November 2019 11:50:33
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Currently, the following fatal error is generate in case of heap errors:

```
static void _Heap_Protection_block_error_default(
  Heap_Control *heap,
  Heap_Block *block
)
{
  /* FIXME */
  _Terminate( INTERNAL_ERROR_CORE, 0xdeadbeef );
}
```

Replace this with a dedicated fatal error source and a context structure (similar to assert()).

### Comment 1

1. **sebastian.huber**, Tue, 05 Nov 2019 11:50:12 GMT

In 3859cd63/rtems:

```
rtems-5: Improve heap fatal error information
Update #3806.
```

### Comment 2

1. **Sebastian Huber**, Tue, 05 Nov 2019 11:50:33 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In dee158c/rtems-docs:

```
c-user: Document RTEMS_FATAL_SOURCE_HEAP
Close #3806.
```

## 3808 - Fix qemu-couverture-git RSB download file name

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3808">https://devel.rtems.org/ticket/3808</a> ( <a href="https://devel.rtems.org/ticket/3808">https://devel.rtems.org/ticket/3808</a> )
<b>Id</b>	3808
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 November 2019 05:35:36
<b>Modified</b>	13 December 2019 15:13:47
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 ...

```
package: qemu-e9299f7591c8ecf3389922f4e7672b6bc5deae71-x86_64-pc-solaris2-1
download: https://github.com/AdaCore/qemu/archive/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz ->
sources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz
redirect: https://codelead.github.com/AdaCore/qemu/tar.gz/e9299f7591c8ecf3389922f4e7672b6bc5deae71
downloading: sources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz - 0.0 bytes
```

#### Comment 1

1. **Joel Sherrill**, Fri, 13 Dec 2019 15:13:47 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 6c65fc2/rtems-source-builder:

```
qemu-couverture-git-1.cfg: Use an identifiable name for the download file.
closes #3808.
```

### 3809 - Fix epiphany-rtems5-gdb-7.8 RSB download file name

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3809">https://devel.rtems.org/ticket/3809</a> ( <a href="https://devel.rtems.org/ticket/3809">https://devel.rtems.org/ticket/3809</a> )
<b>Id</b>	3809
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 November 2019 05:38:29
<b>Modified</b>	12 December 2019 21:32:33
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 ...

```
download: https://github.com/adapteva/epiphany-binutils-gdb/archive/f05996c7c42e6b2781946acb153a481ce3fd0b.zip ->
sources/f05996c7c42e6b2781946acb153a481ce3fd0b.zip
redirect: https://codelead.github.com/adapteva/epiphany-binutils-gdb/zip/f05996c7c42e6b2781946ac...
downloading: sources/f05996c7c42e6b2781946acb153a481ce3fd0b.zip - 0.0 bytes
```

#### Comment 1

1. **Joel Sherrill**, Thu, 12 Dec 2019 21:32:33 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>



3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In b5aa2f0/rtems-source-builder:

```
5/rtems-epiphany.bset: Rework to have meaningful name for gdb
closes #3809.
```

### **3810 - Use the release details in the release build docs**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3810">https://devel.rtems.org/ticket/3810</a> ( <a href="https://devel.rtems.org/ticket/3810">https://devel.rtems.org/ticket/3810</a> )
<b>Id</b>	3810
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 November 2019 05:42:25
<b>Modified</b>	28 April 2020 05:18:42
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

The docs in a release have the hash in the version, it should be the version number with the snapshot details.

#### Comment 1

1. **Chris Johns**, Tue, 28 Apr 2020 05:18:42 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed in the release scripts... <https://git.rtems.org/rtems-release/commit/?id=158da70322fb3c4d8bc0f444e6bfd07fb2832495>

### **3811 - Release source path on ftp.rtems.org is wrong**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3811">https://devel.rtems.org/ticket/3811</a> ( <a href="https://devel.rtems.org/ticket/3811">https://devel.rtems.org/ticket/3811</a> )
<b>Id</b>	3811
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 November 2019 01:19:06
<b>Modified</b>	12 November 2019 17:44:37
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	release
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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>

#### Comment 1

1. **Chris Johns**, Mon, 11 Nov 2019 03:49:16 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

<https://git.rtems.org/rtems-release/commit/?id=669f17dfba4554eafa8ebc82c437133cd51e8ed9>

#### Comment 2

1. **Chris Johns**, Tue, 12 Nov 2019 17:44:37 GMT
2. **owner:** set to **Chris Johns** <chrisj@...>

In 669f17d/rtems-release:

rsb: Set the correct release snapshot path.

Closes #3811

### **3812** - Released RSB has no source set for rtems-tools

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3812">https://devel.rtems.org/ticket/3812</a> ( <a href="https://devel.rtems.org/ticket/3812">https://devel.rtems.org/ticket/3812</a> )
<b>Id</b>	3812
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 November 2019 20:55:07
<b>Modified</b>	28 February 2020 04:26:59
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	release
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Building a release RSB fails in the rtems-tools build with:

```
script: 85: rtems_tools source="rtems-tools-5.0.0-m1911"
script: 86: source_dir rtems_tools=${rtems_tools_source}
source setup: rtems-tools-5.0.0-m1911-1: source rtems-tools -q -n ${rtems_tools_source}
error: no source set: rtems-tools (source=rtems-tools)
```

#### Comment 1

1. **Chris Johns**, Mon, 11 Nov 2019 03:49:57 GMT
2. **keywords:** **release** added

#### Comment 2

1. **Chris Johns**, Fri, 28 Feb 2020 04:26:59 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Fixed

### **3813** - RSB does not handle --rsb-file in releases

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3813">https://devel.rtems.org/ticket/3813</a> ( <a href="https://devel.rtems.org/ticket/3813">https://devel.rtems.org/ticket/3813</a> )
<b>Id</b>	3813
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 November 2019 22:34:52
<b>Modified</b>	29 April 2020 05:14:11
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

A released RSB does not handle the set source option --rsb-file:

```

package: arm-rtems5-gcc-fb371a33fa6-newlib-6661a67-x86_64-freebsd12.0-1
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
download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/fb371a33fa6: error: HTTP Error 404: Not Found
download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/fb371a33fa6 -> sources/gnu-mirror-gcc-fb371a33fa6.tar.gz
download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/fb371a33fa6: error: HTTP Error 404: Not Found
download: https://codeload.github.com/RTEMS/gnu-mirror-gcc/tar.gz/fb371a33fa6 -> sources/gnu-mirror-gcc-fb371a33fa6.tar.gz
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.

### Comment 1

1. **Chris Johns**, Wed, 29 Apr 2020 05:14:11 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

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.

## 3814 - Releasing creates 2 copies of the kernel and tools.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3814">https://devel.rtems.org/ticket/3814</a> ( <a href="https://devel.rtems.org/ticket/3814">https://devel.rtems.org/ticket/3814</a> )
<b>Id</b>	3814
<b>Reporter</b>	Chris Johns
<b>Created</b>	4 November 2019 03:46:47
<b>Modified</b>	18 November 2019 22:16:04
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	release
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Chris Johns**, Mon, 11 Nov 2019 03:50:25 GMT
2. **keywords:** **release** added

### Comment 2

1. **Chris Johns**, Mon, 18 Nov 2019 22:16:01 GMT

In 6950f22/rtems-source-builder:

```
sb: Add support for a comma separated release path list.
```

```
Updates #3814
```

### Comment 3

1. **Chris Johns**, Mon, 18 Nov 2019 22:16:04 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In f0b0a70/rtems-source-builder:

rtems: Fix kernel and tools release source package selection.

Closes #3814

## **3815 - Improve SMP EDF scheduler configuration**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3815">https://devel.rtems.org/ticket/3815</a> ( <a href="https://devel.rtems.org/ticket/3815">https://devel.rtems.org/ticket/3815</a> )
<b>Id</b>	3815
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 November 2019 10:29:08
<b>Modified</b>	15 April 2020 14:57:22
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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.

### Comment 1

1. **Sebastian Huber**, Fri, 20 Dec 2019 06:17:22 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 806fe963/rtems:

config: Improve EDF SMP scheduler configuration

Use CONFIGURE\_MAXIMUM\_PROCESSORS to configure the EDF SMP scheduler context. This avoids hard to debug configuration errors resulting in memory corruptions.

Close #3815.

### Comment 2

1. **Sebastian Huber**, Wed, 15 Apr 2020 14:57:22 GMT

In 7b7efb2/rtems-docs:

c-user: Fix RTEMS\_SCHEDULER\_EDF\_SMP()

Update #3815.

## **3817 - RSB fails on FreeBSD 12.0 (32bit and 64bit)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3817">https://devel.rtems.org/ticket/3817</a> ( <a href="https://devel.rtems.org/ticket/3817">https://devel.rtems.org/ticket/3817</a> )
<b>Id</b>	3817
<b>Reporter</b>	Jeff Mayes
<b>Created</b>	5 November 2019 16:59:03
<b>Modified</b>	28 April 2020 01:49:17
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Fails to build GDB for both the Arm and Sparc architectures.

```
RTEMS Tools Project - Source Builder Error Report
Build: error: building sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1
Command Line: ../source-builder/sb-set-builder --prefix=/home/mayes/dev/rtems/5_5/rtems-sparc
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)]
git://git.rtems.org/rtems-source-builder.git/origin/9alcf9a2d940a4f79cd822f05c8fb13a4c0ec3bb
FreeBSD rtfb64b 12.0-RELEASE-p10 FreeBSD 12.0-RELEASE-p10 GENERIC amd64
CXXLD gdb
/usr/bin/ld: error: undefined symbol: libiconv_open
>>> referenced by charset.c
>>> charset.o:(convert_between_encodings(char const*, char const*, unsigned char const*, unsigned int, int, obstack*,
transliterations))
/usr/bin/ld: error: undefined symbol: libiconv
>>> referenced by charset.c
>>> charset.o:(convert_between_encodings(char const*, char const*, unsigned char const*, unsigned int, int, obstack*,
transliterations))
/usr/bin/ld: error: undefined symbol: libiconv_close
>>> referenced by charset.c
>>> charset.o:(convert_between_encodings(char const*, char const*, unsigned char const*, unsigned int, int, obstack*,
transliterations))
/usr/bin/ld: error: undefined symbol: libiconv_close
>>> referenced by charset.c
>>> charset.o:(convert_between_encodings(char const*, char const*, unsigned char const*, unsigned int, int, obstack*,
transliterations))
/usr/bin/ld: error: undefined symbol: libiconv_open
>>> referenced by charset.c
>>> charset.o:(wchar_iterator::wchar_iterator(unsigned char const*, unsigned long, char const*, unsigned long))
/usr/bin/ld: error: undefined symbol: libiconv_close
>>> referenced by charset.c
>>> charset.o:(wchar_iterator::~wchar_iterator())
/usr/bin/ld: error: undefined symbol: libiconv_close
>>> referenced by charset.c
>>> charset.o:(validate(gdbarch*))
c++: error: linker command failed with exit code 1 (use -v to see invocation)
gmake[2]: *** [Makefile:1889: gdb] Error 1
gmake[2]: Leaving directory '/usr/home/mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1/build/gdb'
gmake[1]: *** [Makefile:8792: all-gdb] Error 2
gmake[1]: Leaving directory '/usr/home/mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1/build'
gmake: *** [Makefile:849: all] Error 2
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
error: building sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1
```

#### Comment 1

1. **Chris Johns**, Tue, 05 Nov 2019 23:34:10 GMT
2. **description:** modified (diff)
3. **milestone:** set to 5.1

#### Comment 2

1. **Sebastian Huber**, Wed, 06 Nov 2019 10:26:42 GMT

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.

#### Comment 3

1. **Joel Sherrill**, Wed, 06 Nov 2019 14:35:01 GMT

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.

#### Comment 4

1. **Sebastian Huber**, Wed, 06 Nov 2019 14:38:09 GMT

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>

#### Comment 5

1. **Chris Johns**, Wed, 06 Nov 2019 21:37:59 GMT

Do you have libiconv installed?

```
$ pkg which /usr/local/lib/libiconv.a
/usr/local/lib/libiconv.a was installed by package libiconv-1.14_11
```

#### Comment 6

1. **Sebastian Huber**, Thu, 07 Nov 2019 06:00:10 GMT

Yes, I have the same output. We installed the following packages:

```
pkg install git
pkg install python
pkg install bison
pkg install gmake
pkg install subversion
pkg install makeinfo
pkg install texinfo
```

**Comment 7**

1. **Joel Sherrill**, Thu, 07 Nov 2019 13:46:24 GMT

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.

**Comment 8**

1. **Jeff Mayes**, Thu, 07 Nov 2019 15:04:17 GMT

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?

```
# pkg install makeinfo
Updating FreeBSD repository catalogue...
FreeBSD repository is up to date.
All repositories are up to date.
pkg: No packages available to install matching 'makeinfo' have been found in the repositories
```

**Comment 9**

1. **Jeff Mayes**, Thu, 07 Nov 2019 16:22:39 GMT

Still fails after subversion install, unsurprisingly.

Does this look correct? I excluded matches in /home directories.

```
# find / -name "libiconv*"
/usr/ports/converters/libiconv
/usr/lib/i18n/libiconv_std.so.4
/usr/lib/i18n/libiconv_none.so
/usr/lib/i18n/libiconv_std.so
/usr/lib/i18n/libiconv_none.so.4
/usr/lib/debug/boot/kernel/libiconv.ko.debug
/usr/local/share/licenses/libiconv-1.14_11
/usr/local/share/doc/libiconv
/usr/local/lib/libiconv.a
/usr/local/lib/libiconv.so.2
/usr/local/lib/libiconv.so.2.5.1
/usr/local/lib/libiconv.so
/usr/lib32/i18n/libiconv_none.so
/usr/lib32/i18n/libiconv_std.so.4
/usr/lib32/i18n/libiconv_std.so
/usr/lib32/i18n/libiconv_none.so.4
/boot/kernel/libiconv.ko
/boot/kernel.old/libiconv.ko
/var/cache/pkg/libiconv-1.14_11-1b77da9274.txz
/var/cache/pkg/libiconv-1.14_11.txz
```

**Comment 10**

1. **Chris Johns**, Thu, 07 Nov 2019 21:29:46 GMT

Replying to Jeff Mayes:

Does this look correct? I excluded matches in /home directories.

```
# find / -name "libiconv*" .. [snip] ...
```

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 ...

You need to check if you have the libiconv package installed as ask in comment 5. Maybe try `pkg info | grep libiconv` to see. 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.

**Comment 11**

1. **Chris Johns**, Thu, 07 Nov 2019 21:32:40 GMT

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>

**Comment 12**

1. **Joel Sherrill**, Thu, 07 Nov 2019 22:04:58 GMT

Replying to Chris Johns:

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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?

### Comment 13

1. **Chris Johns**, Thu, 07 Nov 2019 22:39:43 GMT

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](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.

### Comment 14

1. **Joel Sherrill**, Sun, 05 Apr 2020 16:24:00 GMT

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.

### Comment 15

1. **Chris Johns**, Mon, 06 Apr 2020 00:04:13 GMT

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?

### Comment 16

1. **Joel Sherrill**, Mon, 06 Apr 2020 00:12:59 GMT

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.

```

checking whether make sets $(MAKE)... yes
checking build system type... x86_64-pc-freebsd12.1
checking host system type... x86_64-pc-freebsd12.1
checking for x86_64-freebsd12.1-gcc... no
checking for gcc... gcc
checking whether the C compiler works... no
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':
configure: error: C compiler cannot create executables
See `config.log' for more details
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
error: building sis-2.21-x86_64-freebsd12.1-1
See error report: rsb-report-sis-2.21-x86_64-freebsd12.1-1.txt
-----

```

**Comment 17**

1. **Chris Johns**, Mon, 06 Apr 2020 06:49:26 GMT

Are you building gdb with gcc and not cc?

**Comment 18**

1. **Joel Sherrill**, Fri, 17 Apr 2020 13:06:38 GMT

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?

**Comment 19**

1. **Chris Johns**, Tue, 28 Apr 2020 01:49:17 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

I have updated the documentation. There was another ticket for that task.

**3821 - Port NVMe support from FreeBSD to libbsd**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3821">https://devel.rtems.org/ticket/3821</a> ( <a href="https://devel.rtems.org/ticket/3821">https://devel.rtems.org/ticket/3821</a> )
<b>Id</b>	3821
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 November 2019 11:56:46
<b>Modified</b>	19 December 2019 09:04:10
<b>Owner</b>	Sebastian Huber
<b>Type</b>	project
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description****Comment 1**

1. **Sebastian Huber**, Wed, 13 Nov 2019 20:23:32 GMT

In 9506754/rtems-libbsd:

```

NVME(4): Import from FreeBSD
Update #3821.

```

**Comment 2**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:04:10 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

Some commits are missing in this ticket.

**3822 - Release created VERSION file in rtems-tools-42.tar.xz is wrong**



<b>Link</b>	<a href="https://devel.rtems.org/ticket/3822">https://devel.rtems.org/ticket/3822</a> ( <a href="https://devel.rtems.org/ticket/3822">https://devel.rtems.org/ticket/3822</a> )
<b>Id</b>	3822
<b>Reporter</b>	Chris Johns
<b>Created</b>	15 November 2019 23:48:50
<b>Modified</b>	26 March 2020 07:12:11
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	release
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

A build of the VERSION file in the release rtems-tools source package is reporting:

```
invalid version file: error: Invalid version file: ./VERSION: No option 'revision' in section: 'version'
```

#### Comment 1

1. **Chris Johns**, Mon, 18 Nov 2019 22:16:06 GMT

In 5f7c53a/rtems-source-builder:

```
sb: Align the version processing with rtems-tools.
Use the same VERSION file format as rtems-tools so a common release
generation can be used. The version.py is almost the same as rtems-tools. There are some
minor differences, one is the RTEMS version is present in this
file while rtems-tool uses config/rtems-release.ini.
Updates #3822
```

#### Comment 2

1. **Chris Johns**, Thu, 26 Mar 2020 07:12:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

## 3823 - Untar\_ family doesn't handle nested directories

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3823">https://devel.rtems.org/ticket/3823</a> ( <a href="https://devel.rtems.org/ticket/3823">https://devel.rtems.org/ticket/3823</a> )
<b>Id</b>	3823
<b>Reporter</b>	Jonathan Brandmeyer
<b>Created</b>	20 November 2019 06:03:11
<b>Modified</b>	26 November 2019 07:35:06
<b>Owner</b>	Sebastian Huber <sebastian.huber@...>
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Chris Johns**, Wed, 20 Nov 2019 22:24:42 GMT

What happens if you add --format=ustar to your tar command ?

#### Comment 2

1. **Sebastian Huber**, Thu, 21 Nov 2019 08:08:50 GMT

In 11455b2e/rtems:

```
imfs: Fix IMFS_make_linearfile()
Fix prototype.
Fix node size. Linfiles are dynamically turned into memfiles.
Update #3823.
```

### **Comment 3**

1. **Sebastian Huber**, Mon, 25 Nov 2019 10:45:48 GMT

In b6f66d9/rtems:

```
untar: Unify untar support
Update #3823.
```

### **Comment 4**

1. **Sebastian Huber**, Mon, 25 Nov 2019 10:45:52 GMT
2. **owner:** set to **Sebastian Huber <sebastian.huber@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 2de05dd/rtems:

```
untar: Make path also for symbolic links
Close #3823.
```

### **Comment 5**

1. **Jonathan Brandmeyer**, Mon, 25 Nov 2019 18:45:57 GMT

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.

### **Comment 6**

1. **Sebastian Huber**, Tue, 26 Nov 2019 06:33:58 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **fixed** deleted

I added a test case and noticed, that the path creation is still broken.

### **Comment 7**

1. **Sebastian Huber**, Tue, 26 Nov 2019 07:35:06 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 4551f5f/rtems:

```
untar: Properly make parent path
Close #3823.
```

---

## **3826 - top on SMP shows invalid priorities**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3826">https://devel.rtems.org/ticket/3826</a> ( <a href="https://devel.rtems.org/ticket/3826">https://devel.rtems.org/ticket/3826</a> )
<b>Id</b>	3826
<b>Reporter</b>	Chris Johns
<b>Created</b>	24 November 2019 23:26:08
<b>Modified</b>	12 December 2019 21:55:00
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Running top on a Zynq zc706 gives ...

ID	NAME	RPRI	CPRI	TIME	TOTAL	CURRENT
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?

**Comment 1**

1. **Joel Sherrill**, Sun, 24 Nov 2019 23:54:50 GMT

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.

**Comment 2**

1. **Chris Johns**, Mon, 25 Nov 2019 00:04:38 GMT

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 co fusing.

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.

**Comment 3**

1. **Sebastian Huber**, Mon, 25 Nov 2019 06:39:23 GMT

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.

**Comment 4**

1. **Chris Johns**, Thu, 12 Dec 2019 17:57:14 GMT

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.

**Comment 5**

1. **Sebastian Huber**, Thu, 12 Dec 2019 18:57:51 GMT

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).

**Comment 6**

1. **Chris Johns**, Thu, 12 Dec 2019 21:03:19 GMT

How do we take that value and get the actual priority?

**Comment 7**

1. **Chris Johns**, Thu, 12 Dec 2019 21:55:00 GMT

2. **status:** changed from **new** to **closed**
3. **resolution:** set to **duplicate**

Duplicate of #3552.

---

### 3830 - Build problems with user names which contain space characters

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3830">https://devel.rtems.org/ticket/3830</a> ( <a href="https://devel.rtems.org/ticket/3830">https://devel.rtems.org/ticket/3830</a> )
<b>Id</b>	3830
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 December 2019 07:14:50
<b>Modified</b>	3 December 2019 10:53:21
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Tue, 03 Dec 2019 10:53:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In e26d86f/rtems-source-builder:

```
Use user ID number instead of name
```

```
This helps to avoid issues with user names which contain space characters.
```

```
Close #3830.
```

---

### 3831 - Duplicate description of Tiers and Rules

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3831">https://devel.rtems.org/ticket/3831</a> ( <a href="https://devel.rtems.org/ticket/3831">https://devel.rtems.org/ticket/3831</a> )
<b>Id</b>	3831
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	3 December 2019 15:07:35
<b>Modified</b>	12 December 2019 17:29:08
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 04 Dec 2019 13:26:37 GMT

I removed both ARM pages. The information was out of date since a couple of years.

#### **Comment 2**

1. **Joel Sherrill**, Wed, 04 Dec 2019 13:28:09 GMT

Thanks. I tripped across this doing the FSW slides. Were there links to these pages?

#### **Comment 3**

1. **Sebastian Huber**, Wed, 04 Dec 2019 13:31:34 GMT

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.

#### **Comment 4**

1. **Christian Mauderer**, Thu, 05 Dec 2019 14:34:51 GMT

I would interpret the two sources slightly different:

The manual (at docs.rtems.org) sounds like tires 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. 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.

#### **Comment 5**

1. **Joel Sherrill**, Thu, 12 Dec 2019 17:00:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 01be513/rtems-docs:

```
user/hardware/tiers.rst: Merge info from Wiki.
```

```
Tiers had a write up on the Wiki which was similar but different. Merged content from the Wiki which allows the Wiki page to be deleted.
closes #3831.
```

#### **Comment 6**

1. **Joel Sherrill**, Thu, 12 Dec 2019 17:29:08 GMT

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.

## **3833 - Simplify RTEMS semaphore configuration**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3833">https://devel.rtems.org/ticket/3833</a> ( <a href="https://devel.rtems.org/ticket/3833">https://devel.rtems.org/ticket/3833</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 December 2019 08:53:03
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

**Comment 1**

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:06:41 GMT

In 01f8c12e/rtems:

```
rtems: Optimize semaphore control block
Move variant, discipline, and global information to flags stored in a node pointer of active semaphores.
Update #3833.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:06:45 GMT

In 46865542/rtems:

```
rtems: Simplify semaphore configuration

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.

Update #3833.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:12:11 GMT

In f7d56f5/rtems-docs:

```
c-user: Obsolete CONFIGURE_MAXIMUM_MRSP_SEMAPHORES
Update #3833.
```

**Comment 4**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:02:28 GMT

In a6887d9/rtems-docs:

```
c-user: CONFIGURE_MAXIMUM_MRSP_SEMAPHORES
Remove use of CONFIGURE_MAXIMUM_MRSP_SEMAPHORES in example. Fix other configuration options.
Update #3833.
```

**Comment 5**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:02:30 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In b12e82d/rtems-docs:

```
c-user: Clarify CONFIGURE_MAXIMUM_SEMAPHORES
Close #3833.
```

**Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords**: **qualification** added
- 

**3834 - Simplify clock driver**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3834">https://devel.rtems.org/ticket/3834</a> ( <a href="https://devel.rtems.org/ticket/3834">https://devel.rtems.org/ticket/3834</a> )
<b>Id</b>	3834
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 December 2019 08:55:27
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	dev
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:06:35 GMT

In bb99cd0d/rtems:

clock: Simplify driver initialization

Use a system initialization handler instead of a legacy IO driver.

Update #3834.

#### Comment 2

1. **Sebastian Huber**, Thu, 19 Dec 2019 08:12:44 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d585fcb/rtems-docs:

bsp-howto: Clarify clock driver initialization

Close #3834.

#### Comment 3

1. **Sebastian Huber**, Thu, 02 Jan 2020 08:49:09 GMT

In a3706d4c/rtems:

bsps/powerpc: Fix warning

Update #3834.

#### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

---

## **3835 - Support statically allocated threads**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3835">https://devel.rtems.org/ticket/3835</a> ( <a href="https://devel.rtems.org/ticket/3835">https://devel.rtems.org/ticket/3835</a> )
<b>Id</b>	3835
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	9 December 2019 09:09:11
<b>Modified</b>	10 November 2022 09:58:49
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3838

---

#### Description

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:

- stack area
- TLS area
- FP context
- 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 `MPCI receive server`) in a dedicated linker section (similar to the interrupt stacks). Mention this in the `Classic API Guide` configuration chapter.

#### Comment 1

1. **Chris Johns**, Mon, 09 Dec 2019 11:47:18 GMT

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.

#### Comment 2

1. **Sebastian Huber**, Mon, 09 Dec 2019 11:55:41 GMT

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`.

#### Comment 3

1. **Sebastian Huber**, Mon, 09 Dec 2019 11:58:24 GMT

For clarification, the pointer to the TLS area in the thread control block will remain as is.

#### Comment 4

1. **Chris Johns**, Mon, 09 Dec 2019 12:24:02 GMT

Great, that helps. Thanks.

#### Comment 5

1. **Joel Sherrill**, Mon, 09 Dec 2019 12:38:58 GMT

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.

#### Comment 6

1. **Sebastian Huber**, Mon, 09 Dec 2019 12:51:01 GMT

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.

#### Comment 7

1. **Sebastian Huber**, Wed, 11 Dec 2019 14:26:21 GMT
2. **blockedby**: set to **3838**

#### Comment 8



1. **Joel Sherrill**, Thu, 12 Dec 2019 18:09:46 GMT

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?

#### **Comment 9**

1. **Sebastian Huber**, Thu, 12 Dec 2019 18:54:18 GMT

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 MPCl receive server thread. They will reside in special linker sections so that a BSP or application can control the placement in memory.

#### **Comment 10**

1. **Sebastian Huber**, Fri, 03 Jan 2020 06:37:06 GMT
2. **description:** modified (diff)

#### **Comment 11**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:08 GMT

In bf39a9e/rtems:

```
score: Remove superfluous FP types/defines
Update #3835.
```

#### **Comment 12**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:11 GMT

In a0211fc9/rtems:

```
score: Simplify thread stack allocation
Remove superfluous Thread_Control::Start::stack member.
Update #3835.
```

#### **Comment 13**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:14 GMT

In 0bde56b/rtems:

```
score: Simplify thread stack free
Update #3835.
```

#### **Comment 14**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:17 GMT

In 0e1ac917/rtems:

```
score: Remove _Stack_Ensure_minimum() call
This call is superfluous since _Thread_Initialize() will do this also.
Update #3835.
```

**Comment 15**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:21 GMT

In fc398fd/rtems:

score: Simplify FP context allocation

Use the stack area to allocate the FP context. This considerably simplifies the application configuration since the task count no longer influences the configured work space size. With this change the stack space size is overestimated since an FP context for each thread is accounted. Memory constraint applications can use the stack size for fine tuning.

Update #3835.

**Comment 16**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:24 GMT

In f4dbf37d/rtems:

score: Simplify TLS area allocation

Use the stack area to allocate the TLS area.

Update #3835.

**Comment 17**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:27 GMT

In 00c7ad4/rtems:

score: Split stack allocator configuration

This allows the linker garbage collection to perform its work.

Update #3835.

**Comment 18**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:31 GMT

In a08dcb2/rtems:

score: Add Thread\_Configuration

Add the Thread\_Configuration structure to reduce the parameter count of \_Thread\_Initialize(). This makes it easier to add more parameters in the future. It simplifies the code generation since most architectures do not have that many registers available for function parameters.

Update #3835.

**Comment 19**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:34 GMT

In 4c9deb6c/rtems:

score: Add \_Stack\_Extend\_size()

Update #3835.

**Comment 20**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:37 GMT

In 01d5944/rtems:

score: Move thread stack allocation

Move thread stack allocation to caller side of \_Thread\_Initialize().

Update #3835.

**Comment 21**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:40 GMT

In 32991495/rtems:

score: Statically allocate idle/MPCI stacks

Place idle and MPCI stacks into extra linker sections. This can be optionally used by applications to control the placement of the stacks.

Update #3835.

### **Comment 22**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:43 GMT

In 6f3bc0e/rtems:

score: Add `_Objects_Free_objects_block()`

This is a preparation to allow a customization of the objects information extend.

Update #3835.

### **Comment 23**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:47 GMT

In 2485156/rtems:

score: Split up objects allocation

Split up the different objects allocation methods into separate functions. This helps to avoid a dependency on the workspace in case no objects or a static set of objects is configured.

Change license to BSD-2-Clause according to file histories.

Update #3053. Update #3835.

### **Comment 24**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:50 GMT

In 6135747/rtems:

score: Split up objects free

Split up the different objects free methods into separate functions. This helps to avoid a dependency on the workspace in case no objects or a static set of objects is configured.

Update #3835.

### **Comment 25**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:53 GMT

In 8e118f22/rtems:

score: Inline `_Objects_Namespace_remove_u32()`

This function is simple enough to be inlined.

Update #3835.

### **Comment 26**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:12:57 GMT

In 36e59b2/rtems:

score: `_Objects_Extend_information()`

Return block index in `_Objects_Extend_information()`. This allows to customize the objects information extend.

Update #3835.

### **Comment 27**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:13:00 GMT

In 8ff1af1/rtems:

score: Add `_Freechain_Is_empty()`

Update #3835.

**Comment 28**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:13:03 GMT

In 4eab96b/rtems:

```
score: Add _Freechain_Pop()
Update #3835.
```

**Comment 29**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:13:06 GMT

In 8a43adb/rtems:

```
score: Add _Freechain_Extend()
Update #3835.
```

**Comment 30**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:13:10 GMT

In dd9e501/rtems:

```
score: Add _Objects_Activate_unlimited()
Update #3835.
```

**Comment 31**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:13:13 GMT

In fc32904/rtems:

```
score: Add _Objects_Allocate_with_extend()
Update #3835.
```

**Comment 32**

1. **Sebastian Huber**, Wed, 12 Feb 2020 15:13:16 GMT

In d252e20a/rtems:

```
score: Simplify _Thread_Initialize()
Allocate new thread queue heads during objects information extend. This removes an error case and the last dependency on the workspace in
_Thread_Initialize().
Update #3835.
```

**Comment 33**

1. **Sebastian Huber**, Tue, 25 Feb 2020 08:19:35 GMT

In ed15643/rtems-tools:

```
linkers: Update due to API changes
Update #3835.
```

**Comment 34**

1. **Sebastian Huber**, Tue, 25 Feb 2020 13:51:04 GMT

In 01c97e64/rtems:

```
score: Fix label defined but not used warning
Update #3835.
```

**Comment 35**

1. **Sebastian Huber**, Thu, 05 Mar 2020 14:33:16 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In c6c06ae/rtems-docs:

```
c-user: Document task memory
Close #3835.
```

**Comment 36**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

**Comment 37**

1. **Sebastian Huber**, Fri, 14 Oct 2022 09:41:47 GMT

In 15bba4ae/rtems:

```
score: Move Thread_Control::Registers member
```

Place this member placed directly after the end of the common block so that the structure offsets are as small as possible. This helps on instruction set architectures with a very limited range for intermediate values. For example, see the aeabi\_read\_tp() implementation for ARM Thumb-1.

```
Update #3835.
```

**Comment 38**

1. **Sebastian Huber**, Fri, 14 Oct 2022 09:41:49 GMT

In 4c89fbc/rtems:

```
score: Add CPU_THREAD_LOCAL_STORAGE_VARIANT
Update #3835.
```

**Comment 39**

1. **Sebastian Huber**, Fri, 14 Oct 2022 09:42:01 GMT

In 45ee958/rtems:

```
config: Add CONFIGURE_IDLE_TASK_STORAGE_SIZE
```

By default, allocate the IDLE task storage areas from the RTEMS Workspace. This avoids having to estimate the thread-local storage size in the default configuration.

Add the application configuration option CONFIGURE\_IDLE\_TASK\_STORAGE\_SIZE to request a static allocation of the task storage area for IDLE tasks.

```
Update #3835. Update #4524.
```

**Comment 40**

1. **Sebastian Huber**, Fri, 14 Oct 2022 09:42:03 GMT

In 64fbaaa/rtems:

```
score: INTERNAL_ERROR_IDLE_THREAD_STACK_TOO_SMALL
```

Ensure that the IDLE storage allocator did allocate a sufficiently large area.

```
Update #3835. Update #4524.
```

**Comment 41**

1. **Sebastian Huber**, Thu, 10 Nov 2022 09:58:49 GMT

In 8f6dd3c/rtems:

```
arm: Fix Armv7-M TLS support
```

Set the thread ID register in the CPU context.

Update #3835. Close #4753.

## 3836 - Specify the application configuration options

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3836">https://devel.rtems.org/ticket/3836</a> ( <a href="https://devel.rtems.org/ticket/3836">https://devel.rtems.org/ticket/3836</a> )
<b>Id</b>	3836
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	10 December 2019 12:24:50
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3923, 3924
<b>Blocked by</b>	2806, 3900, 3901

---

### Description

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.

The specification and the generator scripts are contained in:

<https://git.rtems.org/sebh/rtems-qual.git>

### Comment 1

1. **Sebastian Huber**, Tue, 10 Dec 2019 12:25:17 GMT
2. **description:** modified (diff)

### Comment 2

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:07:31 GMT

In bc9ce65/rtems-docs:

```
c-user: Move basic system configuration
Move the basic system configuration to the front. Rename it to "General System Configuration".
Update #3836.
```

### Comment 3

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:07:33 GMT

In 9d20816/rtems-docs:

```
c-user: Move unlimited options to general config
Update #3836.
```

### Comment 4

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:07:35 GMT

In 3a3271e/rtems-docs:

```
c-user: Move unlimited configuration options
Rename unlimited subsection headers.
Update #3836.
```

### Comment 5

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:07:38 GMT

In a184ff4/rtems-docs:

c-user: Move CONFIGURE\_MEMORY\_OVERHEAD

Move CONFIGURE\_MEMORY\_OVERHEAD to general system configuration. Remove now empty "Seldom Used Configuration Parameters" section.

Update #3836.

### **Comment 6**

1. **Sebastian Huber**, Wed, 11 Dec 2019 08:07:40 GMT

In 579d6f2/rtems-docs:

c-user: CONFIGURE\_LIBIO\_MAXIMUM\_FILE\_DESCRIPTOR

Move CONFIGURE\_LIBIO\_MAXIMUM\_FILE\_DESCRIPTOR to general system configuration. Remove now empty "C Library Support Configuration" section.

Update #3836.

### **Comment 7**

1. **Sebastian Huber**, Fri, 06 Mar 2020 15:28:34 GMT
2. **blockedby**: set to **3900, 3901**

### **Comment 8**

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:43:14 GMT

In 851e4df/rtems-docs:

c-user: Remove copyright from Petr Benes

The content introduced by a commit in the RTEMS main repository

```
commit 418de420a05609ba8919822b553706963a8d3a7b Author: Joel Sherrill Date: Wed Oct 5 19:59:47 2011 +0000
```

```
2011-10-05 Joel Sherrill
```

```
Petr Benes
```

```
PR 1912/doc
```

user/conf.t, user/schedule.t: Rework to add scheduler specific information.

is no longer in this file. According to the file history, this was the only content introduced by Petr Benes. Also during the relicensing of the documentation to CC-BY-SA-4.0 in 2016 it was proclaimed that OAR was the only copyright holder of the RTEMS documentation present in the RTEMS main repository.

Update #3836.

### **Comment 9**

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:43:16 GMT

In a174ae4/rtems-docs:

c-user: Clarify BSP related configuration options

Sort options alphabetically.

Update #3836.

### **Comment 10**

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:43:19 GMT

In 988e7ca/rtems-docs:

c-user: Clarify message queue configuration

Update #3836.

### **Comment 11**

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:43:21 GMT

In e3f6819/rtems-docs:

c-user: Canonicalize configuration section names  
Update #3836.

#### **Comment 12**

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:43:23 GMT

In 7a414f9/rtems-docs:

c-user: Sort configuration options alphabetically  
Update #3836.

#### **Comment 13**

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:43:25 GMT

In c078afb/rtems-docs:

c-user: Minor format fixes  
Update #3836.

#### **Comment 14**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:40 GMT

In a526872/rtems-docs:

c-user: Split up configuring\_a\_system.rst  
Introduce an index file for this chapter. This helps to generate some sections from the specification in the future. Start with moving "Introduction" up to "Unlimited Objects" to a new file.  
Update #3836.

#### **Comment 15**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:42 GMT

In ac9d49d/rtems-docs:

c-user: Move "General System Configuration"  
Update #3836.

#### **Comment 16**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:44 GMT

In bf995cf/rtems-docs:

c-user: Move "Classic API Configuration"  
Update #3836.

#### **Comment 17**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:46 GMT

In a9e6a1d/rtems-docs:

c-user: Move "Classic API Initialization Task Configuration"  
Update #3836.

#### **Comment 18**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:48 GMT

In 16b0d3f/rtems-docs:

c-user: Move "POSIX API Configuration"



Update #3836.

#### **Comment 19**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:50 GMT

In 2a761cf/rtems-docs:

```
c-user: Move "POSIX Initialization Thread Configuration"
```

Update #3836.

#### **Comment 20**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:52 GMT

In bdd17e5/rtems-docs:

```
c-user: Move "Task Stack Allocator Configuration"
```

Update #3836.

#### **Comment 21**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:55 GMT

In 4d74cbd/rtems-docs:

```
c-user: Move "Message Queue Buffer Configuration"
```

Update #3836.

#### **Comment 22**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:57 GMT

In c0a70db/rtems-docs:

```
c-user: Move "Filesystem Configuration"
```

Update #3836.

#### **Comment 23**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:32:59 GMT

In 1af97ad/rtems-docs:

```
c-user: Move "Block Device Cache Configuration"
```

Update #3836.

#### **Comment 24**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:01 GMT

In 4bb586b/rtems-docs:

```
c-user: Move "BSP Related Configuration Options"
```

Update #3836.

#### **Comment 25**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:03 GMT

In 38032b0/rtems-docs:

```
c-user: Move "Idle Task Configuration"
```

Update #3836.

#### **Comment 26**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:05 GMT

In 275f4a0/rtems-docs:

```
c-user: Move "General Scheduler Configuration"  
Update #3836.
```

#### **Comment 27**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:07 GMT

In 020d2e7/rtems-docs:

```
c-user: Move "Clustered Scheduler Configuration"  
Update #3836.
```

#### **Comment 28**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:09 GMT

In 41ac3da/rtems-docs:

```
c-user: Move "Device Driver Configuration"  
Update #3836.
```

#### **Comment 29**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:11 GMT

In 088a1f8/rtems-docs:

```
c-user: Move "Multiprocessing Configuration"  
Update #3836.
```

#### **Comment 30**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:13 GMT

In b71fb43/rtems-docs:

```
c-user: Move "PCI Library Configuration"  
Update #3836.
```

#### **Comment 31**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:15 GMT

In a388de9/rtems-docs:

```
c-user: Move "Event Recording Configuration"  
Update #3836.
```

#### **Comment 32**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:17 GMT

In 1fd339b/rtems-docs:

```
c-user: Move "Ada Configuration"  
Update #3836.
```

#### **Comment 33**

1. **Sebastian Huber**, Thu, 12 Mar 2020 09:33:19 GMT

In 88dd013/rtems-docs:

c-user: Move "Obsolete Configuration Options"  
Update #3836.

#### **Comment 34**

1. **Sebastian Huber**, Fri, 13 Mar 2020 12:29:19 GMT

In 03a735f/rtems-docs:

c-user: Clarify message buffer configuration

The help macro `CONFIGURE_MESSAGE_BUFFERS_FOR_QUEUE()` is not a configuration option. Move it into the documentation of the `CONFIGURE_MESSAGE_BUFFER_MEMORY` configuration option. Move this option to the general system configuration group.

Update #3836.

#### **Comment 35**

1. **Sebastian Huber**, Fri, 13 Mar 2020 12:29:21 GMT

In b34f2de/rtems-docs:

c-user: Reorder configuration option groups

Sort the configuration option groups according to the likelihood a user will define options of a group.

Update #3836.

#### **Comment 36**

1. **Sebastian Huber**, Tue, 17 Mar 2020 13:13:47 GMT

In f3076bc/rtems-docs:

c-user: Sort configuration options alphabetically

Update #3836.

#### **Comment 37**

1. **Sebastian Huber**, Tue, 17 Mar 2020 13:42:18 GMT

In 5fb9a1c/rtems-docs:

c-user: Add missing configuration option notes

Update #3836.

#### **Comment 38**

1. **Sebastian Huber**, Tue, 17 Mar 2020 13:42:20 GMT

In c3ebd83/rtems-docs:

c-user: Fix sorting in filesystem configuration

Update #3836.

#### **Comment 39**

1. **Sebastian Huber**, Tue, 17 Mar 2020 14:05:46 GMT

In 5e54ffe/rtems-docs:

c-user: Add configuration option index entry

Update #3836.

#### **Comment 40**

1. **Sebastian Huber**, Tue, 17 Mar 2020 14:06:11 GMT

In f75e0be/rtems-docs:

c-user: Fix format  
Update #3836.

#### Comment 41

1. **Sebastian Huber**, Tue, 17 Mar 2020 14:27:00 GMT

In 7a8d697/rtems-docs:

c-user: Add reference to proxies  
Update #3836.

#### Comment 42

1. **Sebastian Huber**, Wed, 18 Mar 2020 06:32:46 GMT

In 79fb6fd/rtems-docs:

c-user: Canonicalize configuration option groups  
Update #3836.

#### Comment 43

1. **Sebastian Huber**, Mon, 30 Mar 2020 06:49:24 GMT

In 0103b68/rtems-docs:

c-user: Fix typo in file name  
Update #3836.

#### Comment 44

1. **Sebastian Huber**, Thu, 02 Apr 2020 07:47:20 GMT

In 39ca06c/rtems-docs:

c-user: Clarify config options use  
Update #3836.

#### Comment 45

1. **Sebastian Huber**, Thu, 02 Apr 2020 07:47:22 GMT

In c95e3e3/rtems-docs:

c-user: Move CONFIGURE\_MAXIMUM\_PRIORITY  
Move this option to the scheduler configuration options.  
Update #3836.

#### Comment 46

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:27:13 GMT
2. **blockedby**: changed from **3900, 3901** to **2806, 3900, 3901**

#### Comment 47

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:32:33 GMT
2. **blocking**: set to **3923**

#### Comment 48

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:35:24 GMT
2. **blocking**: changed from **3923** to **3923, 3924**

#### Comment 49

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:40:52 GMT
2. **description:** modified (diff)

**Comment 50**

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:41:43 GMT
2. **summary:** changed from **Specify and test application configuration** to **Specify the application configuration options**

**Comment 51**

1. **Sebastian Huber**, Fri, 03 Apr 2020 06:58:23 GMT

In 7e33a80/rtems:

```
config: Remove filesystem entry config options
```

```
Remove the following undocumented configuration options:
CONFIGURE_FILESYSTEM_ENTRY_DOSFS CONFIGURE_FILESYSTEM_ENTRY_FTPFS CONFIGURE_FILESYSTEM_ENTRY_IMFS CONFIGURE_FILESYSTEM_ENTRY_JFFS2
CONFIGURE_FILESYSTEM_ENTRY_NFS CONFIGURE_FILESYSTEM_ENTRY_RFS CONFIGURE_FILESYSTEM_ENTRY_TFTPFS
Update #3836.
```

**Comment 52**

1. **Sebastian Huber**, Fri, 03 Apr 2020 06:59:38 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

All configuration options are now documented and specified through the documentation.

**Comment 53**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

**3837 - Rename CONFIGURE\_LIBIO\_MAXIMUM\_FILE\_DESCRIPTOR**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3837">https://devel.rtems.org/ticket/3837</a> ( <a href="https://devel.rtems.org/ticket/3837">https://devel.rtems.org/ticket/3837</a> )
<b>Id</b>	3837
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 December 2019 08:03:54
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	duplicate
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Tue, 17 Dec 2019 08:20:40 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **duplicate**

Duplicate of #3753.

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords:** **qualification** added

**3838 - Rework work area initialization**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3838">https://devel.rtems.org/ticket/3838</a> ( <a href="https://devel.rtems.org/ticket/3838">https://devel.rtems.org/ticket/3838</a> )
<b>Id</b>	3838
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 December 2019 14:26:21
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3835, 3843, 3861, 3925
<b>Blocked by</b>	

---

**Description**

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:

- Add a Memory Handler which provides support for low level handling of memory areas which are handed over to the higher level Heap Handler.
- Add an implementation of `_Memory_Get()` to each BSP (basically a restructuring of the `bsp_work_area_initialize()` implementations).

See optimization opportunity in #3925.

**Comment 1**

1. **Chris Johns**, Wed, 11 Dec 2019 16:01:24 GMT

This needs to be explained in more detail.

What happens to BSPs that are not in the tree?

**Comment 2**

1. **Sebastian Huber**, Wed, 11 Dec 2019 16:31:41 GMT

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.

**Comment 3**

1. **Chris Johns**, Thu, 12 Dec 2019 18:08:47 GMT

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?

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?

**Comment 4**

1. **Sebastian Huber**, Thu, 12 Dec 2019 18:48:09 GMT

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.

#### Comment 5

1. **Sebastian Huber**, Mon, 16 Dec 2019 07:51:32 GMT
2. **blocking**: changed from **3835** to **3835, 3843**

#### Comment 6

1. **Sebastian Huber**, Tue, 04 Feb 2020 05:23:46 GMT
2. **blocking**: changed from **3835, 3843** to **3835, 3843, 3861**

#### Comment 7

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:26 GMT

In 1cb9257/rtems:

```
score: Add Memory Handler
Update #3838.
```

#### Comment 8

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:30 GMT

In c477d927/rtems:

```
score: Add _Memory_Fill()
Update #3838.
```

#### Comment 9

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:34 GMT

In ffa1153/rtems:

```
bsps: Add RamEnd? to linker command files
Update #3838.
```

#### Comment 10

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:37 GMT

In 34a7a12f/rtems:

```
bsps: Add RTEMS_SYSINIT_BSP_EARLY
Add new BSP system initialization step for work to be performed before the work areas are initialized.
Update #3838.
```

#### Comment 11

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:41 GMT

In c184b0c/rtems:

```
stackchk: Add RTEMS_SYSINIT_ISR_STACK
Use a dedicated system initialization step for the stack checker interrupt stack support.
Update #3838.
```

**Comment 12**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:45 GMT

In 07e2eac/rtems:

bsps: Remove uses of BSP\_GET\_WORK\_AREA\_DEBUG

The code covered by BSP\_GET\_WORK\_AREA\_DEBUG was basically dead code since there was no normal way to activate it (e.g. via a BSP configuration option). A follow up patch will bring back this feature through a CONFIGURE\_VERBOSE\_SYSTEM\_INITIALIZATION configuration option.

Update #3838.

**Comment 13**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:48 GMT

In eea21eac/rtems:

bsps: Rework work area initialization

The work area initialization was done by the BSP through bsp\_work\_area\_initialize(). This approach predated the system initialization through the system initialization linker set. The workspace and C program heap were unconditionally initialized. The aim is to support RTEMS application configurations which do not need the workspace and C program heap. In these configurations, the workspace and C program heap should not get initialized.

Change all bsp\_work\_area\_initialize() to implement Memory\_Get() instead. Move the dirty memory, sbrk(), per-CPU data, workspace, and malloc() heap initialization into separate system initialization steps. This makes it also easier to test the individual initialization steps.

This change adds a dependency to \_Heap\_Extend() to all BSPs. This dependency will be removed in a follow up change.

Update #3838.

**Comment 14**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:52 GMT

In f7c5f94/rtems:

sysinit: Add RTEMS\_SYSINIT\_ORDER\_LAST\_BUT\_[1-9]

Update #3838.

**Comment 15**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:56 GMT

In c344e58/rtems:

Use RTEMS\_SYSINIT\_ORDER\_LAST\_BUT\_5

Use RTEMS\_SYSINIT\_ORDER\_LAST\_BUT\_5 instead of RTEMS\_SYSINIT\_ORDER\_LAST to allow applications and support functions to place system initialization handlers behind the standard handlers.

Update #3838.

**Comment 16**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:22:23 GMT

In 813ada5/rtems-docs:

c-user: Update system initialization chapter

Update #2408. Update #3838.

**Comment 17**

1. **Sebastian Huber**, Tue, 04 Feb 2020 08:58:48 GMT

In 4205250/rtems-docs:

bsp-howto: Rework system initialization chapter

Update #2852. Update #3838.

**Comment 18**

1. **Sebastian Huber**, Tue, 04 Feb 2020 10:26:04 GMT



In ccaec966/rtems:

libtests/malloc04: Fix typo

Update #3838.

#### **Comment 19**

1. **Sebastian Huber**, Fri, 14 Feb 2020 09:06:57 GMT

In 33d89af/rtems:

smpfatal09: Fix test case

Update #3838.

#### **Comment 20**

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:48:23 GMT
2. **blocking**: changed from **3835, 3843, 3861** to **3835, 3843, 3861, 3925**

#### **Comment 21**

1. **Sebastian Huber**, Thu, 02 Apr 2020 08:49:21 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**
4. **description**: modified (diff)

#### **Comment 22**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords**: **qualification** added

### **3839 - RTEMS revision does not handle -**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3839">https://devel.rtems.org/ticket/3839</a> ( <a href="https://devel.rtems.org/ticket/3839">https://devel.rtems.org/ticket/3839</a> )
<b>Id</b>	3839
<b>Reporter</b>	Chris Johns
<b>Created</b>	11 December 2019 15:41:47
<b>Modified</b>	11 December 2019 15:57:43
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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.

#### **Comment 1**

1. **Chris Johns**, Wed, 11 Dec 2019 15:57:43 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 86c70e71/rtems:

Support pasring - in a version string

Closes #3839

### **3840 - Add CONFIGURE\_IMFS\_ENABLE\_MKFIFO**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3840">https://devel.rtems.org/ticket/3840</a> ( <a href="https://devel.rtems.org/ticket/3840">https://devel.rtems.org/ticket/3840</a> )
<b>Id</b>	3840
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	11 December 2019 16:35:57
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Obsolete undocumented configuration options `CONFIGURE_MAXIMUM_FIFOS` and `CONFIGURE_MAXIMUM_PIPES`. Replace them with a new option: `CONFIGURE_IMFS_ENABLE_MKFIFO`.

#### Comment 1

1. **Sebastian Huber**, Wed, 11 Dec 2019 16:46:26 GMT

In b1b6dd71/rtems:

```
pipe: Use condition variables
```

```
Use self-contained condition variables instead of Classic API barriers. This simplifies the implementation and configuration.
```

```
Update #3840.
```

#### Comment 2

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:31 GMT

In 6f6091b3/rtems:

```
config: Add CONFIGURE_IMFS_ENABLE_MKFIFO
```

```
Obsolete undocumented configuration options CONFIGURE_MAXIMUM_FIFOS and CONFIGURE_MAXIMUM_PIPES. Replace these options with the new CONFIGURE_IMFS_ENABLE_MKFIFO configuration option.
```

```
Update #3840.
```

#### Comment 3

1. **Sebastian Huber**, Fri, 13 Dec 2019 13:07:13 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d954241/rtems-docs:

```
c-user: Document CONFIGURE_IMFS_ENABLE_MKFIFO
```

```
Close #3840.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
  2. **keywords**: **qualification** added
- 

### 3841 - Add `rtems_object_get_local_node()`

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3841">https://devel.rtems.org/ticket/3841</a> ( <a href="https://devel.rtems.org/ticket/3841">https://devel.rtems.org/ticket/3841</a> )
<b>Id</b>	3841
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	12 December 2019 06:20:47
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Add

```
/**
 * @brief Get the local MPCIE node number.
 *
 * @return The local MPCIE node number.
 */
uint16_t rtems_object_get_local_node( void );
```

to avoid the direct use of internal data structures.

**Comment 1**

1. **Sebastian Huber**, Fri, 13 Dec 2019 09:10:38 GMT

In a00dff42/rtems:

```
rtems: Add and use rtems_object_get_local_node()
Update #3841.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 20 Dec 2019 06:18:15 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In 2e02ee0/rtems-docs:

```
c-user: Document rtems_object_get_local_node()
Close #3841.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT

2. **keywords:** **qualification** added

**3842 - RSB RTEMS version message string is fixed to the git hash**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3842">https://devel.rtems.org/ticket/3842</a> ( <a href="https://devel.rtems.org/ticket/3842">https://devel.rtems.org/ticket/3842</a> )
<b>Id</b>	3842
<b>Reporter</b>	Chris Johns
<b>Created</b>	12 December 2019 15:18:06
<b>Modified</b>	12 December 2019 16:14:05
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Thu, 12 Dec 2019 16:14:05 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5f2a4d2/rtems-source-builder:

```
rtems: Set the RTEMS release message's RSB version correctly
Closes #3842
```

**3843 - Add CONFIGURE\_DIRTY\_MEMORY**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3843">https://devel.rtems.org/ticket/3843</a> ( <a href="https://devel.rtems.org/ticket/3843">https://devel.rtems.org/ticket/3843</a> )
<b>Id</b>	3843
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 December 2019 07:51:32
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3838

**Description**

Change the BSP\_DIRTY\_MEMORY BSP option (build-time configuration) into a CONFIGURE\_DIRTY\_MEMORY application configuration option (link-time configuration).

**Comment 1**

1. **Sebastian Huber**, Tue, 04 Feb 2020 14:13:44 GMT

Should this be a boolean feature macro or should we allow to specify the byte used to dirty the memory?

```
#define CONFIGURE_DIRTY_MEMORY
```

vs.

```
#define CONFIGURE_DIRTY_MEMORY 0xab
```

**Comment 2**

1. **Sebastian Huber**, Mon, 10 Feb 2020 08:00:28 GMT

In 2d07ce6/rtems:

```
config: Add CONFIGURE_DIRTY_MEMORY
Replace the BSP_DIRTY_MEMORY BSP option with a CONFIGURE_DIRTY_MEMORY configuration option.
Update #3843.
```

**Comment 3**

1. **Sebastian Huber**, Mon, 10 Feb 2020 12:49:16 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In e57733a/rtems-docs:

```
c-user: Document CONFIGURE_DIRTY_MEMORY
Close #3843.
```

**Comment 4**

1. **Sebastian Huber**, Tue, 11 Feb 2020 06:27:17 GMT

In 0cdd482/rtems-docs:

```
c-user: Clarify CONFIGURE_DIRTY_MEMORY
Update #3843.
```

**Comment 5**

1. **Sebastian Huber**, Tue, 11 Feb 2020 06:34:22 GMT

In c95724b/rtems-docs:

```
c-user: Use contents instead of content
The memory values are countable.
Update #3843.
```

**Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords: qualification** added

**3844 - Remove CONFIGURE\_HAS\_OWN\_DEVICE\_DRIVER\_TABLE**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3844">https://devel.rtems.org/ticket/3844</a> ( <a href="https://devel.rtems.org/ticket/3844">https://devel.rtems.org/ticket/3844</a> )
<b>Id</b>	3844
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 December 2019 08:03:28
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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>

**Comment 1**

1. **Sebastian Huber**, Thu, 19 Dec 2019 07:55:51 GMT

In e6f2b54/rtems:

```
config: CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE
Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE.
Update #3844.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 19 Dec 2019 07:57:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 89e23da/rtems-docs:

```
c-user: CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE
```

Remove CONFIGURE\_HAS\_OWN\_DEVICE\_DRIVER\_TABLE.

Close #3844.

### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords: qualification** added

## **3845 - Remove Ada-specific configuration options**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3845">https://devel.rtems.org/ticket/3845</a> ( <a href="https://devel.rtems.org/ticket/3845">https://devel.rtems.org/ticket/3845</a> )
<b>Id</b>	3845
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	17 December 2019 13:47:37
<b>Modified</b>	23 June 2021 07:16:03
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### **Description**

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>

### Comment 1

1. **Sebastian Huber**, Thu, 19 Dec 2019 07:55:58 GMT

In 88c198b/rtems:

```
config: Remove Ada configuration options
```

```
Update #3845.
```

### Comment 2

1. **Sebastian Huber**, Thu, 19 Dec 2019 07:57:49 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In da309b9/rtems-docs:

c-user: Remove Ada configuration options

Close #3845.

**Comment 3**

1. **Sebastian Huber**, Thu, 19 Dec 2019 09:19:25 GMT

In 51fd6b4/rtems:

config: Fix CONFIGURE\_MAXIMUM\_POSIX\_THREADS

Bug was introduced by previous commit.

Update #3845.

**Comment 4**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:16:03 GMT
2. **keywords: qualification** added

**3848 - Libdebugger test in libbsd should depend on libdebugger.a**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3848">https://devel.rtems.org/ticket/3848</a> ( <a href="https://devel.rtems.org/ticket/3848">https://devel.rtems.org/ticket/3848</a> )
<b>Id</b>	3848
<b>Reporter</b>	Chris Johns
<b>Created</b>	21 December 2019 04:21:55
<b>Modified</b>	5 March 2020 11:05:19
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The test should be built based on this library being present. The PowerPC does not support libdebugger.

**Attachments:**

1. **Chris Johns, Wed, 04 Mar 2020 11:53:19 GMT**  
**attach:** set to [libbsd-library-check.diff](https://devel.rtems.org/ticket/3848/libbsd-library-check.diff) (<https://devel.rtems.org/ticket/3848/libbsd-library-check.diff>)

**Comment 1**

1. **Chris Johns**, Sat, 21 Dec 2019 04:22:15 GMT
2. **summary:** changed from **Libdebugger test in libbsd should depend on liubdebugger.a** to **Libdebugger test in libbsd should depend on libdebugger.a**

**Comment 2**

1. **Chris Johns**, Wed, 04 Mar 2020 11:53:45 GMT

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.

**Comment 3**

1. **Chris Johns**, Thu, 05 Mar 2020 10:16:03 GMT
2. **owner:** set to **Chris Johns**
3. **status:** changed from **new** to **assigned**

**Comment 4**

1. **Chris Johns**, Thu, 05 Mar 2020 11:05:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

## 3849 - Fix PSIM memory map

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3849">https://devel.rtems.org/ticket/3849</a> ( <a href="https://devel.rtems.org/ticket/3849">https://devel.rtems.org/ticket/3849</a> )
<b>Id</b>	3849
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 January 2020 11:53:27
<b>Modified</b>	6 March 2020 03:29:17
<b>Owner</b>	Joel Sherrill <joel@...>
<b>Type</b>	defect
<b>Component</b>	arch/powerpc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

b08278e/rtems leads to the following run-time error on PSIM:

```
BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0
BATs must not overlap; area 0x0c000000..0x0d000000 hits DBAT 0
```

The RAM overlaps with the PCI area:

```
/*
 * Setup BATs and enable MMU
 */
/* Memory */
setdbat(0, 0x0<<28, 0x0<<28, 1<<28, _PAGE_RW);
setibat(0, 0x0<<28, 0x0<<28, 1<<28, 0);
/* PCI */
setdbat(1, 0x8<<24, 0x8<<24, 1<<24, IO_PAGE);
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:

```
typedef struct {
/* 0x0c000000 - 0x0c007FFF - AMD 29F040 */
volatile uint8_t Flash[ 512 * 1024 ];
/* 0x0c080000 - 0x0c0FFFFFF - NVRAM/NVRAM */
volatile uint8_t nvram[ 512 * 1024 ];
/* 0x0c100000 - 0x0c100007 - NVRAM/RTC */
psim_rtc_t RTC;
/* 0x0c100008 - 0x0c10000f - NVRAM/RTC */
uint8_t gap1[8];
/* 0x0c100010 - 0x0c10001b - System V IPC Semaphore */
psim_sysv_sem_t Semaphore;
/* 0x0c10001c - 0x0c10001f - NVRAM/RTC */
uint8_t gap2[4];
/* 0x0c100020 - 0x0c10005f - Ethernet */
volatile uint8_t Ehtap[ 64 ];
/* 0x0c100060 - 0x0c10ffff - NVRAM/RTC */
uint8_t gap3[65440];
/* 0x0c110000 - 0x0c12ffff - System V IPC Shared Memory */
uint8_t SharedMemory[ 128 * 1024 ];
/* 0x0c130000 - 0x0c170000 - OpenPIC IRQ Controller */
volatile uint8_t OpenPIC[ 256 * 1024 ];
} psim_registers_t;
```

Proposed solution is to adjust the memory map so that 256MiB of RAM are supported. Probably needs changes in rtems-tools.

### Comment 1

1. **Joel Sherrill**, Thu, 05 Mar 2020 22:58:03 GMT

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 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.

### Comment 2

1. **Joel Sherrill**, Fri, 06 Mar 2020 03:27:01 GMT

In 097ea1e/rtems:



psim: Rework device tree so devices do not conflict with 256MB RAM  
updates #3849.

**Comment 3**

1. **Joel Sherrill**, Fri, 06 Mar 2020 03:29:17 GMT
2. **owner:** set to **Joel Sherrill** <joel@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 3833c39/rtems-tools:

psim-device-tree: Rework so devices do not conflict with 256MB RAM  
closes #3849.

**3856 - posix\_devctl - Add support for SOCKCLOSE**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3856">https://devel.rtems.org/ticket/3856</a> ( <a href="https://devel.rtems.org/ticket/3856">https://devel.rtems.org/ticket/3856</a> )
<b>Id</b>	3856
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 January 2020 17:37:41
<b>Modified</b>	17 January 2020 22:13:45
<b>Owner</b>	Joel Sherrill
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	posix, conformance, compliance
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The FACE Technical Standard, Edition 3.0 and later require the definition of the subcommand SOCKCLOSE in .

Reference: <https://www.opengroup.org/face>

The SOCKCLOSE constant has previously been added to in newlib.

**Comment 1**

1. **Joel Sherrill**, Fri, 17 Jan 2020 22:13:45 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5e7b3c65/rtems:

posix\_devctl - Add support for SOCKCLOSE  
The FACE Technical Standard, Edition 3.0 and later require the definition of the subcommand SOCKCLOSE in .  
Reference: <https://www.opengroup.org/face>  
closes #3856.

**3857 - Use EAGAIN for POSIX mq wait in ISR error**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3857">https://devel.rtems.org/ticket/3857</a> ( <a href="https://devel.rtems.org/ticket/3857">https://devel.rtems.org/ticket/3857</a> )
<b>Id</b>	3857
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	24 January 2020 13:59:24
<b>Modified</b>	1 February 2020 13:58:17
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	Martin Erik Werner
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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](https://pubs.opengroup.org/onlinepubs/9699919799/functions/mq_receive.html).

**Comment 1**

1. **Joel Sherrill**, Fri, 24 Jan 2020 14:48:59 GMT

In 565df31/rtems-docs:

```
posix-users/message_passing.rst: Add status for cannot block in ISR
Updates #3857.
```

**Comment 2**

1. **Martin Erik Werner**, Fri, 24 Jan 2020 14:49:35 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In e225545/rtems:

Use EAGAIN for POSIX mq wait in ISR error

Modify the status code returned by `_CORE_message_queue Submit()` when it detects a wait about to happen in an ISR (which would be deadly) to return a status which translated to `EAGAIN` instead of `ENOMEM`.

This is only relevant for POSIX message queues, since Classic API message queues cannot block on send.

The motivation is to match the "most related" `errno` value returned from `mq_send()` and `mq_timedsend()` according to POSIX, via Open Group:

```
[EAGAIN]
```

```
The O_NONBLOCK flag is set in the message queue description associated with mqdes, and the specified message queue is full.
```

or via the RTEMS POSIX users documentation

```
EAGAIN
```

```
The message queue is non-blocking, and there is no room on the queue for another message as specified by the mq_maxmsg.
```

Neither of these matches the case of `if` avoided ISR wait perfectly, but they seem to be the closest equivalent, unless it is desirable to keep a new non-standard error for this case. It is presumed that this is not desirable.

The previously returned `ENOMEM` error value is not documented in either the Open Group or the RTEMS POSIX users documentation. A companion patch corrects the documentation to include this error condition.

Based on the discussion in: <https://lists.rtems.org/pipermail/devel/2020-January/056891.html>

closes #3857.

Message-Id:

**Comment 3**

1. **Sebastian Huber**, Sat, 01 Feb 2020 13:58:17 GMT

In b4387313/rtems:

```
psxmsgq03: Adjust test case
```

```
Commit e22554535796fc29a7ed7c5e2338128e324a621d changed the error status from ENOMEM to EAGAIN.
```

## 3859 - No output from joel scripts in telnet

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3859">https://devel.rtems.org/ticket/3859</a> ( <a href="https://devel.rtems.org/ticket/3859">https://devel.rtems.org/ticket/3859</a> )
<b>Id</b>	3859
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 January 2020 23:59:17
<b>Modified</b>	13 August 2020 09:38:54
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Running a joel script in a telnet session results in the output being sent to the global stdout. For example:

```
$ telnet 1.2.3.4
Trying 1.2.3.4...
Connected to 1.2.3.4.
Escape character is '^'.
RTEMS Shell on /dev/pty0. Use 'help' to list commands.
[/] # cat j
#! joel
ls -las /
[/] # ./j
[/] #
```

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:

```
static void
telnet_shell(char *name, void *arg)
{
    rtems_shell_env_t env;
    memset(&env, 0, sizeof(env));
    env.devname = name;
    env.taskname = "TLNT";
    env.login_check = NULL;
    env.forever = false;
    rtems_shell_main_loop(&env);
}
```

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 malloced 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:

- Add parent\_stdout, parent\_stdin, and parent\_stderr to the shell\_env and set to the parent's std handles.
- 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.
- Remove all key sets and have only one in the shell's main loop code.
- Change rtems\_shell\_init\_env to get the current tasks key and clone that before cloning the global env.
- Update rtems\_shell\_dup\_current\_env to set the parent std handles.
- Have the main loop use the parent std handles rather than the global handles.
- 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.

### Comment 1

1. **Sebastian Huber**, Tue, 04 Feb 2020 16:25:01 GMT

Sounds that it is currently pretty broken.

What about changing the managed member into a destroy handler which is initialized by the constructor?

### Comment 2

1. **Chris Johns**, Wed, 05 Feb 2020 02:14:46 GMT

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.

### Comment 3

1. **Chris Johns**, Mon, 10 Feb 2020 21:59:43 GMT

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 ...

```
FILE *input = fopen(shell_env->input, "r");
if (input == NULL)
    error(..);
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.

### Comment 4

1. **Chris Johns**, Tue, 11 Feb 2020 00:26:20 GMT

2. **blockedby**: set to **3870**

### Comment 5

1. **Chris Johns**, Mon, 17 Feb 2020 04:51:50 GMT

It is not easy making a joel test because of the way we have used the linker mapped printf to printk.

### Comment 6

1. **Sebastian Huber**, Mon, 17 Feb 2020 06:42:57 GMT

Only printf(), puts(), and putchar() are wrapped. The shell related code should use fprintf() etc. Using printf() would be a bug.

### Comment 7

1. **Chris Johns**, Mon, 17 Feb 2020 20:51:46 GMT

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.

### Comment 8

1. **Chris Johns**, Tue, 18 Feb 2020 02:55:20 GMT

2. **blockedby**: **3870** deleted

### Comment 9

1. **Sebastian Huber**, Tue, 18 Feb 2020 06:06:14 GMT

It is a bug that the echo command uses putchar(). It should use fputc(c, stdout).

### Comment 10

1. **Chris Johns**, Tue, 18 Feb 2020 06:55:17 GMT

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.

### Comment 11

1. **Sebastian Huber**, Tue, 18 Feb 2020 07:02:47 GMT

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.

**Comment 12**

1. **Chris Johns**, Tue, 18 Feb 2020 07:09:20 GMT

But it 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.

**Comment 13**

1. **Sebastian Huber**, Tue, 18 Feb 2020 07:27:06 GMT

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.

**Comment 14**

1. **Chris Johns**, Thu, 09 Apr 2020 00:21:41 GMT

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 need to have strings. I will change the shell's handling of NULL to reference the parent descriptors to catch user's code.

**Comment 15**

1. **Chris Johns**, Tue, 14 Apr 2020 22:30:49 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In d007cc2/rtems:

```
libmisc/shell: Fix the handling of joel scripts in telnet
Fix the passing of std[in/out] to child threads Fix deleting of managed memory in the key destructor Only set the key in the main loop
thread Only allocate a shell env outside of the main loop Fix memory leak if the task start fails Remove error level from shell env, it
cannot be returned this way. Add
exit_code but the API is broken so it cannot be returned.
Closes #3859
```

**Comment 16**

1. **Sebastian Huber**, Thu, 06 Aug 2020 06:47:29 GMT
2. **status**: changed from **closed** to **reopened**
3. **resolution**: **fixed** deleted

The telnet shell

```
static void
telnet_shell(char *name, void *arg)
{
    rtems_shell_env_t env;
    memset(&env, 0, sizeof(env));
    env.devname = name;
    env.taskname = "TLNT";
    env.login_check = NULL;
    env.forever = false;
    rtems_shell_main_loop(&env);
}
```

used in the libbsd test code is now broken:

```
telnet 169.254.140.254
Trying 169.254.140.254...
Connected to 169.254.140.254.
Escape character is '^]'.
invalid shell environment passed to the main loop)
Connection closed by foreign host.
```

How should the code be instead?

**Comment 17**

1. **Sebastian Huber**, Thu, 06 Aug 2020 06:50:18 GMT
2. **severity**: changed from **normal** to **blocker**

**Comment 18**

1. **Sebastian Huber**, Thu, 06 Aug 2020 06:51:07 GMT

There should be an advice in the migration section in the user manual.

**Comment 19**

1. **Chris Johns**, Thu, 06 Aug 2020 10:42:21 GMT

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.

#### **Comment 20**

1. **Sebastian Huber**, Thu, 06 Aug 2020 11:17:13 GMT

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.

#### **Comment 21**

1. **Chris Johns**, Thu, 06 Aug 2020 11:51:15 GMT

Thanks and yes something should be added. I will take a look.

#### **Comment 22**

1. **Sebastian Huber**, Thu, 06 Aug 2020 11:58:17 GMT

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).

#### **Comment 23**

1. **Sebastian Huber**, Thu, 06 Aug 2020 17:22:46 GMT

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:

```
#0  fileno (f=0x0) at ../../../../../../gnu-mirror-gcc-c72alb6/newlib/libc/stdio/fileno.c:69
#1  0x0042e866 in rtems_shell_main_loop (shell_env=0x0) at ../../../../../../cpukit/libmisc/shell/shell.c:910
#2  0x00104880 in telnet_shell (name=0x774600 "/dev/pty4", arg=0x0) at ../../testsuite/media01/test_main.c:133
#3  0x004113e8 in telnetd_session_task (arg=7816628) at ../../../../../../cpukit/telnetd/telnetd.c:179
#4  0x00425f78 in Thread_Handler () at ../../../../../../cpukit/score/src/threadhandler.c:143
```

#### **Comment 24**

1. **Sebastian Huber**, Fri, 07 Aug 2020 07:10:16 GMT

The following change fixes the NULL pointer access:

```
diff --git a/cpukit/libmisc/shell/shell.c b/cpukit/libmisc/shell/shell.c
index 0b06e8b4d1..72aeb23c43 100644
--- a/cpukit/libmisc/shell/shell.c
+++ b/cpukit/libmisc/shell/shell.c
@@ -234,12 +234,6 @@ static void rtems_shell_clear_shell_env(void)
     eno = pthread_setspecific(rtems_shell_current_env_key, NULL);
     if (eno != 0)
         rtems_error(0, "pthread_setspecific(shell_current_env_key): clear");
-
- /*
-  * Clear stdin and stdout file pointers of they will be closed
-  */
-     stdin = NULL;
-     stdout = NULL;
- }
- /*
```

What is the purpose of this code?

#### **Comment 25**

1. **Chris Johns**, Fri, 07 Aug 2020 07:18:44 GMT

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.

#### **Comment 26**

1. **Sebastian Huber**, Fri, 07 Aug 2020 07:25:05 GMT

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?

#### **Comment 27**

1. **Chris Johns**, Fri, 07 Aug 2020 07:28:25 GMT

Nothing more than what was in the code before .. <https://git.rtems.org/rtems/tree/cpukit/libmisc/shell/shell.c?h=4.11#n242> Something else must have changed. I had tested it on RTEMS 5.

#### **Comment 28**

1. **Sebastian Huber**, Fri, 07 Aug 2020 07:31:24 GMT

<file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html>

I have this problem on the RTEMS 5 branch using RTEMS 5 tools.

### Comment 29

1. **Chris Johns**, Fri, 07 Aug 2020 07:33:38 GMT

Yes I am seeing it as well. I am 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?

### Comment 30

1. **Sebastian Huber**, Fri, 07 Aug 2020 07:42:18 GMT

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

```
FILE *parent_stdin;
FILE *parent_stdout;
FILE *parent_stderr;
```

Who is the parent?

### Comment 31

1. **Chris Johns**, Fri, 07 Aug 2020 07:49:21 GMT

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:

```
[/] # cat j
#! joel
ls -las /
cat /j
[/] # ./j
total 6
0 drwxr-xr-x 1 root root 6160 Jan 1 1988 dev
0 drwxr-xr-x 1 root root 2240 Jan 1 1988 etc
0 -rwxrwxrwx 1 root root 31 Jan 1 1988 j
1 drwx--x--x 3 root root 512 Jan 1 1988 ram
0 drwxr-xr-x 1 root root 0 Jan 1 1988 tmp
0 drwxr-xr-x 1 root root 280 Jan 1 1988 var
#! joel
ls -las /
cat /j
```

The threads that run the joel script inherit the telnet session handlers.

### Comment 32

1. **Chris Johns**, Sat, 08 Aug 2020 07:45:29 GMT

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:

```
shell[0a010001]: run: env: 0x62accd0
shell[0a010001]: run out: 1 (0xb028)
shell[0a010001]: run in: 0 (0xbeafa8)
shell[0a01001c]: env: 0x62accd0
shell[0a01001c]: child out: 1 (0xb028)
shell[0a01001c]: child in: 0 (0xbeafa8)
shell[0a010017]: dup: global: copy: 0x2f5dlb8 out: 166 (0x2f02738) in: 165 (0x2f026b8)
shell[0a010017]: env: 0x2f5dlb8
shell[0a010017]: child out: 166 (0x2f02738)
shell[0a010017]: child in: 165 (0x2f026b8)
shell[0a010017]: script: in: /j out: stdout
shell[0a010017]: run: env: 0x63558a8
shell[0a010017]: run out: 166 (0x2f02738)
shell[0a010017]: run in: 165 (0x2f026b8)
shell[0a01001d]: env: 0x63558a8
shell[0a01001d]: child out: 166 (0x2f02738)
shell[0a01001d]: child in: 35 (0x629b260)
shell[0a01001d]: end: 0 0
shell[0a01001d]: child in-to-close: 0x629b260
shell[0a01001d]: child out-to-close: 0
shell[0a010017]: run: end: sc:0 ec:0
shell[0a010017]: script: end: 0
shell[0a010017]: end: 0 0
shell[0a010017]: child in-to-close: 0
shell[0a010017]: child out-to-close: 0
```

### Comment 33

1. **Chris Johns**, Mon, 10 Aug 2020 05:13:42 GMT

2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 95036a45/rtems:

```
shell: Only clear std handles when the shell task exits
Clearing the std file handles when the main loop exited crashes telnetd as it reuses its session threads.
Closes #3859
```

#### **Comment 34**

1. **Sebastian Huber**, Mon, 10 Aug 2020 09:47:45 GMT

In cb4358c/rtems-docs:

```
user: Add shell environment migration aid
Update #3859.
```

#### **Comment 35**

1. **Sebastian Huber**, Thu, 13 Aug 2020 09:38:54 GMT

In 49f7e05/rtems-docs:

```
user: Fix format
Update #3859.
```

---

## **3861 - Add CONFIGURE\_VERBOSE\_SYSTEM\_INITIALIZATION**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3861">https://devel.rtems.org/ticket/3861</a> ( <a href="https://devel.rtems.org/ticket/3861">https://devel.rtems.org/ticket/3861</a> )
<b>Id</b>	3861
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 February 2020 05:23:46
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3838

#### **Description**

Add a configuration option to print some information during system initialization.

#### **Comment 1**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:03:59 GMT

In e44ae80/rtems:

```
config: Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION
Update #3861.
```

#### **Comment 2**

1. **Sebastian Huber**, Tue, 04 Feb 2020 06:05:02 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 069bfac/rtems-docs:

```
c-user: Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION
```



Close #3861.

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords: qualification** added

**3862 - Canonicalize CONFIGURE\_ZERO\_WORKSPACE\_AUTOMATICALLY**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3862">https://devel.rtems.org/ticket/3862</a> ( <a href="https://devel.rtems.org/ticket/3862">https://devel.rtems.org/ticket/3862</a> )
<b>Id</b>	3862
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 February 2020 10:46:29
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
#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.

**Comment 1**

1. **Sebastian Huber**, Thu, 06 Feb 2020 14:22:27 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 1d43a97/rtems:

```
config: CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY
```

```
Canonicalize CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY and use defined/undefined instead of TRUE/FALSE.
```

```
Close #3862.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords: qualification** added

**3863 - Remove support for the BSP\_ZERO\_WORKSPACE\_AUTOMATICALLY BSP option**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3863">https://devel.rtems.org/ticket/3863</a> ( <a href="https://devel.rtems.org/ticket/3863">https://devel.rtems.org/ticket/3863</a> )
<b>Id</b>	3863
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 February 2020 10:56:55
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Thu, 06 Feb 2020 14:22:20 GMT

In cadff8f7/rtems:

```
config: Remove BSP_ZERO_WORKSPACE_AUTOMATICALLY
Update #3863.
```

**Comment 2**

1. **Sebastian Huber**, Thu, 06 Feb 2020 14:24:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In df2dcdb/rtems-docs:

```
Remove BSP_ZERO_WORKSPACE_AUTOMATICALLY
Close #3863.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

**3864 - rtems-tester does not work with gdb simulators**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3864">https://devel.rtems.org/ticket/3864</a> ( <a href="https://devel.rtems.org/ticket/3864">https://devel.rtems.org/ticket/3864</a> )
<b>Id</b>	3864
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	4 February 2020 20:33:36
<b>Modified</b>	29 March 2020 23:04:57
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Tue, 04 Feb 2020 20:33:45 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**

**Comment 2**

1. **Chris Johns**, Fri, 27 Mar 2020 04:53:21 GMT

I m looking into this and I cannot get `psim-run` to work with the latest tools and kernel. I get ...

```

$ rtems-test --rtems-bsp=psim-run `find . -name hello.exe`
RTEMS Testing - Tester, 5.0.not released
Command Line: /opt/work/rtems/5/bin/rtems-test --rtems-bsp=psim-run ./powerpc-rtems/c/psim/testsuites/samples/hello.exe
Host: FreeBSD hihi 12.1-RELEASE-p2 FreeBSD 12.1-RELEASE-p2 GENERIC amd64
Python: 3.7.6 (default, Jan 30 2020, 01:18:54) [Clang 6.0.1 (tags/RELEASE_601/final 335540)]
Host: FreeBSD-12.1-RELEASE-p2-amd64-64bit-ELF (FreeBSD hihi 12.1-RELEASE-p2 FreeBSD 12.1-RELEASE-p2 GENERIC amd64 amd64)
[1/1] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 W:0 | powerpc/psim: hello.exe
[1/1] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 W:0 | powerpc/psim: hello.exe
Result: invalid Time: 0:00:01.002526 hello.exe
=> run: /opt/work/rtems/5/bin/powerpc-rtems5-run -f /opt/work/rtems/5/share/rtems/tester/rtems/testing/bmps/psim-device-tree
./powerpc-rtems5/c/psim/testsuites/samples/hello.exe
] core_find_mapping() - access to unmaped address, attach a default map to handle this - addr=0xfcl31000 nr_bytes=0x4 processor=0x8e7a40
cia=0x15d8
]
Passed:      0
Failed:      0
User Input:  0
Expected Fail: 0
Indeterminate: 0
Benchmark:   0
Timeout:     0
Invalid:     1
Wrong Version: 0
Wrong Build: 0
Wrong Tools: 0
-----
Total:      1
Invalid:
  hello.exe
Average test time: 0:00:01.286947
Testing time   : 0:00:01.286947

```

Has the psim device tree been updated?

### Comment 3

1. **Chris Johns**, Fri, 27 Mar 2020 05:45:26 GMT

Crashing at ..

```

t = openpic_read(&OpenPIC->Global.Feature_Reporting0);
15d4:      39 2b 10 00      addi    r9,r11,4096
asm      volatile ("lwbrx %0,0,%1; eieio" : "=r" (ret) :

```

### Comment 4

1. **Chris Johns**, Fri, 27 Mar 2020 06:19:54 GMT

The rtems-tools master works. I will now check my tools build.

### Comment 5

1. **Chris Johns**, Sun, 29 Mar 2020 23:03:48 GMT

In 753eb94/rtems-tools:

```

tester/gdb: Add lock timing and remote fetching registers.
Add timing for the locks to aid performance profiling Remove fetching registers as the MI parser is slow on pyton2
Updates #3864

```

### Comment 6

1. **Chris Johns**, Sun, 29 Mar 2020 23:04:57 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

## 3865 - Fix linker set item declarations for small data area targets

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3865">https://devel.rtems.org/ticket/3865</a> ( <a href="https://devel.rtems.org/ticket/3865">https://devel.rtems.org/ticket/3865</a> )
<b>Id</b>	3865
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 February 2020 07:39:33
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

- 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.
- 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.

#### Comment 1

1. **Sebastian Huber**, Thu, 06 Feb 2020 14:22:17 GMT

In 9fac9f9/rtems:

```
score: Fix linker sets on small data area targets
Update #3865.
```

#### Comment 2

1. **Sebastian Huber**, Thu, 06 Feb 2020 14:24:21 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In a4b23d9/rtems-docs:

```
c-user: Document new linker set macros
Adjust copyright. Linker sets were introduced in 2015.
Update #2408. Close #3865.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** **qualification** added

## **3868 - newlib links breaks mingw build**

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3868">https://devel.rtems.org/ticket/3868</a> ( <a href="https://devel.rtems.org/ticket/3868">https://devel.rtems.org/ticket/3868</a> )
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 February 2020 00:47:07
<b>Modified</b>	12 February 2020 03:48:59
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

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 no 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.\_\_

#### Comment 1

1. **Chris Johns**, Mon, 10 Feb 2020 05:12:53 GMT

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.

**Comment 2**

1. **Chris Johns**, Wed, 12 Feb 2020 03:48:59 GMT
2. **owner**: set to **Chris Johns** <chrisj@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In 22135c9/rtems-source-builder:

```
windows: Use GNU tar to unpack source
The bsdtar command does not handle symlinks cleanly, GNU tar does
Closes #3868
```

---

**3871 - Remove rtems\_configuration\_get\_posix\_api\_configuration()**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3871">https://devel.rtems.org/ticket/3871</a> ( <a href="https://devel.rtems.org/ticket/3871">https://devel.rtems.org/ticket/3871</a> )
<b>Id</b>	3871
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 February 2020 15:20:03
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The corresponding data structure not longer exists. This function was not tested.

**Comment 1**

1. **Sebastian Huber**, Mon, 17 Feb 2020 07:46:52 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In f613778/rtems:

```
Remove rtems_configuration_get_posix_api_configuration()
The corresponding data structure not longer exists. This function was not tested and documented.
Close #3871.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

---

**3873 - Remove CONFIGURE\_HAS\_OWN\_INIT\_TASK\_TABLE**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3873">https://devel.rtems.org/ticket/3873</a> ( <a href="https://devel.rtems.org/ticket/3873">https://devel.rtems.org/ticket/3873</a> )
<b>Id</b>	3873
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 February 2020 07:09:03
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Sebastian Huber**, Fri, 14 Feb 2020 07:21:04 GMT
2. **description:** modified (diff)

### Comment 2

1. **Sebastian Huber**, Fri, 14 Feb 2020 07:22:20 GMT
2. **description:** modified (diff)

### Comment 3

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:37 GMT

In 6b0873f/rtems:

```
config: Remove CONFIGURE_HAS_OWN_INIT_TASK_TABLE

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.

Update #3873.
```

### Comment 4

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:40 GMT

In 9520ec3/rtems:

```
config: Simplify initialization task config

With the removal of the CONFIGURE_HAS_OWN_INIT_TASK_TABLE configuration option at most one Classic API user initialization task can be configured.

Provide an RTEMS API configuration table for backward compatibility.

Update #3873.
```

### Comment 5

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:35:19 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3738a74/rtems-docs:

```
c-user: Obsolete CONFIGURE_HAS_OWN_INIT_TASK_TABLE
```

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.

Close #3873.

#### Comment 6

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** qualification added

## 3874 - Remove CONFIGURE\_POSIX\_HAS\_OWN\_INIT\_THREAD\_TABLE

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3874">https://devel.rtems.org/ticket/3874</a> ( <a href="https://devel.rtems.org/ticket/3874">https://devel.rtems.org/ticket/3874</a> )
<b>Id</b>	3874
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 February 2020 07:09:37
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Fri, 14 Feb 2020 07:21:21 GMT
2. **description:** modified (diff)

#### Comment 2

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:48 GMT

In 3b4795b4/rtems:

```
config: Remove CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE
```

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.

Update #3874.

#### Comment 3

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:35:21 GMT
2. **status:** changed from assigned to closed
3. **resolution:** set to fixed

In d10e3b1/rtems-docs:

```
c-user: Obsolete CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE
```

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.

Close #3874.

#### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords: qualification** added

### 3875 - Split up confdefs.h in component based header files

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3875">https://devel.rtems.org/ticket/3875</a> ( <a href="https://devel.rtems.org/ticket/3875">https://devel.rtems.org/ticket/3875</a> )
<b>Id</b>	3875
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	14 February 2020 13:13:44
<b>Modified</b>	17 November 2021 08:12:17
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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 librtmscpu.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:

```
#ifndef RTEMS_CONFDEFS_FOOBAR_H
#define RTEMS_CONFDEFS_FOOBAR_H
#ifndef __CONFIGURATION_TEMPLATE_h
#error "Do not include this file directly, use instead"
#endif
#if defined(CONFIGURE_INIT) && \
    defined(CONFIGURE_FOOBAR_STUFF) && \
    defined(CONFIGURE_MORE_FOOBAR_STUFF)
/* Foobar includes */
#ifdef __cplusplus
extern "C" {
#endif /* __cplusplus */
/* Configure foobar. */
#ifdef __cplusplus
}
#endif /* __cplusplus */
#endif /* CONFIGURE_INIT */
#endif /* RTEMS_CONFDEFS_FOOBAR_H */
```

In case CONFIGURE\_INIT is not defined, then including should expose nothing to the C compiler.

Here is a first proposal to group the configuration in components:



```

rtems/
confdefs.h
  This file just includes the component based header files listed below.
confdefs/
bdbuf.h
classicobj.h
  Classic API objects
classictasksinit.h
  Classic initialization task
driverclock.h
  Clock driver and related configuration, e.g. CONFIGURE_MICROSECONDS_PER_TICK
driverconsolesimple.h
  Simple console driver configuration
driverlegacy.h
  Legacy IO driver configuration table
extensions.h
  User extensions, internal extensions
filesystem.h
  Filesystem configuration
general.h
  Basic stuff which is mandatory to configure, e.g. ISR stacks, per-CPU information
libpci.h
  PCI library configuration
malloc.h
  Malloc configuration
mpci.h
  MPCI specific configuration options
msgq.h
  General message queue configuration
obsolete.h
  Warning about the use of obsolete configure options
posixkeys.h
  POSIX keys
posixobj.h
  POSIX objects
posixthreadsinit.h
  POSIX initialization threads
scheduler.h
  Scheduler configuration
support.h
  Support macros for confdefs header files
threads.h
  General thread configuration (e.g. thread control block)
unlimited.h
  Unlimited objects configuration

```

**Comment 1**

1. **Sebastian Huber**, Mon, 17 Feb 2020 07:47:03 GMT

In 58864627/rtems:

```

config: Remove unused declaration and defines
Update #3875.

```

**Comment 2**

1. **Sebastian Huber**, Thu, 20 Feb 2020 07:56:45 GMT

In 874a5ef/rtems-docs:

```

c-user: Clarify CONFIGURE_MAXIMUM_PRIORITY
Update #3875.

```

**Comment 3**

1. **Sebastian Huber**, Mon, 24 Feb 2020 06:32:45 GMT

In 61a2b3e/rtems-docs:

```

c-user: Clarify filesystem configuration
Update #3875.

```

**Comment 4**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:26 GMT

In f6fcfa1/rtems:

```

mptests/mp14: Include missing header file
Include  for MPCI_Print_statistics().
Update #3875.

```

**Comment 5**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:30 GMT

In 5d1d348/rtems:

libtests/stackchk: Include missing header file

Update #3875.

#### **Comment 6**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:33 GMT

In 77ee827/rtems:

sptestests/spcbssched03: Include missing header file

Update #3875.

#### **Comment 7**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:52 GMT

In b8648bd/rtems:

config: Add \_Watchdog\_Microseconds\_per\_tick

Move the microseconds per tick configuration constant out of the configuration table.

Add WATCHDOG\_MICROSECONDS\_PER\_TICK\_DEFAULT and use it to provide a default definition of the watchdog ticks constants.

Update #3875.

#### **Comment 8**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:55 GMT

In 308a2e0f/rtems:

config: Add \_Watchdog\_Ticks\_per\_timeslice

Move the ticks per timeslice configuration constant out of the configuration table.

Add WATCHDOG\_TICKS\_PER\_TIMESLICE\_DEFAULT and use it to provide a default definition of the watchdog ticks per timeslice constant.

Update #3875.

#### **Comment 9**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:32:58 GMT

In c70d112/rtems:

config: Add \_Thread\_Idle\_stack\_size

Move the idle thread stack size configuration constant out of the configuration table.

Add THREAD\_IDLE\_STACK\_SIZE\_DEFAULT and use it to provide a default definition of the idle thread stack size constant.

Update #3875.

#### **Comment 10**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:01 GMT

In 5180762c/rtems:

config: Add \_Thread\_Idle\_body

Move the idle thread body configuration constant out of the configuration table.

Provide a default definition of the idle thread body constant.

Update #3875.

#### **Comment 11**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:04 GMT

In ba7b2df7/rtems:

config: Add \_Workspace\_Size

Move the workspace size configuration constant out of the configuration table.

Update #3875.

#### **Comment 12**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:08 GMT

In ad85c00/rtems:

config: Add `_Workspace_Is_unified`

Move the unified workspace configuration constant out of the configuration table.

Provide a default definition of the unified workspace constant.

Update #3875.

#### **Comment 13**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:11 GMT

In 567455b6/rtems:

config: Add `_SMP_Processor_configure_maximum`

Move the processor maximum configuration constant out of the configuration table.

Update #3875.

#### **Comment 14**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:14 GMT

In ba46b936/rtems:

config: Add `_SMP_Is_enabled`

Move the is SMP enabled configuration constant out of the configuration table.

Since this was the last configuration constant in `rtems_configuration_table`, remove this type.

Update #3875.

#### **Comment 15**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:42 GMT

In 0561cc1/rtems:

config: Remove `_Configure_Max_Objects()`

Use `rtems_resource_maximum_per_allocation()` directly. The use of `_Configure_Zero_or_one()` was superfluous.

Update #3875.

#### **Comment 16**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:45 GMT

In cadd8d1/rtems:

config: Add

Unify handling of obsolete configuration options. Remove comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

#### **Comment 17**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:49 GMT

In 55a7316/rtems:

config: Add

Derive copyright and license for new file form the file history.

Update #3875.

**Comment 18**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:52 GMT

In f45d0b2f/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 19**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:55 GMT

In 0f8e139e/rtems:

config: Add

Remove comments and copyrightable content from the moved content. Use BSD-2-Clause for new file according to file history of .

Update #3053. Update #3875.

**Comment 20**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:59 GMT

In 1608221/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 21**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:02 GMT

In 591e9736/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 22**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:06 GMT

In 691b614/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 23**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:09 GMT

In 03aff2c/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Move the default configuration to library files so that application configurations do not include the definitions for the default case.

Update #3053. Update #3875.

**Comment 24**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:13 GMT

In 1d35bf2a/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

#### **Comment 25**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:17 GMT

In 32561f5/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

#### **Comment 26**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:20 GMT

In fb0caca/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

#### **Comment 27**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:23 GMT

In 8f3419b/rtems:

config: Add

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Update #3053. Update #3875.

#### **Comment 28**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:27 GMT

In b15d1cb/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

#### **Comment 29**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:30 GMT

In 8314933/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

#### **Comment 30**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:34 GMT

In fe84ab5/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 31**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:37 GMT

In 7b6596f5/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 32**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:41 GMT

In 40db051/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 33**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:44 GMT

In f5a2fd86/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 34**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:48 GMT

In d20209b/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 35**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:51 GMT

In 35e58c45/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 36**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:55 GMT

In 1fb1cf1/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Update #3053. Update #3875.

**Comment 37**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:34:59 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In a78495ed/rtems:

config: Add

Remove all comments and copyrightable content from the moved content. Use BSD-2-Clause license for new file.

Change licence of to BSD-2-Clause according to file history.

Update #3053. Close #3875.

### **Comment 38**

1. **Sebastian Huber**, Tue, 25 Feb 2020 13:03:49 GMT

In 470dfa1f/rtems:

config: Resurrect NULL\_DRIVER\_TABLE\_ENTRY

This define may be used by application configurations for the CONFIGURE\_APPLICATION\_EXTRA\_DRIVERS definition.

Update #3875.

### **Comment 39**

1. **Sebastian Huber**, Wed, 04 Mar 2020 08:26:38 GMT

In fdeaa64/rtems:

config: Remove include

The use of CONFIGURE\_APPLICATION\_NEEDS\_TIMER\_DRIVER does not define anything, so remove the include.

Update #3875.

### **Comment 40**

1. **Sebastian Huber**, Tue, 14 Apr 2020 14:30:16 GMT

In 4f32722/rtems:

config: Fix typo

Update #3875.

### **Comment 41**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT

2. **keywords: qualification** added

### **Comment 42**

1. **Sebastian Huber**, Wed, 17 Nov 2021 08:12:13 GMT

In 32cee883/rtems:

config: CONFIGURE\_DISABLE\_BSP\_SETTINGS

Evaluate CONFIGURE\_DISABLE\_BSP\_SETTINGS for each affected application configuration option. This makes the code easier to review since the influence of CONFIGURE\_DISABLE\_BSP\_SETTINGS is locally visible in the code.

Update #3875.

### **Comment 43**

1. **Sebastian Huber**, Wed, 17 Nov 2021 08:12:17 GMT

In c47daf6f/rtems:

config: Fix IO driver table initialization

Check all IO driver table configuration options which are used to initialize \_IO\_Driver\_address\_table[]. Checks for the following settings were missing:

CONFIGURE\_BSP\_PREREQUISITE\_DRIVERS CONFIGURE\_APPLICATION\_PREREQUISITE\_DRIVERS CONFIGURE\_APPLICATION\_NEEDS\_WATCHDOG\_DRIVER  
CONFIGURE\_APPLICATION\_EXTRA\_DRIVERS

Update #3875.

---

## **3876** - Remove CONFIGURE\_DISABLE\_SMP\_CONFIGURATION

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3876">https://devel.rtems.org/ticket/3876</a> ( <a href="https://devel.rtems.org/ticket/3876">https://devel.rtems.org/ticket/3876</a> )
<b>Id</b>	3876
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	15 February 2020 10:20:54
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:20 GMT

In 1ada3e55/rtems:

```
score: Add _SMP_Need_inter_processor_interrupts()
Test for the proper system condition instead of using the rtems_configuration_is_smp_enabled() workaround.
Update #3876.
```

### Comment 2

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:24 GMT

In 51614bd5/rtems:

```
bsps/clock: Use _SMP_Get_processor_maximum()
Use a specific test to enable the fast idle mode instead of using the rtems_configuration_is_smp_enabled() workaround.
Update #3876.
```

### Comment 3

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:27 GMT

In 5b8d80d7/rtems:

```
config: CONFIGURE_INIT_TASK_INITIAL_MODES
Determine the default for CONFIGURE_INIT_TASK_INITIAL_MODES depending on whether RTEMS_SMP is defined or not.
In the tests, use CONFIGURE_INIT_TASK_INITIAL_MODES to explicitly request RTEMS_NO_PREEMPT mode if necessary.
Update #3876.
```

### Comment 4

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:30 GMT

In e50e42b8/rtems:

```
score: _Scheduler_Is_non_preempt_mode_supported()
If the non-preempt mode for threads is supported depends on the scheduler implementation. Add _Scheduler_Is_non_preempt_mode_supported()
to indicate this.
Update #3876.
```

### Comment 5

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:33 GMT

In ca82a603/rtems:



rtems: Change timer server task mode setting  
 Use the non-preempt mode only in uni-processor configurations.  
 Update #3876.

#### Comment 6

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:36 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c7f748a/rtems:

config: Remove CONFIGURE\_DISABLE\_SMP\_CONFIGURATION

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. All use cases were replaced with tests for specific conditions. The configuration option and test macro were undocumented.

Close #3876.

#### Comment 7

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** **qualification** added

## 3881 - Add API functions to map a task priority to/from a POSIX thread priority

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3881">https://devel.rtems.org/ticket/3881</a> ( <a href="https://devel.rtems.org/ticket/3881">https://devel.rtems.org/ticket/3881</a> )
<b>Id</b>	3881
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	24 February 2020 12:44:30
<b>Modified</b>	3 March 2020 06:16:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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:

```
/**
 * @brief Map a task priority to the corresponding POSIX thread priority.
 *
 * @param scheduler_id Identifier of the scheduler instance.
 * @param priority The task priority to map.
 * @param[out] posix_priority Pointer to a POSIX thread priority value.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a posix_priority parameter is @c NULL.
 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
 * @retval RTEMS_INVALID_PRIORITY Invalid task priority.
 */
rtems_status_code rtems_scheduler_map_to_posix_priority(
  rtems_id scheduler_id,
  rtems_task_priority priority,
  int *posix_priority
);

/**
 * @brief Map a POSIX thread priority to the corresponding task priority.
 *
 * @param scheduler_id Identifier of the scheduler instance.
 * @param posix_priority The POSIX thread priority to map.
 * @param[out] priority Pointer to a task priority value.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a priority parameter is @c NULL.
 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
 * @retval RTEMS_INVALID_PRIORITY Invalid POSIX thread priority.
 */
rtems_status_code rtems_scheduler_map_from_posix_priority(
  rtems_id scheduler_id,
  int posix_priority,
  rtems_task_priority *priority
);
```

#### Comment 1

1. **Sebastian Huber**, Tue, 03 Mar 2020 06:14:42 GMT

In 38736c6/rtems:

```
rtems: Add rtems_scheduler_map_priority_to_posix()
Update #3881.
```

#### **Comment 2**

1. **Sebastian Huber**, Tue, 03 Mar 2020 06:14:46 GMT

In 18020109/rtems:

```
rtems: Add rtems_scheduler_map_priority_from_posix()
Update #3881.
```

#### **Comment 3**

1. **Sebastian Huber**, Tue, 03 Mar 2020 06:16:12 GMT

In e458fed/rtems-docs:

```
c-user: rtems_scheduler_map_priority_to_posix()
Update #3881.
```

#### **Comment 4**

1. **Sebastian Huber**, Tue, 03 Mar 2020 06:16:14 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ac61465/rtems-docs:

```
c-user: rtems_scheduler_map_priority_from_posix()
Close #3881.
```

---

## **3882 - Add POSIX user environment pointer to TCB**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3882">https://devel.rtems.org/ticket/3882</a> ( <a href="https://devel.rtems.org/ticket/3882">https://devel.rtems.org/ticket/3882</a> )
<b>Id</b>	3882
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 February 2020 06:17:52
<b>Modified</b>	25 February 2020 11:33:17
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Sebastian Huber**, Tue, 25 Feb 2020 11:33:17 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In ba74ebde/rtems:

libio: Add POSIX user environment pointer to TCB

The IO library used a POSIX key to store an optional POSIX user environment pointer. This pulled 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.

Close #3882.

## 3885 - Context switch extension is broken in SMP configurations

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3885">https://devel.rtems.org/ticket/3885</a> ( <a href="https://devel.rtems.org/ticket/3885">https://devel.rtems.org/ticket/3885</a> )
<b>Id</b>	3885
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	25 February 2020 17:40:26
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	score
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

The context switch extensions are called during `_Thread_Do_dispatch()`:

```
void _Thread_Do_dispatch( Per_CPU_Control *cpu_self, ISR_Level level )
{
  Thread_Control *executing;
  executing = cpu_self->executing;
  ...
  do {
    Thread_Control *heir;
    heir = _Thread_Get_heir_and_make_it_executing( cpu_self );
    ...
    _User_extensions_Thread_switch( executing, heir );
    ...
    _Context_Switch( &executing->Registers, &heir->Registers );
    ...
  } while ( cpu_self->dispatch_necessary );
  ...
}
```

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](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.

### Comment 1

1. **Joel Sherrill**, Tue, 25 Feb 2020 18:34:30 GMT

As I recall, doing this in `_Thread_Handler` is similar to having to restore FPU. Are there other actions with this characteristic?

### Comment 2

1. **Chris Johns**, Wed, 26 Feb 2020 02:55:06 GMT

Is this an issue that needs to be fixed for RTEMS 5?

### Comment 3

1. **Sebastian Huber**, Wed, 26 Feb 2020 08:47:44 GMT

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.

### Comment 4

1. **Sebastian Huber**, Wed, 26 Feb 2020 08:49:11 GMT

file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html

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.

#### **Comment 5**

1. **Sebastian Huber**, Wed, 26 Feb 2020 08:51:14 GMT
2. **description:** modified (diff)

#### **Comment 6**

1. **Chris Johns**, Thu, 27 Feb 2020 00:23:43 GMT

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.

#### **Comment 7**

1. **Sebastian Huber**, Thu, 27 Feb 2020 06:58:32 GMT

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.

#### **Comment 8**

1. **Chris Johns**, Thu, 27 Feb 2020 22:46:31 GMT

Thanks.

#### **Comment 9**

1. **Sebastian Huber**, Mon, 02 Mar 2020 06:52:07 GMT

In fcb11510/rtems:

score: Fix context switch extensions (SMP)

In uniprocessor and SMP configurations, the context switch extensions were called during `_Thread_Do_dispatch()`:

```
void _Thread_Do_dispatch( Per_CPU_Control *cpu_self, ISR_Level level ) {
```

```
    Thread_Control *executing;
```

```
    executing = cpu_self->executing;
```

```
    ... do {
```

```
        Thread_Control *heir;
```

```
        heir = _Thread_Get_heir_and_make_it_executing( cpu_self ); ... _User_extensions_Thread_switch( executing, heir ); ...
        _Context_Switch( &executing->Registers, &heir->Registers ); ...
```

```
    } while ( cpu_self->dispatch_necessary ); ...
```

```
}
```

In uniprocessor configurations, this is fine and 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](https://docs.rtems.org/branches/master/c-user/symmetric_multiprocessing_services.html#thread-dispatch-details)

In case such an update happens, a thread will execute on the processor which was not seen in the previous call of 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 (ancestor) 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. The stack checker is affected by this.

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.

Update #3885.

#### Comment 10

1. **Sebastian Huber**, Tue, 03 Mar 2020 06:30:26 GMT

In 198c07e5/rtems:

sptestests/spextensions01: Add comment

Update #3885.

#### Comment 11

1. **Sebastian Huber**, Tue, 03 Mar 2020 12:13:32 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 8bd4e6a/rtems-docs:

c-user: Document thread switch extension changes

Close #3885.

#### Comment 12

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** **qualification** added

### 3887 - Do not report remotes in RSB build log if --mail is used

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3887">https://devel.rtems.org/ticket/3887</a> ( <a href="https://devel.rtems.org/ticket/3887">https://devel.rtems.org/ticket/3887</a> )
<b>Id</b>	3887
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 February 2020 22:45:21
<b>Modified</b>	6 April 2020 03:34:02
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Do not include the remote repos in a build repo if 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:

```
Remotes:
[ removed, contact me@there.here for details ]
```

and keep the remotes for builds that are not posted.

#### Attachments:

- 1 **Gedare Bloom**, Sun, 05 Apr 2020 03:34:52 GMT  
**attach:** set to [0001-sb-setbuilder-do-not-include-remotes-in-mailed-repor.patch](https://devel.rtems.org/ticket/3887/0001-sb-setbuilder-do-not-include-remotes-in-mailed-repor.patch) (<https://devel.rtems.org/ticket/3887/0001-sb-setbuilder-do-not-include-remotes-in-mailed-repor.patch>)

**Comment 1**

1. **Gedare Bloom**, Mon, 06 Apr 2020 03:34:02 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4727c3e/rtems-source-builder:

```
sb/reports: add sanitize parameter enabled for --mail

Adds a --sanitize option to command line for reports.py and also for the reports.report() interface from setbuilder.py to remove the Remotes information from git.

Closes #3887.
```

**3888 - Update rtems\_waf in libbsd**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3888">https://devel.rtems.org/ticket/3888</a> ( <a href="https://devel.rtems.org/ticket/3888">https://devel.rtems.org/ticket/3888</a> )
<b>Id</b>	3888
<b>Reporter</b>	Chris Johns
<b>Created</b>	28 February 2020 03:01:05
<b>Modified</b>	11 August 2021 17:03:21
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Update master and the 5-freebsd-12 branch.

**Comment 1**

1. **Vijay Kumar Banerjee**, Sat, 04 Apr 2020 12:43:07 GMT

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"?

**Comment 2**

1. **Gedare Bloom**, Mon, 06 Apr 2020 05:13:42 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

**Comment 3**

1. **Gedare Bloom**, Mon, 06 Apr 2020 05:17:57 GMT

I guess it wasn't pushed to master. Chris, reopen if you still need to keep track of this.

**Comment 4**

1. **Zacchaeus Leung**, Wed, 11 Aug 2021 17:03:21 GMT

In 8df5764/rtems:

```
Test needed for timer_create with CLOCK_MONOTONC

the timer_create() method can use CLOCK_MONOTONIC but there was no test for this. Also it implements the functionality to create a CLOCK_MONOTONIC timer and gettime(). Closes #3888
```

**3893 - RSB staging changes have broken building a 3rd party package**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3893">https://devel.rtems.org/ticket/3893</a> ( <a href="https://devel.rtems.org/ticket/3893">https://devel.rtems.org/ticket/3893</a> )
<b>Id</b>	3893
<b>Reporter</b>	Chris Johns
<b>Created</b>	1 March 2020 09:31:14
<b>Modified</b>	3 March 2020 23:22:05
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The staging changes let a fully staged vertical stack to build however building the packages for an installed tool chain and BSP is broken.

```
../source-builder/sb-set-builder --log=bbb-pkg.txt --prefix=/build/rtems/install/5 --host=arm-rtems5 --with-rtems-bsp=beagleboneblack
5/rtems-packages
```

**Comment 1**

1. **Chris Johns**, Tue, 03 Mar 2020 02:01:26 GMT

In 175ce0b/rtems-source-builder:

```
sb/config: Expanded nested shell commands
Updates #3893
```

**Comment 2**

1. **Chris Johns**, Tue, 03 Mar 2020 02:01:28 GMT

In 4295d3d/rtems-source-builder:

```
sb/config: Add paths checks to %{path ...}
Updates #3893
```

**Comment 3**

1. **Chris Johns**, Tue, 03 Mar 2020 02:01:31 GMT

In 96d55ab/rtems-source-builder:

```
sb/pkgconfig: Cache pkgconfig based on a file name not name
Caching on name falsely assumed checks across different config
instances in nested build sets as used in vertical stack
building was valid. This stopped a valid check for a prefix
seeing if a valid BSP config was present.
Updates #3893
```

**Comment 4**

1. **Chris Johns**, Tue, 03 Mar 2020 02:01:33 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In abd98a2/rtems-source-builder:

```
rtems/bsps: Fix building 3rd party packages with various options
Fix locating valid tools and BSP. If either is found in the
staging area use that else use the specific --with-* option
and if not present use the --prefix. Locate the tools by checking if the arch's C compiler is a valid
file. No other checks are made on the tools. Locate a BSP by checking for a valid pkgconfig file for the
BSP. Only filter flags if the BSP is in the staging area
Closes #3893
```

**Comment 5**

1. **Chris Johns**, Tue, 03 Mar 2020 10:39:27 GMT
2. **status**: changed from **closed** to **reopened**

3. **resolution: fixed** deleted

The change is broken on Python 3. This has cause the m2003 snapshot to fail.

#### Comment 6

1. **Chris Johns**, Tue, 03 Mar 2020 23:22:05 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **fixed**

In 9e49d20/rtems-source-builder:

```
sb/pkgconfig: Fix python2 issue with caching changes
Closes #3893
```

## 3894 - Replace the device filesystem with a specialization of the IMFS

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3894">https://devel.rtems.org/ticket/3894</a> ( <a href="https://devel.rtems.org/ticket/3894">https://devel.rtems.org/ticket/3894</a> )
<b>Id</b>	3894
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 March 2020 10:49:08
<b>Modified</b>	2 April 2020 09:25:15
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	fs
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3898
<b>Blocked by</b>	

#### Description

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

```
#define CONFIGURE_USE_DEVFS_AS_BASE_FILESYSTEM
```

configuration option. Replace the device filesystem with a specialization of the IMFS.

#### Comment 1

1. **Chris Johns**, Tue, 03 Mar 2020 21:14:52 GMT

Will the changes include the examples and the devfs hello world example?

How doe the size of this approach compare to the devfs approach?

#### Comment 2

1. **Sebastian Huber**, Wed, 04 Mar 2020 05:48:53 GMT

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 doe 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 erno for example which pulls in the re-entrancy support which pulls in a hell of dependencies.

#### Comment 3

1. **Sebastian Huber**, Wed, 04 Mar 2020 08:46:30 GMT

In 0b0cd93/rtems:

```
imfs: Remove IMFS_NODE_FLAG_NAME_ALLOCATED
```



Remove IMFS\_NODE\_FLAG\_NAME\_ALLOCATED and instead replace the node control in rename operations. This avoids a special case in the general node destruction which pulled in free().

Update #3894.

#### Comment 4

1. **Sebastian Huber**, Wed, 04 Mar 2020 08:46:34 GMT

In 13b71f8/rtems:

imfs: Simplify IMFS\_create\_node()

Update #3894.

#### Comment 5

1. **Sebastian Huber**, Wed, 04 Mar 2020 08:46:37 GMT

In fa44c39/rtems:

imfs: Add IMFS\_add\_node()

Update #3894.

#### Comment 6

1. **Sebastian Huber**, Wed, 04 Mar 2020 08:46:40 GMT

In 7e3b5c0/rtems:

console: Use IMFS\_add\_node() for simple console

Change license to BSD-2-Clause according to file history.

Update #3053. Update #3894.

#### Comment 7

1. **Sebastian Huber**, Wed, 04 Mar 2020 08:46:44 GMT

In fa3005f/rtems:

console: Use IMFS\_add\_node() for simple task cons

Change license to BSD-2-Clause according to file history.

Update #3053. Update #3894.

#### Comment 8

1. **Sebastian Huber**, Wed, 04 Mar 2020 18:05:38 GMT

2. **blocking**: set to **3898**

#### Comment 9

1. **Sebastian Huber**, Fri, 06 Mar 2020 06:58:06 GMT

Replying to Sebastian Huber:

Replying to Chris Johns:

How doe 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

```
#define CONFIGURE_IMFS_DISABLE_MKNOD_DEVICE
#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.`

#### **Comment 10**

1. **Sebastian Huber**, Mon, 09 Mar 2020 18:00:01 GMT

In 85c9145f/rtems:

```
imfs: Use _IMFS_get_time()
Update #3894.
```

#### **Comment 11**

1. **Sebastian Huber**, Mon, 09 Mar 2020 18:00:04 GMT

In 83994913/rtems:

```
imfs: Constify imfs_memfile_bytes_per_block
The CONFIGURE_IMFS_MEMFILE_BYTES_PER_BLOCK value is validated by . Changing this value during runtime could lead to memory corruption.
Update #3894.
```

#### **Comment 12**

1. **Sebastian Huber**, Mon, 09 Mar 2020 18:00:08 GMT

In 277b9dd/rtems:

```
imfs: Remove unused handlers
Update #3894.
```

#### **Comment 13**

1. **Sebastian Huber**, Mon, 09 Mar 2020 18:00:11 GMT

In 103a371/rtems:

```
imfs: Simplify code generation
Update #3894.
```

#### **Comment 14**

1. **Sebastian Huber**, Mon, 09 Mar 2020 18:00:14 GMT

In 0161b93d/rtems:

```
imfs: Replace devfs with an IMFS specialization
Add a simplified path evaluation function IMFS_eval_path_devfs() for a device only IMFS configuration.
The code size can be further reduced by the application if it disables the support for legacy IO drivers via:
```

```
`#define CONFIGURE_IMFS_DISABLE_MKNOD #define CONFIGURE_IMFS_DISABLE_MKNOD_DEVICE`
```

```
Obsolete CONFIGURE_MAXIMUM_DEVICES. Remove BSP_MAXIMUM_DEVICES.
```

Update #3894. Update #3898.

#### Comment 15

1. **Sebastian Huber**, Wed, 01 Apr 2020 07:05:50 GMT

In 7cec259/rtems:

```
config: Remove CONFIGURE_FILESYSTEM_DEVFS
This filesystem no longer exists.
Remove unused RTEMS_FILESYSTEM_TYPE_DEVFS.
Update #3894.
```

#### Comment 16

1. **Sebastian Huber**, Thu, 02 Apr 2020 09:25:15 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

### **3895 - Add a migration to RTEMS 5 chapter to User Manual**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3895">https://devel.rtems.org/ticket/3895</a> ( <a href="https://devel.rtems.org/ticket/3895">https://devel.rtems.org/ticket/3895</a> )
<b>Id</b>	3895
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 March 2020 07:19:10
<b>Modified</b>	15 April 2020 14:57:14
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### **Description**

Add a chapter to the User Manual to aid the user to migrate applications from previous RTEMS versions to RTEMS 5.

#### Comment 1

1. **Chris Johns**, Wed, 04 Mar 2020 08:23:07 GMT

Thanks for adding the ticket.

I am happy to add this section. I will complete my current doco task and then do this.

#### Comment 2

1. **Chris Johns**, Thu, 12 Mar 2020 21:23:52 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 4726207/rtems-docs:

```
user: Add a migration chapter
This is a start with the hope we collect useful pieces to aid porting. Please add to this.
Closes #3895
```

#### Comment 3

1. **Sebastian Huber**, Wed, 15 Apr 2020 14:57:14 GMT

In 02bded3/rtems-docs:

```
user: Update migration guide
```

**3896 - RSB option --source-only-download does not work with releases**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3896">https://devel.rtems.org/ticket/3896</a> ( <a href="https://devel.rtems.org/ticket/3896">https://devel.rtems.org/ticket/3896</a> )
<b>Id</b>	3896
<b>Reporter</b>	Chris Johns
<b>Created</b>	4 March 2020 08:46:39
<b>Modified</b>	4 March 2020 09:37:42
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The RSB option --source-only-download does not work for releases

**Comment 1**

1. **Chris Johns**, Wed, 04 Mar 2020 09:37:42 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3b0032d/rtems-source-builder:

```
sb/options: Let --source-only-download download releases
The release procedure uses the sb-set-sources command now.
Closes #3896
```

**3898 - Remove CONFIGURE\_MAXIMUM\_DEVICES**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3898">https://devel.rtems.org/ticket/3898</a> ( <a href="https://devel.rtems.org/ticket/3898">https://devel.rtems.org/ticket/3898</a> )
<b>Id</b>	3898
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	4 March 2020 18:05:38
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	config
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	3894

---

**Description**

This configuration option was only used by the device filesystem which will be replaced by a special configuration of the IMFS.

**Comment 1**

1. **Sebastian Huber**, Mon, 09 Mar 2020 18:00:14 GMT

In 0161b93d/rtems:

```
imfs: Replace devfs with an IMFS specialization
Add a simplified path evaluation function IMFS_eval_path_devfs() for a device only IMFS configuration.
The code size can be further reduced by the application if it disables the support for legacy IO drivers via:
```

```
`#define CONFIGURE_IMFS_DISABLE_MKNOD #define CONFIGURE_IMFS_DISABLE_MKNOD_DEVICE`
```

Obsolete CONFIGURE\_MAXIMUM\_DEVICES. Remove BSP\_MAXIMUM\_DEVICES.  
Update #3894. Update #3898.

**Comment 2**

1. **Sebastian Huber**, Fri, 13 Mar 2020 12:29:24 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1ce24d3/rtems-docs:

c-user: Obsolete CONFIGURE\_MAXIMUM\_DEVICES  
Close #3898.

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

**3900 - New template for boolean feature defines**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3900">https://devel.rtems.org/ticket/3900</a> ( <a href="https://devel.rtems.org/ticket/3900">https://devel.rtems.org/ticket/3900</a> )
<b>Id</b>	3900
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 March 2020 15:16:53
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3836
<b>Blocked by</b>	

**Description**

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:

```
.. index:: CONFIGURE_XYZ
.. CONFIGURE_XYZ:
CONFIGURE_XYZ
-----
CONSTANT:
  ``CONFIGURE_XYZ``
OPTION TYPE:
  This configuration option is a boolean feature define.
DEFAULT CONFIGURATION:
  If this configuration option is undefined, then not ABC or something else.
DESCRIPTION:
  In case this configuration option is defined, then ABC.
NOTES:
  Notes for XYZ.
```

**Comment 1**

1. **Sebastian Huber**, Fri, 06 Mar 2020 15:19:52 GMT
2. **description**: modified (diff)

**Comment 2**

1. **Sebastian Huber**, Fri, 06 Mar 2020 15:28:34 GMT
2. **blocking**: set to **3836**

**Comment 3**

1. **Sebastian Huber**, Tue, 24 Mar 2020 06:50:57 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In dfe0ec0/rtems-docs:

c-user: Use new template for feature config opts  
 Try to bring all descriptions up to date. Add cross-references to several options.  
 Close #3900.

**Comment 4**

1. **Sebastian Huber**, Mon, 30 Mar 2020 09:16:33 GMT

In 2f18a53/rtems-docs:

c-user: Use new template for feature config opts  
 Update #3900.

**Comment 5**

1. **Sebastian Huber**, Mon, 30 Mar 2020 09:50:19 GMT

In e26f874/rtems-docs:

c-user: Avoid self references  
 Update #3900.

**Comment 6**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords: qualification** added

**3901 - New template for configuration options with a value**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3901">https://devel.rtems.org/ticket/3901</a> ( <a href="https://devel.rtems.org/ticket/3901">https://devel.rtems.org/ticket/3901</a> )
<b>Id</b>	3901
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 March 2020 15:27:25
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3836
<b>Blocked by</b>	

**Description**

Change the documentation template for configuration options with a value to:

```

.. _CONFIGURE_XYZ:
CONFIGURE_XYZ
-----
CONSTANT:
  ``CONFIGURE_XYZ``
OPTION TYPE:
  This configuration option is an integer define.
VALUE CONSTRAINTS:
  The specified value must be greater than or equal to X and less than or
  equal to Y.
DEFAULT VALUE:
  The default value is Z.
DESCRIPTION:
  This configuration option defines the ABC.
NOTES:
  Notes for XYZ.

```

Use OPTION TYPE instead of DATA TYPE since we have to characterize the option an not just the value of an option. This is in line with #3900.

Use VALUE RANGE instead of RANGE to be more specific.

**Comment 1**

1. **Sebastian Huber**, Fri, 06 Mar 2020 15:28:34 GMT
2. **blocking: set to 3836**

**Comment 2**

1. **Sebastian Huber**, Fri, 27 Mar 2020 11:54:18 GMT
2. **description:** modified (diff)

**Comment 3**

1. **Sebastian Huber**, Wed, 01 Apr 2020 07:03:28 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 7bad894/rtems-docs:

```
c-user: Use new template for integer config opts
Try to bring all descriptions up to date. Add cross-references to several options. Clarify configuration value constraints.
Use this template also for initializer type options.
Close #3901.
```

**Comment 4**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** **qualification** added

**3903 - raspberrypi2 libbsd 5-freebsd-12 does not build**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3903">https://devel.rtems.org/ticket/3903</a> ( <a href="https://devel.rtems.org/ticket/3903">https://devel.rtems.org/ticket/3903</a> )
<b>Id</b>	3903
<b>Reporter</b>	Chris Johns
<b>Created</b>	8 March 2020 00:38:30
<b>Modified</b>	4 April 2020 17:49:17
<b>Owner</b>	Christian Mauderer <christian.mauderer@...>
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The build is failing with ...

```
/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':
/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'
collect2: error: ld returned 1 exit status
```

Is something on master that needs to be back ported to the 5-freebsd-12 branch?

**Attachments:**

1. **Christian Mauderer**, Tue, 10 Mar 2020 07:52:10 GMT  
**attach:** set to [0001-bsp-raspberry-Add-a-bsp\\_fdt\\_map\\_intr.patch](https://devel.rtems.org/ticket/3903/0001-bsp-raspberry-Add-a-bsp_fdt_map_intr.patch) ([https://devel.rtems.org/ticket/3903/0001-bsp-raspberry-Add-a-bsp\\_fdt\\_map\\_intr.patch](https://devel.rtems.org/ticket/3903/0001-bsp-raspberry-Add-a-bsp_fdt_map_intr.patch))

**Comment 1**

1. **Chris Johns**, Sun, 08 Mar 2020 00:39:59 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Sebastian Huber**, Sun, 08 Mar 2020 09:34:03 GMT

The `bsp_fdt_map_intr()` must be provided by the BSP, e.g. `bsps/arm/beagle/start/bspstart.c`.

**Comment 3**

1. **Christian Mauderer**, Sun, 08 Mar 2020 21:16:06 GMT

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.

#### Comment 4

1. **Christian Mauderer**, Sun, 08 Mar 2020 21:50:56 GMT

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:

```
// GPIO - 49 to 52 in RTEMS
interrupts = <2 17>, <2 18>, <2 19>, <2 20>;
// USB - 9 in RTEMS
interrupts = <1 9>;
// Mailbox - most likely 65 in RTEMS
interrupts = <0 1>;
```

So I assume it should be a mapping like follows (in pseudo code):

```
#define MAGIC_OFFSET_FOR_SECOND_LEVEL 32
switch(first_number){
case 0:
return second_number + BCM2835_IRQ_ID_BASIC_BASE_ID;
break;
case 1:
return second_number;
break;
case 2:
return second_number + MAGIC_OFFSET_FOR_SECOND_LEVEL;
break;
default:
/* Handle invalid interrupt */
break;
}
```

#### Comment 5

1. **Sebastian Huber**, Mon, 09 Mar 2020 06:27:45 GMT

At least it looks like the API can handle this.

#### Comment 6

1. **Christian Mauderer**, Tue, 10 Mar 2020 07:51:33 GMT

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.

#### Comment 7

1. **Christian Mauderer**, Sat, 04 Apr 2020 10:55:45 GMT

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.

#### Comment 8

1. **Christian Mauderer**, Sat, 04 Apr 2020 17:49:17 GMT
2. **owner:** set to **Christian Mauderer <christian.mauderer@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In bb8ae78/rtems:

```
bsp/raspberry: Add a bsp_fdt_map_intr().
Fixes #3903
```

---

### **3904 - Add methods to dump the event records in base64 encoding (optionally zlib compressed)**



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3904">https://devel.rtems.org/ticket/3904</a> ( <a href="https://devel.rtems.org/ticket/3904">https://devel.rtems.org/ticket/3904</a> )
<b>Id</b>	3904
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 March 2020 08:28:26
<b>Modified</b>	12 April 2020 16:05:15
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	unspecified
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

This helps to get the event records easily via a serial line in case of a crash.

#### Comment 1

1. **Sebastian Huber**, Fri, 13 Mar 2020 11:36:12 GMT
2. **summary**: changed from **Add methods to dump the event records in base64 encoding (optinally compressed)** to **Add methods to dump the event records in base64 encoding (optionally zlib compressed)**

#### Comment 2

1. **Sebastian Huber**, Wed, 18 Mar 2020 06:50:00 GMT

In a6b36334/rtems:

```
score: Add _IO_Base64()  
Update #3904.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 18 Mar 2020 06:50:04 GMT

In c584d4e/rtems:

```
rtems: Add rtems_put_char()  
Update #3904.
```

#### Comment 4

1. **Sebastian Huber**, Wed, 18 Mar 2020 06:50:07 GMT

In ab42b3e/rtems:

```
record: Add rtems_record_dump()  
Add rtems_record_dump_base64() and rtems_record_dump_base64_zlib().  
Add CONFIGURE_RECORD_FATAL_DUMP_BASE64 and CONFIGURE_RECORD_FATAL_DUMP_BASE64_ZLIB configuration options.  
Update #3904.
```

#### Comment 5

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:45 GMT

In 14f0957/rtems-tools:

```
record: Fix format  
Update #3904.
```

#### Comment 6

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:47 GMT

In 4aa0d5f/rtems-tools:

record: Guard config.h include  
Update #3904.

#### **Comment 7**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:50 GMT

In 8db5ce1/rtems-tools:

record: Format file header  
Update #3904.

#### **Comment 8**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:52 GMT

In b60abbf/rtems-tools:

record: Add INI file parser  
Import from:  
<https://github.com/benhoyt/inih>  
commit 351217124ddb3e3fe2b982248a04c672350bb0af Author: Stephan Lachnit Date: Sun Mar 1 07:31:28 2020 +0100

r48 release (#100)

Bump copyright to 2020 Remove makefile for static library meson: version 48

Signed-off-by: Stephan Lachnit

Update #3904.

#### **Comment 9**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:55 GMT

In b066705/rtems-tools:

record: Add option to print config default values  
Update #3904.

#### **Comment 10**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:57 GMT

In bfc8f2d/rtems-tools:

record: Add filter base class  
Update #3904.

#### **Comment 11**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:38:59 GMT

In 5bc9f73/rtems-tools:

record: Add base64 filter class  
Update #3904.

#### **Comment 12**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:39:02 GMT

In d964171/rtems-tools:

record: Add support for base64 encoded input  
Update #3904.

**Comment 13**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:39:04 GMT

In 5fa2c3b/rtems-tools:

```
record: Add zlib filter class
Update #3904.
```

**Comment 14**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:39:06 GMT

In 390522a/rtems-tools:

```
record: Add support for zlib compressed input
Update #3904.
```

**Comment 15**

1. **Sebastian Huber**, Thu, 19 Mar 2020 06:39:08 GMT

In 16eff9b/rtems-tools:

```
record: Increase input buffer and alignment
Update #3904.
```

**Comment 16**

1. **Sebastian Huber**, Mon, 23 Mar 2020 06:06:22 GMT

In 68f90be/rtems-source-builder:

```
5: Update rtems-tools
Pick up new features for rtems-record-ltng.
Update #3904.
```

**Comment 17**

1. **Sebastian Huber**, Mon, 23 Mar 2020 06:41:33 GMT

In 3fd4889/rtems:

```
conf: Improve evaluation of event recording opts
Check for configuration errors earlier. Allow fatal dumps without the other extensions. Add some warnings.
Update #3904.
```

**Comment 18**

1. **Sebastian Huber**, Tue, 24 Mar 2020 06:50:59 GMT

In 62d58f2/rtems-docs:

```
c-user: Document new event record config options
Update #3904.
```

**Comment 19**

1. **Sebastian Huber**, Sun, 12 Apr 2020 16:05:15 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In ea4c098/rtems-docs:

```
user: Document event recording
Close #3904.
```

## 3907 - Update Getting Started Instructions

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3907">https://devel.rtems.org/ticket/3907</a> ( <a href="https://devel.rtems.org/ticket/3907">https://devel.rtems.org/ticket/3907</a> )
<b>Id</b>	3907
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	15 March 2020 18:59:51
<b>Modified</b>	4 April 2020 19:36:21
<b>Owner</b>	
<b>Type</b>	task
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	small, tasks
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

<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

### Comment 1

1. **Joel Sherrill**, Sun, 15 Mar 2020 19:01:52 GMT
2. **type:** changed from **enhancement** to **task**

### Comment 2

1. **niteesh**, Sat, 04 Apr 2020 18:27:44 GMT

I have sent a patch for this. And the website has also been updated. Can you please close this ticket?

### Comment 3

1. **Gedare Bloom**, Sat, 04 Apr 2020 19:36:21 GMT
  2. **status:** changed from **new** to **closed**
  3. **version:** set to **5**
  4. **resolution:** set to **fixed**
  5. **milestone:** set to **5.1**
- 

## 3909 - rtems\_waf with python2 needs to handle unicode strings with waf

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3909">https://devel.rtems.org/ticket/3909</a> ( <a href="https://devel.rtems.org/ticket/3909">https://devel.rtems.org/ticket/3909</a> )
<b>Id</b>	3909
<b>Reporter</b>	Chris Johns
<b>Created</b>	17 March 2020 10:18:53
<b>Modified</b>	30 March 2020 00:22:11
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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:

```
Cannot create ///h/
```

The waf ticket is <https://gitlab.com/ita1024/waf/-/issues/2283>.

**Comment 1**

1. **Chris Johns**, Mon, 30 Mar 2020 00:22:11 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

<https://git.rtems.org/rtems-libbsd/commit/?id=508836451b282e016d0310e8913e95fd2cd6b0f3>

---

**3911 - Remove gdbarmsim**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3911">https://devel.rtems.org/ticket/3911</a> ( <a href="https://devel.rtems.org/ticket/3911">https://devel.rtems.org/ticket/3911</a> )
<b>Id</b>	3911
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	19 March 2020 20:18:10
<b>Modified</b>	20 March 2020 18:38:42
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Fri, 20 Mar 2020 14:36:41 GMT

In [changeset:"37e7cc5f4ce7ed46b5ea2de56d9066d121d851cb/rtems" 37e7cc5/rtems]:  
(The changeset message doesn't reference this ticket)

**Comment 2**

1. **Joel Sherrill**, Fri, 20 Mar 2020 14:37:13 GMT

In [changeset:"87e49d4cf93924b5c855fbf9429cff2cdb212f8f/rtems-docs" 87e49d4/rtems-docs]:  
(The changeset message doesn't reference this ticket)

**Comment 3**

1. **Joel Sherrill**, Fri, 20 Mar 2020 14:37:50 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

Closing commit messages accidentally refer to #3611.

**Comment 4**

1. **Joel Sherrill**, Fri, 20 Mar 2020 18:38:42 GMT

In 9b9e0dd/rtems-tools:

```
gdbarmsim: Remove all variants
Updates #3911.
```

---

**3914 - Spike has hard-coded path to DTC**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3914">https://devel.rtems.org/ticket/3914</a> ( <a href="https://devel.rtems.org/ticket/3914">https://devel.rtems.org/ticket/3914</a> )
<b>Id</b>	3914
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	21 March 2020 18:32:08
<b>Modified</b>	25 March 2020 15:22:23
<b>Owner</b>	Joel Sherrill
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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>

**Comment 1**

1. **Joel Sherrill**, Mon, 23 Mar 2020 20:11:06 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 12e02ad/rtems-source-builder:

```
Spike: Update to include fix for hard-coded path to dtc
Closes #3914.
```

**Comment 2**

1. **Joel Sherrill**, Wed, 25 Mar 2020 15:22:23 GMT

In 71af2d9/rtems-source-builder:

```
spike: Update to use exec that searches along PATH.
Updates #3914.
```

**3919 - RSB may not download source of pkgconfig checked packages**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3919">https://devel.rtems.org/ticket/3919</a> ( <a href="https://devel.rtems.org/ticket/3919">https://devel.rtems.org/ticket/3919</a> )
<b>Id</b>	3919
<b>Reporter</b>	Chris Johns
<b>Created</b>	27 March 2020 03:33:40
<b>Modified</b>	27 March 2020 03:40:50
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

There are config files with the following:

```
#
# The GLib build instructions. We use 2.x.x Release 1.
#
%ifn %{pkgconfig check glib-2.0}
%include %{_configdir}/glib-2-1.cfg
%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:

```
#
# The GLib build instructions. We use 2.x.x Release 1.
#
%if !%{pkgconfig check glib-2.0} || %{defined _rsb_getting_source}
%include %{_configdir}/glib-2-1.cfg
%endif
```

**Comment 1**

1. **Chris Johns**, Fri, 27 Mar 2020 03:40:50 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9b7cdb7/rtems-source-builder:

```
bare: Fix pkgconfig checks and getting source.
     If the package was installed the check does not build the package.
This also meant getting the source failed.
Closes #3919
```

**3921 - QorIQ clock tick interval is off by one hardware clock tick**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3921">https://devel.rtems.org/ticket/3921</a> ( <a href="https://devel.rtems.org/ticket/3921">https://devel.rtems.org/ticket/3921</a> )
<b>Id</b>	3921
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	2 April 2020 07:12:54
<b>Modified</b>	2 April 2020 07:14:04
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The BCR initialization in qoriq\_clock\_initialize() is off by one resulting in a wrong clock interval.

**Comment 1**

1. **Sebastian Huber**, Thu, 02 Apr 2020 07:14:04 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 299a82f4/rtems:

```
bsp/qoriq: Fix off by one error in clock init
Close #3921.
```

**3927 - tclsh required to build sqlite -- makes all BSP bsets fail**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3927">https://devel.rtems.org/ticket/3927</a> ( <a href="https://devel.rtems.org/ticket/3927">https://devel.rtems.org/ticket/3927</a> )
<b>Id</b>	3927
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	2 April 2020 17:00:19
<b>Modified</b>	3 April 2020 00:22:16
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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
tclsh /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: tclsh: command not found
```

**Comment 1**

1. **Joel Sherrill**, Thu, 02 Apr 2020 19:09:55 GMT

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>

**Comment 2**

1. **Jonathan Brandmeyer**, Fri, 03 Apr 2020 00:22:16 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In 113c65c/rtems-source-builder:

```
databases/sqlite: Update to 3.31.1
closes #3927.
```

**3936 - C++ thread-local storage broken on sparc64**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3936">https://devel.rtems.org/ticket/3936</a> ( <a href="https://devel.rtems.org/ticket/3936">https://devel.rtems.org/ticket/3936</a> )
<b>Id</b>	3936
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	6 April 2020 12:12:48
<b>Modified</b>	6 April 2020 17:18:05
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	arch/sparc64
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```
gmake[5]: Entering directory '/build/git-build/b-niagara/sparc64-rtems5/c/niagara/testsuites/sptests'
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 ./../lib/libcpukit/librtemscpu.a
./../lib/libcpukit/librtemstest.a
/build/rtems5/lib/gcc/sparc64-rtems5/7.5.0/../../../../sparc64-rtems5/bin/ld: warning: dot moved backwards before `.got'
/build/rtems5/lib/gcc/sparc64-rtems5/7.5.0/../../../../sparc64-rtems5/bin/ld: warning: dot moved backwards before `.got'
/build/rtems5/lib/gcc/sparc64-rtems5/7.5.0/../../../../sparc64-rtems5/bin/ld: section .got LMA [0000000000317c0,0000000000317c7]
overlaps section .data LMA [000000000031018,0000000000319d7]
```

One option is to disable this test on sparc64.

**Comment 1**

1. **Gedare Bloom**, Mon, 06 Apr 2020 16:15:43 GMT

<file:///opt/work/chris/rtems/releasing/rtems-release.git/5.2-rc1/ws-rtems-release-notes/rtems-5.2-rc1-release-notes.html>



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.

### Comment 2

1. **Joel Sherrill**, Mon, 06 Apr 2020 16:27:03 GMT

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>) 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.

### Comment 3

1. **Gedare Bloom**, Mon, 06 Apr 2020 17:18:05 GMT

2. **status**: changed from **assigned** to **closed**

3. **resolution**: set to **fixed**

In 2db1fd85/rtems:

```
sparc64: update linkcmds with missing sections for TLS
Closes #3936.
```

## 3938 - Many (~40) BSPs Fail to Link all Tests

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3938">https://devel.rtems.org/ticket/3938</a> ( <a href="https://devel.rtems.org/ticket/3938">https://devel.rtems.org/ticket/3938</a> )
<b>Id</b>	3938
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	6 April 2020 19:00:15
<b>Modified</b>	8 April 2020 13:51:02
<b>Owner</b>	joel@...
<b>Type</b>	defect
<b>Component</b>	test
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

When configured as as show, ~40 BSPs (list below) cannot link all of the tests due to out of memory issues:

```
../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_tti800
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

#### Comment 1

1. **Sebastian Huber**, Mon, 06 Apr 2020 19:01:25 GMT

I already fixed this in the new build system.

#### Comment 2

1. **Sebastian Huber**, Mon, 06 Apr 2020 19:05:55 GMT

The sparc64 is #3936.

#### Comment 3

1. **Joel Sherrill**, Mon, 06 Apr 2020 19:08:12 GMT

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.

#### Comment 4

1. **Sebastian Huber**, Mon, 06 Apr 2020 19:08:40 GMT

In c547470e/rtems:

```
tests: Small memory exclude for record02  
Update #3938.
```

#### Comment 5

1. **Sebastian Huber**, Mon, 06 Apr 2020 19:10:10 GMT

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!

#### Comment 6

1. **Sebastian Huber**, Mon, 06 Apr 2020 19:22:58 GMT

In 92a3a19c/rtems:

```
tests: Exclude record02 for some BSPs  
Update #3938.
```

#### Comment 7

1. **Sebastian Huber**, Mon, 06 Apr 2020 19:30:50 GMT

I should be fixed.

#### Comment 8

1. **Joel Sherrill**, Mon, 06 Apr 2020 19:44:06 GMT

Thanks. Building with your commit. arm/atsamv fails linking record02.

I will post more as the build progresses or finishes.

#### Comment 9

1. **Sebastian Huber**, Mon, 06 Apr 2020 20:10:32 GMT

The arm/atsamv should be fixed:

<https://git.rtems.org/rtems/diff/bsps/arm/atsam/config/atsamv-testsuite.tcfg?id=92a3a19c757ca0c62eaec2bb55621a562758627b>

#### Comment 10

1. **Joel Sherrill**, Tue, 07 Apr 2020 22:15:03 GMT

In f74d70e6/rtems:

```
lm4f120-testsuite.tcfg: Add psxsignal07
```

```
Updates #3938.
```

#### **Comment 11**

1. **Joel Sherrill**, Tue, 07 Apr 2020 22:15:06 GMT

In fe5d50ed/rtems:

```
lpc1768_mbed_ahb_ram_eth-testsuite.tcfg: Add psxsignal07
```

```
Updates #3938.
```

#### **Comment 12**

1. **Joel Sherrill**, Tue, 07 Apr 2020 22:15:09 GMT

In dcb097a/rtems:

```
lpc2362-testsuite.tcfg: Add psxaoi03 and psxsignal07
```

```
Updates #3938.
```

#### **Comment 13**

1. **Joel Sherrill**, Tue, 07 Apr 2020 22:15:13 GMT

In a7ea726f/rtems:

```
lpc1768_mbed-testsuite.tcfg: Add psxaoi03 and psxsignal07
```

```
Updates #3938.
```

#### **Comment 14**

1. **Joel Sherrill**, Tue, 07 Apr 2020 22:15:16 GMT

In af7e519/rtems:

```
mcf52235-testsuite.tcfg: Add sp16
```

```
Updates #3938.
```

#### **Comment 15**

1. **Joel Sherrill**, Tue, 07 Apr 2020 22:15:19 GMT

In f493534/rtems:

```
lpc23xx_tli800-testsuite.tcfg: Add psxaoi03 and psxsignal07
```

```
Updates #3938.
```

#### **Comment 16**

1. **Sebastian Huber**, Wed, 08 Apr 2020 05:19:24 GMT

Sorry for not catching the POSIX tests. I assigned a bit more RAM to my build ramdisk and now it builds with POSIX enabled.

#### **Comment 17**

1. **Joel Sherrill**, Wed, 08 Apr 2020 13:30:22 GMT

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.

#### **Comment 18**

1. **Joel Sherrill**, Wed, 08 Apr 2020 13:51:02 GMT

2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

### 3944 - qoriq\_e500 BSP bset fails

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3944">https://devel.rtems.org/ticket/3944</a> ( <a href="https://devel.rtems.org/ticket/3944">https://devel.rtems.org/ticket/3944</a> )
<b>Id</b>	3944
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	8 April 2020 14:25:11
<b>Modified</b>	28 April 2020 08:41:36
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Looks like curl isn't building for the qoriq\_e500 bset. This seems like a weird outlier. Any ideas?

```
checking for gethostbyname for Minix 3... no
checking for gethostbyname for eCos... no
checking for gethostbyname for AmigaOS bsdsocket.library... no
checking for gethostbyname in -lnetwork... no
checking for gethostbyname in -lnet... no
configure: error: couldn't find libraries for gethostbyname()
shell cmd failed: /bin/sh -ex /home/joel/rtems-work/rtems-source-builder/rtems/build/curl-v7.65.1-powerpc-rtems5-1/do-build
error: building curl-v7.65.1-powerpc-rtems5-1
```

#### Comment 1

1. **Sebastian Huber**, Thu, 09 Apr 2020 08:00:17 GMT

I tried to reproduce this issue and ended up with this local problem:

```
configure:3441: powerpc-rtems5-gcc --version >&5
powerpc-rtems5-gcc (GCC) 10.0.1 20200407 (experimental) [master revision
fd83c39a6be:52ecef68e56:eed9b787db9ab73968ad4e799de5ce3c2eeb2c6c]
Copyright (C) 2020 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
configure:3452: $? = 0
configure:3441: powerpc-rtems5-gcc -v >&5
Using built-in specs.
COLLECT_GCC=powerpc-rtems5-gcc
COLLECT_LTO_WRAPPER=/opt/rtems/5/lib/gcc/powerpc-rtems5/10.0.1/lto-wrapper
Target: powerpc-rtems5
Configured with: /home/EB/sebastian_h/archive/gcc-git/configure --prefix=/opt/rtems/5 --target=powerpc-rtems5 --verbose --with-gnu-as
--with-gnu-ld --with-newlib --disable-libstdcxx-pch --disable-nls --disable-lto --disable-plugin --without-included-gettext --disable-
wi
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
,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_2
be,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,wi
n
_1255,win_1256,win_1257,win_1258 --enable-newlib-io-c99-formats --enable-libgomp --enable-languages=c,c++
Thread model: rtems
Supported LTO compression algorithms: zlib
gcc version 10.0.1 20200407 (experimental) [master revision fd83c39a6be:52ecef68e56:eed9b787db9ab73968ad4e799de5ce3c2eeb2c6c] (GCC)
configure:3452: $? = 0
configure:3441: powerpc-rtems5-gcc -V >&5
powerpc-rtems5-gcc: error: unrecognized command-line option '-V'
powerpc-rtems5-gcc: fatal error: no input files
compilation terminated.
configure:3452: $? = 1
configure:3441: powerpc-rtems5-gcc -qversion >&5
powerpc-rtems5-gcc: error: unrecognized command-line option '-qversion'; did you mean '--version'?
powerpc-rtems5-gcc: fatal error: no input files
compilation terminated.
configure:3452: $? = 1
configure:3472: checking whether the C compiler works
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
powerpc-rtems5-gcc: error: unrecognized command-line option '-mspe'
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.

#### Comment 2

1. **Sebastian Huber**, Thu, 09 Apr 2020 10:18:04 GMT

The configure check doesn't use the linker garbage collection and this leads to undefined symbols:

```

configure:6802: powerpc-rtems5-gcc -o conftest -qrtems -B/scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/powerpc-rtems5/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
/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':
/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'
/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'
/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'
/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'
/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'

```

**Comment 3**

1. **Sebastian Huber**, Thu, 09 Apr 2020 12:01:34 GMT

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.

**Comment 4**

1. **Sebastian Huber**, Sun, 12 Apr 2020 16:13:52 GMT

Why don't we add `-Wl,--gc-sections` to the standard linker flags?

**Comment 5**

1. **Chris Johns**, Tue, 28 Apr 2020 05:13:43 GMT

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 be used?

**Comment 6**

1. **Chris Johns**, Tue, 28 Apr 2020 05:15:38 GMT

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.

**Comment 7**

1. **Sebastian Huber**, Tue, 28 Apr 2020 05:29:54 GMT

The error was in curl. I sent a patch to fix this issue: <https://lists.rtems.org/pipermail/devel/2020-April/059305.html>

**Comment 8**

1. **Chris Johns**, Tue, 28 Apr 2020 06:29:26 GMT

Can we close the ticket?

**Comment 9**

1. **Sebastian Huber**, Tue, 28 Apr 2020 06:50:26 GMT

The patch is not checked in, you wanted to adjust it a bit: <https://lists.rtems.org/pipermail/devel/2020-April/059311.html>

**Comment 10**

1. **Sebastian Huber**, Tue, 28 Apr 2020 06:51:40 GMT

I can send also a v2 if you like, I just found it would be easier if you adjust it yourself.

**Comment 11**

1. **Chris Johns**, Tue, 28 Apr 2020 07:35:53 GMT

Oh, I am sorry. I will have a look.

**Comment 12**

1. **Chris Johns**, Tue, 28 Apr 2020 07:50:25 GMT

Does rtems\_waf need the change as well? Is libbsd fixed?

**Comment 13**

1. **Sebastian Huber**, Tue, 28 Apr 2020 07:55:04 GMT

Th rtems\_waf and thus libbsd have another workaround to enable the linker garbage collection.

**Comment 14**

1. **Chris Johns**, Tue, 28 Apr 2020 08:41:36 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 13e4dfd/rtems-source-builder:

```
rtems-bsb: Use linker garbage collection for BSP based builds
Close #3944.
```

**3945 - Update DTC example on rtems-docs/user/rsb/configuration.rst**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3945">https://devel.rtems.org/ticket/3945</a> ( <a href="https://devel.rtems.org/ticket/3945">https://devel.rtems.org/ticket/3945</a> )
<b>Id</b>	3945
<b>Reporter</b>	Cláudio Maia
<b>Created</b>	8 April 2020 16:46:21
<b>Modified</b>	28 April 2020 06:27:25
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	normal
<b>Keywords</b>	rtems-docs
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Joel Sherrill**, Wed, 08 Apr 2020 17:17:32 GMT
2. **owner**: set to **Chris Johns**
3. **status**: changed from **new** to **assigned**
4. **milestone**: changed from **6.1** to **5.1**

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.

**Comment 2**

1. **Chris Johns**, Tue, 28 Apr 2020 06:27:25 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In ccc473b/rtems-docs:

user/rsb: Update the configuration documentation  
Closes #3945

---

### **3949 - clock\_settime() can lead to a failed \_Assert()**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3949">https://devel.rtems.org/ticket/3949</a> ( <a href="https://devel.rtems.org/ticket/3949">https://devel.rtems.org/ticket/3949</a> )
<b>Id</b>	3949
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	13 April 2020 17:07:07
<b>Modified</b>	14 April 2020 05:21:53
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

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.

#### **Comment 1**

1. **Sebastian Huber**, Tue, 14 Apr 2020 05:21:50 GMT

In fb07f730/rtems:

```
score: Return status in _TOD_Set()
Update #3949.
```

#### **Comment 2**

1. **Sebastian Huber**, Tue, 14 Apr 2020 05:21:53 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In ea227af/rtems:

```
score: Check time of day in _TOD_Set()
Close #3949.
```

---

### **3953 - rtems\_extensions\_create() accepts a NULL pointer table**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3953">https://devel.rtems.org/ticket/3953</a> ( <a href="https://devel.rtems.org/ticket/3953">https://devel.rtems.org/ticket/3953</a> )
<b>Id</b>	3953
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 April 2020 15:08:28
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### **Description**

It should return `RTEMS_INVALID_ADDRESS` instead.

**Comment 1**

1. **Sebastian Huber**, Fri, 17 Apr 2020 17:51:28 GMT

In 3d73642/rtems:

```
sapi: Add param check to rtems_extension_create()
Check that the extensions table is not NULL. Change format.
Update #3953.
```

**Comment 2**

1. **Sebastian Huber**, Fri, 17 Apr 2020 17:51:43 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In a19be8b/rtems-docs:

```
c-user: Document rtems_extension_create()
Close #3953.
```

**Comment 3**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords:** **qualification** added

**3956 - RSB BSP build with tests does not keep a copy**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3956">https://devel.rtems.org/ticket/3956</a> ( <a href="https://devel.rtems.org/ticket/3956">https://devel.rtems.org/ticket/3956</a> )
<b>Id</b>	3956
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 April 2020 23:23:57
<b>Modified</b>	28 April 2020 05:21:27
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

The tests are not installed by default. Add support to the RSB to copy the tests to the installed BSP prefix.

**Comment 1**

1. **Chris Johns**, Tue, 28 Apr 2020 01:07:49 GMT

In d14da0a/rtems-source-builder:

```
rtems-kernel: Install tests when tests are built
The tests in RTEMS are not installed so if a user requests the tests be built install them. Given the RSB cleans up building the tests and not installing does nothing.
Fix the options handling the kernel build to be consistent
Updates #3956
```

**Comment 2**

1. **Chris Johns**, Tue, 28 Apr 2020 01:32:30 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In b42e051/rtems-docs:



user: Update the RSB BSP quick start to say where the tests are installed

Closes #3956

### Comment 3

1. **Chris Johns**, Tue, 28 Apr 2020 05:21:27 GMT

In 47880bb/rtems-source-builder:

```
rtems-kernel: Fix building without the rtems test option.
```

Updates #3956

## 3960 - Add to FreeBSD host setup information

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3960">https://devel.rtems.org/ticket/3960</a> ( <a href="https://devel.rtems.org/ticket/3960">https://devel.rtems.org/ticket/3960</a> )
<b>Id</b>	3960
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	17 April 2020 20:32:41
<b>Modified</b>	28 April 2020 03:57:05
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

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>

### Comment 1

1. **Chris Johns**, Mon, 27 Apr 2020 00:14:50 GMT

2. **owner:** set to **Chris Johns <chrisj@...>**

3. **status:** changed from **new** to **closed**

4. **resolution:** set to **fixed**

In 7fab12c/rtems-docs:

```
freebsd: Update to reflect the current release 12 requirements
```

Closes #3960

### Comment 2

1. **Joel Sherrill**, Mon, 27 Apr 2020 12:51:10 GMT

I read the change and didn't see sed mentioned. Did you want to make a note about that?

### Comment 3

1. **Sebastian Huber**, Mon, 27 Apr 2020 14:18:21 GMT

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.

### Comment 4

1. **Chris Johns**, Tue, 28 Apr 2020 03:57:05 GMT

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 ...

## 3961 - bsps/arm: CPU counter based on arm generic timer doesn't work correctly

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3961">https://devel.rtems.org/ticket/3961</a> ( <a href="https://devel.rtems.org/ticket/3961">https://devel.rtems.org/ticket/3961</a> )
<b>Id</b>	3961
<b>Reporter</b>	Christian Mauderer
<b>Created</b>	20 April 2020 06:30:19
<b>Modified</b>	20 April 2020 07:08:59
<b>Owner</b>	Christian Mauderer
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3456
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Christian Mauderer**, Mon, 20 Apr 2020 07:08:59 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 222d6879/rtems:

```
bsps/arm: Fix uninitialized value in generic timer
```

```
_CPU_Counter_frequency() can be called by the rtems_counter initialization before arm_gt_clock_initialize() initializes the value used in _CPU_Counter_frequency().
```

```
Closes #3961.
```

---

## 3966 - RSB bare version number if wrong.

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3966">https://devel.rtems.org/ticket/3966</a> ( <a href="https://devel.rtems.org/ticket/3966">https://devel.rtems.org/ticket/3966</a> )
<b>Id</b>	3966
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 May 2020 23:35:52
<b>Modified</b>	8 May 2020 04:34:30
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

The bare/bare-config.cfg has the wrong major version number for RTEMS.

### Comment 1

1. **Chris Johns**, Fri, 08 May 2020 04:34:30 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 955c1c1/rtems-source-builder:

```
bare/qemu: Fixes building on FreeBSD
Move the qemu config to a common file shared by qemu and qemu4. Disable nettle on qemu4, FreeBSD complained. Add some extra git cleaning steps to the git path. These however
```

do not full clean the qemu submodules and it is not worth the effort to try and fix. The devel/qemu will not build on machines with python set to python3. This will not be fixed, use qemu4.  
Closes #3966

### 3967 - Release source package list is out of date

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3967">https://devel.rtems.org/ticket/3967</a> ( <a href="https://devel.rtems.org/ticket/3967">https://devel.rtems.org/ticket/3967</a> )
<b>Id</b>	3967
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 May 2020 23:37:43
<b>Modified</b>	8 May 2020 08:05:35
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	release
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The source package list needs to be reviewed and updated:

```
https://git.rtems.org/rtems-release/tree/rtems-source-packages
```

#### Comment 1

1. **Chris Johns**, Sun, 03 May 2020 23:38:44 GMT
2. **component:** changed from **admin** to **release**

#### Comment 2

1. **Chris Johns**, Fri, 08 May 2020 08:05:35 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

### 3968 - symlinks in RTEMS source tree

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3968">https://devel.rtems.org/ticket/3968</a> ( <a href="https://devel.rtems.org/ticket/3968">https://devel.rtems.org/ticket/3968</a> )
<b>Id</b>	3968
<b>Reporter</b>	Chris Johns
<b>Created</b>	5 May 2020 00:52:18
<b>Modified</b>	9 May 2020 12:10:55
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	test
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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:

```
$ find . -type l
./testsuites/libtests/tar01/symlink
```

MSYS reports:

```
$ find . -type l
./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.

**Comment 1**

1. **Sebastian Huber**, Thu, 07 May 2020 10:32:14 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In ef9517b7/rtems:

```
libtests/tar0[12]: Add tar archive
Do not generate the test tar archive on the host computer since not all file systems support symbolic links.
Close #3968.
```

**Comment 2**

1. **Sebastian Huber**, Sat, 09 May 2020 12:10:55 GMT

In ea2d923/rtems:

```
libtests/tar01: Remove files of tar01.tar archive
Update #3968.
```

**3969 - dl06 fails on all libdl supported architectures**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3969">https://devel.rtems.org/ticket/3969</a> ( <a href="https://devel.rtems.org/ticket/3969">https://devel.rtems.org/ticket/3969</a> )
<b>Id</b>	3969
<b>Reporter</b>	Chris Johns
<b>Created</b>	5 May 2020 01:29:25
<b>Modified</b>	5 May 2020 05:03:58
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	lib/dl
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The test dl06 fails on all libdl supported architectures.

**Comment 1**

1. **Chris Johns**, Tue, 05 May 2020 01:32:22 GMT

In 6de89d9/rtems-tools:

```
linkers/ld: Output all reloc records to the RAP file
Updates #3969
```

**Comment 2**

1. **Chris Johns**, Tue, 05 May 2020 05:03:36 GMT

In 285cda3/rtems:

```
libdl: Fix comment.
Updates #3969
```

**Comment 3**

1. **Chris Johns**, Tue, 05 May 2020 05:03:40 GMT

In fe77587/rtems:

libdl/sparc: Print trace message of reloc failure path

Updates #3969

#### Comment 4

1. **Chris Johns**, Tue, 05 May 2020 05:03:44 GMT

In b77670fd/rtems:

libdl/obj: Fix RAP format call table.

Updates #3969

#### Comment 5

1. **Chris Johns**, Tue, 05 May 2020 05:03:47 GMT

In d5fc2a6a/rtems:

libdl/obj-cache: Fail if the read offset is past the file length  
The check was for greater than and not equal or greater

Updates #3969

#### Comment 6

1. **Chris Johns**, Tue, 05 May 2020 05:03:51 GMT

In 3635d6a/rtems:

libdl/obj-comp: Add trace prints when decompressing

Updates #3969

#### Comment 7

1. **Chris Johns**, Tue, 05 May 2020 05:03:54 GMT

In b7702c54/rtems:

libdl/rap: Correctly check the return enum from rela calls  
The change from bool to an enum did not trip a compiler warning  
and only the rel path was changed. The rela path was missed so  
archs like SPARC failed.

Updates #3969

#### Comment 8

1. **Chris Johns**, Tue, 05 May 2020 05:03:58 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 3f50e8e/rtems:

testsuite/dl06: Add a local define to control tracing

Closes #3969

---

## 3970 - Deprecate use `_RTEMS_version` at API level

---

<b>Link Id</b>	<a href="https://devel.rtems.org/ticket/3970">https://devel.rtems.org/ticket/3970</a> ( <a href="https://devel.rtems.org/ticket/3970">https://devel.rtems.org/ticket/3970</a> )
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 May 2020 12:34:08
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3972, 3978
<b>Blocked by</b>	

---

#### Description

The global variable `_RTEMS_version` was declared via 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.

#### Comment 1

1. **Sebastian Huber**, Tue, 05 May 2020 12:55:41 GMT
2. **blocking**: set to **3972**

#### Comment 2

1. **Sebastian Huber**, Wed, 06 May 2020 06:02:33 GMT

In 4b9b6dd/rtems:

```
Use rtems_get_version_string()
Update #3970.
```

#### Comment 3

1. **Sebastian Huber**, Wed, 06 May 2020 06:02:37 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 34b098e/rtems:

```
rtems: Deprecate use of _RTEMS_version
Close #3970.
```

#### Comment 4

1. **Sebastian Huber**, Mon, 11 May 2020 05:48:32 GMT
2. **blocking**: changed from **3972** to **3972, 3978**

#### Comment 5

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

---

### **3971 - Deprecate use of RTEMS\_MAXIMUM\_NAME\_LENGTH**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3971">https://devel.rtems.org/ticket/3971</a> ( <a href="https://devel.rtems.org/ticket/3971">https://devel.rtems.org/ticket/3971</a> )
<b>Id</b>	3971
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 May 2020 12:46:30
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3972, 3979
<b>Blocked by</b>	

---

#### Description

This define is unused and undocumented. It is available via `. Deprecate its use.`

#### Comment 1

1. **Sebastian Huber**, Tue, 05 May 2020 12:55:41 GMT
2. **blocking**: set to **3972**

#### Comment 2

1. **Sebastian Huber**, Wed, 06 May 2020 06:02:40 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 3d86d83/rtems:

```
rtems: Deprecate RTEMS_MAXIMUM_NAME_LENGTH
```

```
This define is
not documented, not used in the RTEMS code base, and longer than sizeof(rtems_name).
Close #3971.
```

#### Comment 3

1. **Sebastian Huber**, Mon, 11 May 2020 05:49:22 GMT
2. **blocking**: changed from **3972** to **3972, 3979**

#### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
  2. **keywords**: **qualification** added
- 

### 3972 - Deprecate <rtems/system.h>

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3972">https://devel.rtems.org/ticket/3972</a> ( <a href="https://devel.rtems.org/ticket/3972">https://devel.rtems.org/ticket/3972</a> )
<b>Id</b>	3972
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 May 2020 12:55:41
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3980
<b>Blocked by</b>	3970, 3971, 3978, 3979

---

#### Description

This header file is included by `and` and contains only deprecated or internal content. Deprecate its use at API level.

**Comment 1**

1. **Sebastian Huber**, Wed, 06 May 2020 06:02:43 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 63274da/rtems:

```
rtems: Deprecate
Close #3972.
```

**Comment 2**

1. **Sebastian Huber**, Mon, 11 May 2020 05:48:32 GMT
2. **blockedby**: changed from **3970, 3971** to **3970, 3971, 3978**

**Comment 3**

1. **Sebastian Huber**, Mon, 11 May 2020 05:49:22 GMT
2. **blockedby**: changed from **3970, 3971, 3978** to **3970, 3971, 3978, 3979**

**Comment 4**

1. **Sebastian Huber**, Mon, 11 May 2020 05:50:27 GMT
2. **blocking**: set to **3980**

**Comment 5**

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added

**3973 - Add rtems\_get\_copyright\_notice() and deprecate \_Copyright\_Notice**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3973">https://devel.rtems.org/ticket/3973</a> ( <a href="https://devel.rtems.org/ticket/3973">https://devel.rtems.org/ticket/3973</a> )
<b>Id</b>	3973
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	5 May 2020 12:58:51
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	3981
<b>Blocked by</b>	

**Description**

Deprecate the use of `_Copyright_Notice` at API level and instead provide a new function `rtems_get_copyright_notice()`.

**Comment 1**

1. **Sebastian Huber**, Wed, 06 May 2020 06:02:47 GMT

In 1af8e45b/rtems:

```
rtems: Add rtems_get_copyright_notice()
Update #3973.
```

**Comment 2**

1. **Sebastian Huber**, Wed, 06 May 2020 06:02:50 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**



In d30a352/rtems:

rtems: Deprecate \_Copyright\_Notice

Close #3973.

### Comment 3

1. **Sebastian Huber**, Mon, 11 May 2020 06:25:06 GMT
2. **blocking**: set to **3981**

### Comment 4

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
  2. **keywords**: **qualification** added
- 

## 3974 - Deprecate ephipany port in rtems5 and remove in rtems6

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3974">https://devel.rtems.org/ticket/3974</a> ( <a href="https://devel.rtems.org/ticket/3974">https://devel.rtems.org/ticket/3974</a> )
<b>Id</b>	3974
<b>Reporter</b>	Joel Sherrill
<b>Created</b>	7 May 2020 01:28:02
<b>Modified</b>	7 May 2020 04:37:16
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/epiphany
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3941
<b>Blocked by</b>	

---

### Description

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

### Comment 1

1. **Sebastian Huber**, Thu, 07 May 2020 04:36:41 GMT
2. **blocking**: set to **3941**

### Comment 2

1. **Sebastian Huber**, Thu, 07 May 2020 04:37:16 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **fixed**

It is already in the release notes.

---

## 3976 - Released RSB qemu4 source download fails.

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3976">https://devel.rtems.org/ticket/3976</a> ( <a href="https://devel.rtems.org/ticket/3976">https://devel.rtems.org/ticket/3976</a> )
<b>Id</b>	3976
<b>Reporter</b>	Chris Johns
<b>Created</b>	9 May 2020 00:43:47
<b>Modified</b>	10 June 2020 05:00:09
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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:

```
qemu-4.1.0-leon3.patch
qemu-couverture-03a7fbcce52e0bca7f033ccb79e7856e82bb437.tar.gz
qemu-git-v4.1.0.tar.xz
```

**Comment 1**

1. **Chris Johns**, Wed, 10 Jun 2020 00:32:21 GMT

I have fixed the RSB scripts so the release source is referenced and I am now getting this message from QEMU:

```
+ 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-openssl --disable-netmap --disable-nettle
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
This is not a GIT checkout but module content appears to be missing. Do not use 'git archive' or GitHub download links to acquire QEMU source archives. Non-GIT builds are only supported with source archives linked from:
  https://www.qemu.org/download/#source
Developers working with GIT can use scripts/archive-source.sh 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 RISCv core developers before I branch.

**Comment 2**

1. **Chris Johns**, Wed, 10 Jun 2020 05:00:09 GMT

2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In 42b7e8a/rtems-source-builder:

```
devel/qemu4: Use release source tarball
Git cannot be used for a release as our release process does not package the source in a manner qemu expects.
Closes #3976
```

**3987 - ARMv7-M Exception handler does not store the SP**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3987">https://devel.rtems.org/ticket/3987</a> ( <a href="https://devel.rtems.org/ticket/3987">https://devel.rtems.org/ticket/3987</a> )
<b>Id</b>	3987
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	27 May 2020 07:24:32
<b>Modified</b>	27 May 2020 08:25:27
<b>Owner</b>	Sebastian Huber
<b>Type</b>	defect
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The default exception handler on ARMv7-M does not store the SP of the exception context to the exception frame.

#### Comment 1

1. **Sebastian Huber**, Wed, 27 May 2020 08:25:27 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In bd750c9e/rtems:

```
arm: Fix ARMv7-M exception handler
Store the stack pointer of the exception context to the exception frame.
Close #3987.
```

---

### **3992 - Release URL path with sources is wrong**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3992">https://devel.rtems.org/ticket/3992</a> ( <a href="https://devel.rtems.org/ticket/3992">https://devel.rtems.org/ticket/3992</a> )
<b>Id</b>	3992
<b>Reporter</b>	Chris Johns
<b>Created</b>	28 May 2020 23:14:50
<b>Modified</b>	4 June 2020 02:28:53
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	release
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The path is wrong in the release scripts.

#### Comment 1

1. **Chris Johns**, Thu, 04 Jun 2020 02:28:53 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

---

### **3995 - Release doxygen support is broken**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/3995">https://devel.rtems.org/ticket/3995</a> ( <a href="https://devel.rtems.org/ticket/3995">https://devel.rtems.org/ticket/3995</a> )
<b>Id</b>	3995
<b>Reporter</b>	Chris Johns
<b>Created</b>	3 June 2020 04:29:24
<b>Modified</b>	4 June 2020 02:29:11
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	release
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

The doxygen support has been updated in the repository and the release scripts have not been updated.

#### Comment 1

1. **Chris Johns**, Thu, 04 Jun 2020 02:29:11 GMT
  2. **status:** changed from **assigned** to **closed**
  3. **resolution:** set to **fixed**
- 

### 4002 - Beaglebone and PC BSP stacks do not build

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4002">https://devel.rtems.org/ticket/4002</a> ( <a href="https://devel.rtems.org/ticket/4002">https://devel.rtems.org/ticket/4002</a> )
<b>Id</b>	4002
<b>Reporter</b>	Chris Johns
<b>Created</b>	10 June 2020 23:41:56
<b>Modified</b>	15 June 2020 07:33:45
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	3985
<b>Blocked by</b>	

---

#### Description

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.

```

/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/bin/arm-rtems5-gcc \
-qrtems -B/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/lib/ \
-B/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-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/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/beagleboneblack/lib/include \
-L/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/beagleboneblack/lib \
-mcpu=cortex-a8 -Wl,--gc-sections \
-L/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-databases/sqlite/opt/work/rtems5/lib \
conftest.c
/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':
/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/../../../../bsp/arm/shared/start/start.S:202: undefined
reference to `ISR Stack size'
/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/../../../../bsp/arm/shared/start/start.S:207: undefined
reference to `ISR Stack area begin'
/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/librtmsbsp.a(bbb-i2c.o): in function `am335x_i2c_transfer':
/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/../../../../bsp/arm/beagle/i2c/bbb-i2c.c:358: undefined
reference to `Watchdog Microseconds per tick'
/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/../../../../bsp/arm/beagle/i2c/bbb-i2c.c:399: undefined
reference to `Watchdog Microseconds per tick'
/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/../../../../bsp/arm/beagle/i2c/bbb-i2c.c:428: undefined
reference to `Watchdog Microseconds per tick'
/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/../../../../bsp/arm/beagle/i2c/bbb-i2c.c:428: undefined
reference to `Watchdog Microseconds per tick'
/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/./cpukit/dev/i2c/i2c-bus.c:167: undefined reference to
`Watchdog Microseconds per tick'
/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/librtmsbsp.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/lib/librtmsbsp.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/cpukit/../../../../rtems-
153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/dev/i2c/i2c-bus.c:167: undefined reference to
`Watchdog Microseconds per tick' follow
/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/librtmsbsp.a(threadsetstate.o): in function `Scheduler_Block':
/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'
/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'
/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/bin/./lib/gcc/arm-rtems5/7.5.07/../../../../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'
/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/bin/./lib/gcc/arm-rtems5/7.5.07/../../../../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:225: more undefined references to
`Scheduler_Table' follow
/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:225: more undefined references to
`Scheduler_Table' follow
/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/cpukit/../../../../rtems-
153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/schedulerimpl.h:225: more undefined reference to
`User_extensions_Initial_count'
[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.

**Comment 1**

- 1. Chris Johns, Thu, 11 Jun 2020 22:22:46 GMT
- 2. blocking: set to 3985

**Comment 2**

- 1. Sebastian Huber, Mon, 15 Jun 2020 05:15:20 GMT

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? Was something installed in the prefix? Was the build directory clean?

### Comment 3

1. **Sebastian Huber**, Mon, 15 Jun 2020 06:28:23 GMT

This works also:

```
../source-builder/sb-set-builder --prefix=/build/rtems/5.1 --no-clean 5/bsps/beagleboneblack
...
reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-arm-rtems5-1.txt
reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-arm-rtems5-1.xml
staging: protobuf-2.6.1-arm-rtems5-1 -> /scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging
Build Set: Time 0:00:42.319813
Build Set: Time 0:04:07.640366
installing: 5/bsps/beagleboneblack -> /build/rtems/5.1
Staging Size: 3.267GB
Build Set: Time 0:42:13.692753
```

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 -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.

### Comment 4

1. **Chris Johns**, Mon, 15 Jun 2020 06:31:49 GMT

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.

### Comment 5

1. **Chris Johns**, Mon, 15 Jun 2020 06:33:09 GMT

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 -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?

**Comment 6**1. **Sebastian Huber**, Mon, 15 Jun 2020 06:37:40 GMT

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 -
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?

I have an unmodified RSB (cbae90a5817a6b66f8d576b7e95c7df46c5f0833).

**Comment 7**1. **Sebastian Huber**, Mon, 15 Jun 2020 06:43:07 GMT

We have:

```

#
# Check for installed libraries.
#
# - Check is LibBSD is install
# - Add librtemsdefaultconfig so configure scripts work.
#
# Note: default BSP flags include the standard RTEMS libraries.
#
#define rtems-dep-check %({s_bkdir}/sb/rtems-build-dep -c %{with tools}/bin/{rtems_bsp_cc}
#define rtems-libbsd %{rtems-dep-check} -L %{rtems_bsp_libpath} -l libbsd.a)
#if %{rtems-libbsd} == found
  %define rtems_bsp_libs %{rtems_bsp_libs} -lbsd -lm -lz
#endif
#define rtems-defaultconfig %{rtems-dep-check} -L %{rtems_bsp_libpath} -l librtemsdefaultconfig.a)
#if %{rtems-defaultconfig} == found
  %define rtems_bsp_libs %{rtems_bsp_libs} -lrtemsdefaultconfig
#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.**Comment 8**1. **Chris Johns**, Mon, 15 Jun 2020 06:43:29 GMT

Replying to Sebastian Huber:

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 -
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?

This library is a requirement for `rtems-libbsd`. The check is in `rtems/rtems-bsp.cfg`. I wonder is this test is broken ...

```

#define rtems-defaultconfig %{rtems-dep-check} -L %{rtems_bsp_libpath} -l librtemsdefaultconfig.a)
#if %{rtems-defaultconfig} == found
  %define rtems_bsp_libs %{rtems_bsp_libs} -lrtemsdefaultconfig
#endif

```

I have an unmodified RSB (cbae90a5817a6b66f8d576b7e95c7df46c5f0833).

The only difference is the RTEMS 6 tools update.

**Comment 9**1. **Chris Johns**, Mon, 15 Jun 2020 06:59:44 GMT

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 `-litemsdefaultconfig` 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.

#### Comment 10

1. **Chris Johns**, Mon, 15 Jun 2020 07:33:45 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

I am not seeing any error now. This is a error generated by me when looking into #3985.

## 4005 - Remove RTEMS\_MP\_NOT\_CONFIGURED error condition

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4005">https://devel.rtems.org/ticket/4005</a> ( <a href="https://devel.rtems.org/ticket/4005">https://devel.rtems.org/ticket/4005</a> )
<b>Id</b>	4005
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	16 June 2020 05:07:49
<b>Modified</b>	23 June 2021 07:07:55
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	rtems
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	qualification
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

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.

#### Comment 1

1. **Sebastian Huber**, Thu, 18 Jun 2020 05:10:06 GMT

In 46c23871/rtems:

```
rtems: Remove RTEMS_MP_NOT_CONFIGURED error
```

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 network with just one node. One and all nodes is the same in such a network. However, if multiprocessing was configured, creation of a global object in a single node network resulted in an `RTEMS_MP_NOT_CONFIGURED` error. Remove this error condition for symmetry to the non-multiprocessing setup. This is in line with the task affinity behaviour in SMP systems.

Update #4005.

#### Comment 2

1. **Sebastian Huber**, Thu, 18 Jun 2020 05:13:36 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 1b2468c/rtems-docs:

```
c-user: Remove RTEMS_MP_NOT_CONFIGURED error
```

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 network with just one node. One and all nodes is the same in such a network. However, if multiprocessing was configured, creation of a global object in a single node network resulted in an `RTEMS_MP_NOT_CONFIGURED` error. Remove this error condition for symmetry to the non-multiprocessing setup. This is in line with the task affinity behaviour in SMP systems.

Close #4005.

#### Comment 3

1. **Sebastian Huber**, Wed, 23 Jun 2021 07:07:55 GMT
2. **keywords**: **qualification** added



**4006 - rtems-test target\_exe\_filter fails when there is no filter**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4006">https://devel.rtems.org/ticket/4006</a> ( <a href="https://devel.rtems.org/ticket/4006">https://devel.rtems.org/ticket/4006</a> )
<b>Id</b>	4006
<b>Reporter</b>	Chris Johns
<b>Created</b>	16 June 2020 22:42:22
<b>Modified</b>	16 June 2020 22:43:34
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

If a BSP does not have a target\_exe\_filter the executable file name to load is set to None and the load fails.

**Comment 1**

1. **Chris Johns**, Tue, 16 Jun 2020 22:43:34 GMT
2. **owner:** set to **Chris Johns <chrisj@...>**
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 4f5485e/rtems-tools:

```
rtems-test: target_exe_filter fails when there is no filter
Closes #4006
```

---

**4010 - Update mDNSResponder to Apple version v878.30.4**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4010">https://devel.rtems.org/ticket/4010</a> ( <a href="https://devel.rtems.org/ticket/4010">https://devel.rtems.org/ticket/4010</a> )
<b>Id</b>	4010
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	19 June 2020 10:58:40
<b>Modified</b>	23 June 2020 16:23:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Sebastian Huber**, Fri, 19 Jun 2020 11:23:39 GMT

2. **summary:** changed from **Update mDNSResponder to Apple version v878.30.4 (cloned)** to **Update mDNSResponder to Apple version v878.30.4**

#### Comment 2

1. **Sebastian Huber**, Tue, 23 Jun 2020 16:23:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

Changes are included in 5-freebsd-12 and master branch.

---

### 4014 - RSB RTEMS 5 Post Branch Clean

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4014">https://devel.rtems.org/ticket/4014</a> ( <a href="https://devel.rtems.org/ticket/4014">https://devel.rtems.org/ticket/4014</a> )
<b>Id</b>	4014
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 June 2020 00:35:34
<b>Modified</b>	12 August 2020 03:09:26
<b>Owner</b>	Chris Johns
<b>Type</b>	task
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Chris Johns**, Wed, 12 Aug 2020 01:40:33 GMT

In 020c63f/rtems-source-builder:

```
rtems: Remove RTEMS 6 build sets.
Updates #4014
```

#### Comment 2

1. **Chris Johns**, Wed, 12 Aug 2020 01:40:36 GMT

In 673f9ad/rtems-source-builder:

```
5: Remove unused configuration files for the release
Updates #4014
```

#### Comment 3

1. **Chris Johns**, Wed, 12 Aug 2020 01:40:38 GMT

In 4da24fb/rtems-source-builder:

```
bare/libusb: Fix the configuration and add a hash
Updates #4014
```

#### Comment 4

1. **Chris Johns**, Wed, 12 Aug 2020 03:09:26 GMT
  2. **status:** changed from **assigned** to **closed**
  3. **resolution:** set to **fixed**
- 

### 4015 - Sqlite has stopped http access

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4015">https://devel.rtems.org/ticket/4015</a> ( <a href="https://devel.rtems.org/ticket/4015">https://devel.rtems.org/ticket/4015</a> )
<b>Id</b>	4015
<b>Reporter</b>	Chris Johns
<b>Created</b>	26 June 2020 01:47:42
<b>Modified</b>	26 June 2020 01:55:34
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The SQLite website has stopped serving http requests. Change to https.

**Comment 1**

1. **Chris Johns**, Fri, 26 Jun 2020 01:55:34 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 6537f4b/rtems-source-builder:

```
sqlite: Change to https for downloading the source package.
```

```
Closes #4015
```

---

**4016 - shm\_unlink uses uninitialized obj\_err on successful return from \_POSIX\_Shm\_Get\_by\_name**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4016">https://devel.rtems.org/ticket/4016</a> ( <a href="https://devel.rtems.org/ticket/4016">https://devel.rtems.org/ticket/4016</a> )
<b>Id</b>	4016
<b>Reporter</b>	Kinsey Moore
<b>Created</b>	28 June 2020 00:18:51
<b>Modified</b>	11 August 2020 12:52:15
<b>Owner</b>	Kinsey Moore <kinsey.moore@...>
<b>Type</b>	defect
<b>Component</b>	posix
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

In the nominal case checked by spsysinit01, obj\_err in shm\_unlink is unmodified when \_POSIX\_Shm\_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.

**Comment 1**

1. **Chris Johns**, Tue, 30 Jun 2020 07:55:19 GMT
2. **component:** changed from **admin** to **posix**

**Comment 2**

1. **Kinsey Moore**, Thu, 06 Aug 2020 18:45:47 GMT

The patches to fix this for 5.x and master have been posted to the mailing list for a while now.

**Comment 3**

1. **Chris Johns**, Mon, 10 Aug 2020 05:43:55 GMT

Can you please provide the links to the devel list archive for the post patches?

**Comment 4**

1. **Kinsey Moore**, Mon, 10 Aug 2020 11:47:50 GMT

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>

**Comment 5**

1. **Chris Johns**, Mon, 10 Aug 2020 23:26:50 GMT

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.

**Comment 6**

1. **Joel Sherrill**, Tue, 11 Aug 2020 12:33:12 GMT

These are OK to push to the 5 branch and master. According to the mailing list archives, Gedare did review and approve one.

**Comment 7**

1. **Kinsey Moore**, Tue, 11 Aug 2020 12:48:50 GMT

2. **owner:** set to **Kinsey Moore** <[kinsey.moore@...](mailto:kinsey.moore@...)>

3. **status:** changed from **new** to **closed**

4. **resolution:** set to **fixed**

In e95c00a7/rtems:

```
posix: Only check shm_unlink obj_err if necessary
```

In the nominal case checked by spsysinit01, obj\_err is unmodified if \_POSIX\_Shm\_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 tests using it were passing by virtue of the stack having the right value on it in most cases. This now checks obj\_err only if \_POSIX\_Shm\_Get\_by\_name returns NULL.

Close #4016

**Comment 8**

1. **Kinsey Moore**, Tue, 11 Aug 2020 12:52:15 GMT

In 14749c45/rtems:

```
posix: Only check shm_unlink obj_err if necessary
```

In the nominal case checked by spsysinit01, obj\_err is unmodified if \_POSIX\_Shm\_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 tests using it were passing by virtue of the stack having the right value on it in most cases. This now checks obj\_err only if \_POSIX\_Shm\_Get\_by\_name returns NULL.

Close #4016

**4017 - RSB --host and --target option trigger the bset tarball**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4017">https://devel.rtems.org/ticket/4017</a> ( <a href="https://devel.rtems.org/ticket/4017">https://devel.rtems.org/ticket/4017</a> )
<b>Id</b>	4017
<b>Reporter</b>	Chris Johns
<b>Created</b>	29 June 2020 09:19:36
<b>Modified</b>	30 June 2020 08:04:35
<b>Owner</b>	Chris Johns
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Chris Johns**, Tue, 30 Jun 2020 08:04:35 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 9b1545f/rtems-source-builder:

```
sb/options: A Canadian Cross is a different host, build and target
The check must make sure each is different.
Closes #4017
```

**4021 - PowerPC for libbsd does not build**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4021">https://devel.rtems.org/ticket/4021</a> ( <a href="https://devel.rtems.org/ticket/4021">https://devel.rtems.org/ticket/4021</a> )
<b>Id</b>	4021
<b>Reporter</b>	Chris Johns
<b>Created</b>	30 June 2020 07:48:12
<b>Modified</b>	12 August 2020 03:03:06
<b>Owner</b>	Chris Johns <chrisj@...>
<b>Type</b>	defect
<b>Component</b>	network/libbsd
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	high
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

Building a kernel and libbsd for the --with-rtems-bsp=mvme3100 libbsd fails with:

```
In file included from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/include/bsp.h:27:0,
                 from ../../rtemsbsd/include/rtems/bsd/local/opt_usb.h:2,
                 from ../../freebsd/sys/dev/usb/usb.h:46,
                 from ../../freebsd/sys/dev/usb/usb_bsdma.c:53:
/build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/include/libcpu/io.h:53:20: error: redefinition of 'eieio'
static inline void eieio(void)
                 ^~~~~
In file included from ../../freebsd/sys/sys/system.h:45:0,
                 from ../../freebsd/sys/dev/usb/usb_bsdma.c:39:
../../freebsd/sys/powerpc/include/machine/cpufunc.h:168:1: note: previous definition of 'eieio' was here
eieio(void)
^~~~~
In file included from ../../freebsd/sys/sys/system.h:45:0,
                 from ../../rtemsbsd/sys/arm/at91/at91_mci.c:38:
../../freebsd/sys/powerpc/include/machine/cpufunc.h:168:1: error: redefinition of 'eieio'
eieio(void)
^~~~~
In file included from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/include/bsp.h:27:0,
                 from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/include/bsp/fdt.h:18,
                 from ../../rtemsbsd/include/rtems/bsd/local/opt_platform.h:1,
                 from ../../rtemsbsd/sys/arm/at91/at91_mci.c:32:
/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
static inline void eieio(void)
                 ^~~~~
```

This is using 5.1.0-rc1.

**Comment 1**

1. **Chris Johns**, Tue, 30 Jun 2020 07:49:56 GMT
2. **description:** modified (diff)

**Comment 2**

1. **Chris Johns**, Sat, 25 Jul 2020 05:50:55 GMT

There are a number of versions of eieio in RTEMS. The implementation in io.h is:

```
asm volatile ("eieio");
```

and the FreeBSD is:

```
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.

**Comment 3**

1. **Sebastian Huber**, Mon, 27 Jul 2020 04:42:09 GMT

The "memory" clobber is important. Without it this instruction makes little sense.

I think the real issue is the includes .

We also have an `ppc_enforce_in_order_execution_of_io()` in .

**Comment 4**

1. **Chris Johns**, Tue, 28 Jul 2020 05:37:18 GMT

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 includes .

We also have an `ppc_enforce_in_order_execution_of_io()` in .

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.

**Comment 5**

1. **Chris Johns**, Wed, 12 Aug 2020 03:03:06 GMT
2. **owner:** set to **Chris Johns** <[chrisj@...](mailto:chrisj@...)>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 5284e812/rtems:

```
powerpc/io: The eieio() function clashes with FreeBSD. Change.
```

```
Closes #4021
```

**4028 - i386: SMP-System hangs with non-consecutive APIC IDs**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4028">https://devel.rtems.org/ticket/4028</a> ( <a href="https://devel.rtems.org/ticket/4028">https://devel.rtems.org/ticket/4028</a> )
<b>Id</b>	4028
<b>Reporter</b>	Jan Sommer
<b>Created</b>	15 July 2020 15:36:19
<b>Modified</b>	8 October 2020 13:30:29
<b>Owner</b>	Jan Sommer < <a href="mailto:jan.sommer@...">jan.sommer@...</a> >
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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.

**Comment 1**

1. **Jan Sommer**, Wed, 15 Jul 2020 15:44:29 GMT

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.

**Comment 2**

1. **Jan Sommer**, Thu, 16 Jul 2020 13:08:26 GMT
2. **owner:** set to **Jan Sommer** <[jan.sommer@...](mailto:jan.sommer@...)>
3. **status:** changed from **new** to **closed**

4. **resolution:** set to **fixed**

In a1f9265c/rtems:

```
bsps/pc386: Fix IPI for non-consecutive APICIDs
properly use the cpu <-> apic maps for IPIs
Closes #4028.
```

**Comment 3**1. **Joel Sherrill**, Thu, 08 Oct 2020 13:30:29 GMT

In 560c08c/rtems:

```
bsps/include/bsp/fatal.h: Add GRLIB specific fatal error
updates #4028.
```

**4030 - i386: ISR can overwrite its own stack during system initialization**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4030">https://devel.rtems.org/ticket/4030</a> ( <a href="https://devel.rtems.org/ticket/4030">https://devel.rtems.org/ticket/4030</a> )
<b>Id</b>	4030
<b>Reporter</b>	Jan Sommer
<b>Created</b>	22 July 2020 12:38:02
<b>Modified</b>	29 July 2020 09:41:18
<b>Owner</b>	Jan Sommer <jan.sommer@...>
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	major
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Jan Sommer**, Wed, 29 Jul 2020 09:41:18 GMT
2. **owner:** set to **Jan Sommer** <jan.sommer@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 849d7418/rtems:

```
i386: Fix possible race condition on first context restore
Make sure that the esp is restored before the eflags register.
```

```
When the init task is initially restored, system interrupts are activated when the eflags register is loaded. If the esp register still
points to an address in the interrupt stack area (from early system initialization) the ISR might overwrite its own stack.
```

```
Closes #4030
```

**4033 - Add rtems\_interrupt\_server\_create() and rtems\_interrupt\_server\_destroy()**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4033">https://devel.rtems.org/ticket/4033</a> ( <a href="https://devel.rtems.org/ticket/4033">https://devel.rtems.org/ticket/4033</a> )
<b>Id</b>	4033
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	31 July 2020 06:52:59
<b>Modified</b>	5 August 2020 05:01:10
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Sebastian Huber**, Sat, 01 Aug 2020 09:55:44 GMT
2. **description:** modified (diff)
3. **summary:** changed from **Add `rtems_interrupt_server_build()` and `rtems_interrupt_server_destroy()` to Add `rtems_interrupt_server_create()` and `rtems_interrupt_server_destroy()`**

### Comment 2

1. **Sebastian Huber**, Mon, 03 Aug 2020 06:51:58 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 5eb07731/rtems:

```
rtems: Add rtems_interrupt_server_create()
Add rtems_interrupt_server_destroy().
```

Before this patch, the only way to create interrupt servers was `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 implemented before this patch.

Close #4033.

### Comment 3

1. **Sebastian Huber**, Wed, 05 Aug 2020 05:00:20 GMT

In 534f9dbe/rtems:

```
arm/atsam: Make interrupt server configurable
```

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.

Close #4038.

### Comment 4

1. **Sebastian Huber**, Wed, 05 Aug 2020 05:01:10 GMT

In 1b421585/rtems:

```
arm/atsam: Make interrupt server configurable
```

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.



[Close #4039.](#)

## 4038 - arm/atsam/SC16IS752: Make interrupt server configurable

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4038">https://devel.rtems.org/ticket/4038</a> ( <a href="https://devel.rtems.org/ticket/4038">https://devel.rtems.org/ticket/4038</a> )
<b>Id</b>	4038
<b>Reporter</b>	Sebastian Huber
<b>Created</b>	3 August 2020 07:41:35
<b>Modified</b>	5 August 2020 05:00:20
<b>Owner</b>	Sebastian Huber
<b>Type</b>	enhancement
<b>Component</b>	arch/arm
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Sebastian Huber**, Wed, 05 Aug 2020 05:00:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 534f9dbe/rtems:

```
arm/atsam: Make interrupt server configurable
```

```
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.
```

Close #4038.

---

## 4049 - RTEMS version number 5.1 breaks RTEMS version code

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4049">https://devel.rtems.org/ticket/4049</a> ( <a href="https://devel.rtems.org/ticket/4049">https://devel.rtems.org/ticket/4049</a> )
<b>Id</b>	4049
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 August 2020 03:08:27
<b>Modified</b>	14 August 2020 21:17:56
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	build
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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:

```

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/defs.h:31:0,
   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,
   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,
   from ../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:27:
../../../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c: In function 'rtems version minor':
/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)
#define __RTEMS_MINOR__ 1-rc2
   ^
../../../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:48:10: note: in expansion of macro '__RTEMS_MINOR__'
   return __RTEMS_MINOR__;
         ^
/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
#define __RTEMS_MINOR__ 1-rc2
   ^
../../../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:48:10: note: in expansion of macro '__RTEMS_MINOR__'
   return __RTEMS_MINOR__;
         ^
../../../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:49:1: warning: control reaches end of non-void function [-Wreturn-type]
}
^
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.

#### Comment 1

1. **Chris Johns**, Fri, 14 Aug 2020 21:17:56 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

Fixed on the 5 branch of rtems-release.git.

### 4051 - libbsd test fails to build

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4051">https://devel.rtems.org/ticket/4051</a> ( <a href="https://devel.rtems.org/ticket/4051">https://devel.rtems.org/ticket/4051</a> )
<b>Id</b>	4051
<b>Reporter</b>	Chris Johns
<b>Created</b>	13 August 2020 08:44:07
<b>Modified</b>	14 August 2020 21:18:29
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	release
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	blocker
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

```

In file included from ../../testsuite/cdev01/test_main.c:153:0:
../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE' undeclared (first use in this function); did you mean
'TEST_WRITE'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_WRITE
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each undeclared identifier is reported only once for each function it
appears in
In file included from ../../testsuite/arphole/test_main.c:118:0:
../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
../../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'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../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
In file included from ../../testsuite/commands01/test_main.c:340:0:
../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE' undeclared (first use in this function); did you mean
'TEST_NAME'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each undeclared identifier is reported only once for each function it
appears in
In file included from ../../testsuite/condvar01/test_main.c:404:0:
../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE' undeclared (first use in this function); did you mean
'TEST_NAME'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each undeclared identifier is reported only once for each function it
appears in
In file included from ../../testsuite/dhcpd01/test_main.c:78:0:
../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
../../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'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../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
In file included from ../../testsuite/crypto01/test_main.c:204:0:
../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE' undeclared (first use in this function); did you mean
'TEST_NAME'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each undeclared identifier is reported only once for each function it
appears in
In file included from ../../testsuite/dhcpd02/test_main.c:55:0:
../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
../../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'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../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
../../testsuite/evdev01/init.c: In function 'Init':
../../testsuite/evdev01/init.c:574:30: error: 'TEST_STATE' undeclared (first use in this function); did you mean 'TEST_NAME'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../testsuite/evdev01/init.c:574:30: note: each undeclared identifier is reported only once for each function it appears in
In file included from ../../testsuite/foobarclient/test_main.c:283:0:
../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
../../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'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../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
In file included from ../../testsuite/foobarserver/test_main.c:227:0:
../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
../../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'?
    rtems_test_begin(TEST_NAME, TEST_STATE);
                        ^~~~~~
                        TEST_NAME
../../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
../../testsuite/epoch01/test_main.c:82:2: error: unknown type name 'rtems_test_parallel_context'
    rtems_test_parallel_context base;
    ^~~~~~
../../testsuite/epoch01/test_main.c:100:11: error: unknown type name 'rtems_test_parallel_context'; did you mean
'rtems_assert_context'?
    test_init(rtems_test_parallel_context *base, void *arg, size_t active_workers)
             ^~~~~~
    rtems_assert_context
../../testsuite/epoch01/test_main.c:110:11: error: unknown type name 'rtems_test_parallel_context'; did you mean
'rtems_assert_context'?
    test_fini(rtems_test_parallel_context *base, const char *name,

```

**Comment 1**

1. **Chris Johns**, Thu, 13 Aug 2020 08:47:07 GMT

The build log is showing:

```
+ 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.

**Comment 2**

1. **Chris Johns**, Thu, 13 Aug 2020 11:57:05 GMT

2. **component:** changed from **network/libbsd** to **release**

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:

```
Package rtems-source-builder 5: master
```

The branch should be 5 not master.

**Comment 3**

1. **Chris Johns**, Fri, 14 Aug 2020 21:18:29 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

Fix, the right branch is being used.

**4056 - bsp/xilinx-zynq: Flush TX-Buffer before initializing the zynq-uart (cloned)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4056">https://devel.rtems.org/ticket/4056</a> ( <a href="https://devel.rtems.org/ticket/4056">https://devel.rtems.org/ticket/4056</a> )
<b>Id</b>	4056
<b>Reporter</b>	Jan Sommer
<b>Created</b>	20 August 2020 07:12:07
<b>Modified</b>	22 August 2020 07:30:22
<b>Owner</b>	Jan Sommer <jan.sommer@...>
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Comment 1**

1. **Jan Sommer**, Sat, 22 Aug 2020 07:29:38 GMT
2. **owner:** set to **Jan Sommer** <jan.sommer@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In b87efa7/rtems:

```
bsp/xilinx-zynq: Flush TX-Buffer before initializing uart
Closes #4055 Closes #4056
```

**Comment 2**

1. **Jan Sommer**, Sat, 22 Aug 2020 07:30:22 GMT

In 61ccb9c0/rtems:

```
bsp/xilinx-zynq: Flush TX-Buffer before initializing uart
Closes #4055 Closes #4056
```

**4057 - RSB 5/rtems-arm fails to build on Windows**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4057">https://devel.rtems.org/ticket/4057</a> ( <a href="https://devel.rtems.org/ticket/4057">https://devel.rtems.org/ticket/4057</a> )
<b>Id</b>	4057
<b>Reporter</b>	Chris Johns
<b>Created</b>	20 August 2020 22:31:06
<b>Modified</b>	25 August 2020 04:05:44
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/newlib
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	highest
<b>Severity</b>	critical
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

```
In file included from ../../../../../../../../../../../../../../gcc-7.5.0/newlib/libm/machine/arm/s_ceil.c:39:0:
../../../../../../../../../../../../../../../../gcc-7.5.0/newlib/libm/machine/arm/../../../../math/s_ceil.c:23:10: fatal error: fdlibm.h: No such file or
directory
#include "fdlibm.h"
      ^~~~~~
compilation terminated.
make[9]: *** [Makefile:310: lib_a-s_ceil.o] Error 1
make[9]: *** Waiting for unfinished jobs....
In file included from ../../../../../../../../../../../../../../gcc-7.5.0/newlib/libm/machine/arm/s_floor.c:39:0:
../../../../../../../../../../../../../../../../gcc-7.5.0/newlib/libm/machine/arm/../../../../math/s_floor.c:65:10: fatal error: fdlibm.h: No such file or
directory
#include "fdlibm.h"
      ^~~~~~
compilation terminated.
```

**Comment 1**

1. **Chris Johns**, Tue, 25 Aug 2020 04:05:44 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **fixed**

I am going to close this. The issues I am seeing with rtems-release-test on Windows/libm are related to file paths exceeding the maximum limit on Windows.

**4083 - i386: bad asm in smp mode (rtems.git/5)**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4083">https://devel.rtems.org/ticket/4083</a> ( <a href="https://devel.rtems.org/ticket/4083">https://devel.rtems.org/ticket/4083</a> )
<b>Id</b>	4083
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	21 September 2020 17:22:31
<b>Modified</b>	2 October 2020 16:40:19
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	arch/i386
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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 assembler 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.

**Comment 1**

1. **Gedare Bloom**, Mon, 21 Sep 2020 17:23:05 GMT
2. **description**: modified (diff)

**Comment 2**

1. **Gedare Bloom**, Fri, 02 Oct 2020 16:40:19 GMT
2. **status**: changed from **assigned** to **closed**
3. **resolution**: set to **fixed**

In 40f23cea/rtems:

```
i386/score: fix assembly mnemonic
```

```
This is a backport for assembler error observed in 6. Although the assembler error does not appear in 5, the backport was requested.
```

```
Closes #4083.
```

**4137 - The select mechanism does not support asynchronous device communication**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4137">https://devel.rtems.org/ticket/4137</a> ( <a href="https://devel.rtems.org/ticket/4137">https://devel.rtems.org/ticket/4137</a> )
<b>Id</b>	4137
<b>Reporter</b>	only_yipie
<b>Created</b>	9 October 2020 10:58:44
<b>Modified</b>	10 November 2022 00:01:46
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	select
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

The select mechanism does not support asynchronous device communication.

**Comment 1**

1. **only\_yipie**, Fri, 09 Oct 2020 11:22:27 GMT
2. **milestone**: changed from **4.9.5** to **5.1**

**Comment 2**

1. **Joel Sherrill**, Fri, 09 Oct 2020 12:49:30 GMT

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.

**Comment 3**

1. **only\_yipie**, Sun, 21 Mar 2021 08:33:26 GMT
2. **version**: changed from **4.9** to **4.11**

**Comment 4**

1. **only\_yipie**, Sun, 21 Mar 2021 09:36:44 GMT

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.

**Comment 5**

1. **Chris Johns**, Thu, 10 Nov 2022 00:01:46 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

We need more information to work on this.

---

## **4138 - the atomicity of some operations cannot be guaranteed.**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4138">https://devel.rtems.org/ticket/4138</a> ( <a href="https://devel.rtems.org/ticket/4138">https://devel.rtems.org/ticket/4138</a> )
<b>Id</b>	4138
<b>Reporter</b>	only_yipie
<b>Created</b>	9 October 2020 11:11:21
<b>Modified</b>	10 November 2022 00:02:42
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/gcc
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	gcc atomicity.h
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### **Description**

The atomic operations `_atomic_add()` and `exchange_and_add()` of the gcc386 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".

### **Comment 1**

1. **only\_yipie**, Fri, 09 Oct 2020 11:24:16 GMT
2. **milestone**: changed from **4.9.5** to **5.1**

### **Comment 2**

1. **Joel Sherrill**, Fri, 09 Oct 2020 11:25:57 GMT
- Is this not fixed with the recent multilib change?

### **Comment 3**

1. **only\_yipie**, Sun, 21 Mar 2021 09:32:21 GMT
2. **version**: changed from **4.9** to **4.11**

### **Comment 4**

1. **only\_yipie**, Sun, 21 Mar 2021 09:33:42 GMT

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?

---

### **Comment 5**

1. **Chris Johns**, Thu, 10 Nov 2022 00:02:42 GMT
2. **status**: changed from **new** to **closed**
3. **version**: changed from **4.11** to **5**
4. **resolution**: set to **wontfix**

Please reopen with the mentioned changes.

---

## **4139 - low efficiency of sending inter-core interrupts**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4139">https://devel.rtems.org/ticket/4139</a> ( <a href="https://devel.rtems.org/ticket/4139">https://devel.rtems.org/ticket/4139</a> )
<b>Id</b>	4139
<b>Reporter</b>	only_yipie
<b>Created</b>	9 October 2020 11:19:06
<b>Modified</b>	10 November 2022 00:06:24
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	lib
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	inter-core interrupts
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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".

#### Comment 1

1. **only\_yipie**, Fri, 09 Oct 2020 11:24:39 GMT
2. **milestone**: changed from **4.9.5** to **5.1**

#### Comment 2

1. **only\_yipie**, Sun, 21 Mar 2021 09:31:00 GMT
2. **version**: changed from **4.9** to **4.11**

we improve the performance by deleting the udelay(100)

#### Comment 3

1. **Chris Johns**, Thu, 10 Nov 2022 00:06:24 GMT
2. **status**: changed from **new** to **closed**
3. **version**: changed from **4.11** to **5**
4. **resolution**: set to **wontfix**

Please reopen when the fixes are provided.

---

## 4170 - Raspberry Pi booting files from master branch not working

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4170">https://devel.rtems.org/ticket/4170</a> ( <a href="https://devel.rtems.org/ticket/4170">https://devel.rtems.org/ticket/4170</a> )
<b>Id</b>	4170
<b>Reporter</b>	Miguel Garcia-Gordillo
<b>Created</b>	4 November 2020 08:50:37
<b>Modified</b>	10 November 2022 00:07:39
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	doc
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	raspberrypi2, boot
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 00:07:39 GMT



2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

Please use RTEMS 6 (main branch)

---

## 4210 - rtems-record-ltng '-e' option does not verify existence

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4210">https://devel.rtems.org/ticket/4210</a> ( <a href="https://devel.rtems.org/ticket/4210">https://devel.rtems.org/ticket/4210</a> )
<b>Id</b>	4210
<b>Reporter</b>	Ryan Long
<b>Created</b>	4 January 2021 22:55:59
<b>Modified</b>	10 November 2022 00:08:28
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 00:08:28 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

Please reopen when a fix is provided.

---

## 4325 - Ubuntu's gcc preventing QEMU from being built

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4325">https://devel.rtems.org/ticket/4325</a> ( <a href="https://devel.rtems.org/ticket/4325">https://devel.rtems.org/ticket/4325</a> )
<b>Id</b>	4325
<b>Reporter</b>	Ryan Long
<b>Created</b>	9 March 2021 15:05:27
<b>Modified</b>	10 November 2022 00:09:34
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Ubuntu version: 20.4  
GCC version: (Ubuntu 9.3.0-17ubuntu1~20.04) 9.3.0

Error:

```

../../glib-2.46.2/gio/gdbusauth.c: In function '_g_dbus_auth_run_server':
../../glib-2.46.2/gio/gdbusauth.c:1295:11: error: '%s' directive argument is null [-Werror=format-overflow=]
1295 |         debug_print ("SERVER: WaitingForBegin, read '%s'", line);

```

### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 00:09:34 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **wontfix**

Please reopen when being worked on or a fix is available.

---

**4352 - about get cpu number**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4352">https://devel.rtems.org/ticket/4352</a> ( <a href="https://devel.rtems.org/ticket/4352">https://devel.rtems.org/ticket/4352</a> )
<b>Id</b>	4352
<b>Reporter</b>	only_yipie
<b>Created</b>	21 March 2021 09:11:45
<b>Modified</b>	10 November 2022 00:10:48
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	bsps
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	cpu number
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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  
c:\src\lib\libbsp\i386\shared\smp\smp-imp.c  
c:\src\lib\libbsp\i386\shared\smp\getcpuid.c

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 00:10:48 GMT
2. **status**: changed from **new** to **closed**
3. **version**: changed from **4.11** to **5**
4. **resolution**: set to **wontfix**

Please reopen when being worked on or a fix is available.

---

**4353 - the pci initialization part cannot pass the initialization**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4353">https://devel.rtems.org/ticket/4353</a> ( <a href="https://devel.rtems.org/ticket/4353">https://devel.rtems.org/ticket/4353</a> )
<b>Id</b>	4353
<b>Reporter</b>	only_yipie
<b>Created</b>	21 March 2021 09:26:25
<b>Modified</b>	10 November 2022 00:11:16
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	wontfix
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

the pci initialization part of x86 version cannot be initialized on the real machine. the realted file is  
bsp/i386/shared/pci/pcibios.c

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 00:11:16 GMT
2. **status**: changed from **new** to **closed**
3. **version**: changed from **4.11** to **5**
4. **resolution**: set to **wontfix**

Please reopen when being worked on or a fix is available.

---

**4362 - about error number**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4362">https://devel.rtems.org/ticket/4362</a> ( <a href="https://devel.rtems.org/ticket/4362">https://devel.rtems.org/ticket/4362</a> )
<b>Id</b>	4362
<b>Reporter</b>	only_yipie
<b>Created</b>	27 March 2021 02:32:47
<b>Modified</b>	10 November 2022 01:07:27
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	low
<b>Severity</b>	trivial
<b>Keywords</b>	ERROR NUMBER
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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  
cpukit\ftpd\ftpd.h in line 66 #define ERROR 5

#### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 01:07:27 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**
4. **version**: changed from **4.11** to **5**
5. **component**: changed from **admin** to **network/legacy**

I do not understand the issue.

---

### 4385 - grlib/genirq: Bad returned value when enabling/disabling interrupt

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4385">https://devel.rtems.org/ticket/4385</a> ( <a href="https://devel.rtems.org/ticket/4385">https://devel.rtems.org/ticket/4385</a> )
<b>Id</b>	4385
<b>Reporter</b>	GabrielMoyano
<b>Created</b>	13 April 2021 05:46:42
<b>Modified</b>	16 April 2021 06:50:42
<b>Owner</b>	Moyano Gabriel <gabriel.moyano@...>
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

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.

#### Comment 1

1. **Moyano, Gabriel**, Fri, 16 Apr 2021 06:50:42 GMT
2. **owner**: set to **Moyano, Gabriel** <gabriel.moyano@...>
3. **status**: changed from **new** to **closed**
4. **resolution**: set to **fixed**

In bc806d4/rtems:

```
grlib/genirq: Taking into account that it could be more than one ISR enabled/disabled
```

```
Closes #4385
```

## 4457 - shell command problem

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4457">https://devel.rtems.org/ticket/4457</a> ( <a href="https://devel.rtems.org/ticket/4457">https://devel.rtems.org/ticket/4457</a> )
<b>Id</b>	4457
<b>Reporter</b>	tianye
<b>Created</b>	11 June 2021 08:22:06
<b>Modified</b>	10 November 2022 00:41:51
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	shell
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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

### Comment 1

1. **tianye**, Fri, 11 Jun 2021 08:22:59 GMT
2. **summary:** changed from **shell command task problem** to **shell command problem**

### Comment 2

1. **Chris Johns**, Thu, 10 Nov 2022 00:41:51 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**
4. **component:** changed from **admin** to **shell**

Not sure what the issue is.

---

## 4465 - m68k/uC5282: \_fini epilog is missing

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4465">https://devel.rtems.org/ticket/4465</a> ( <a href="https://devel.rtems.org/ticket/4465">https://devel.rtems.org/ticket/4465</a> )
<b>Id</b>	4465
<b>Reporter</b>	Gedare Bloom
<b>Created</b>	1 July 2021 18:53:31
<b>Modified</b>	1 July 2021 19:00:58
<b>Owner</b>	Gedare Bloom
<b>Type</b>	defect
<b>Component</b>	arch/m68k
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

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.

### Comment 1

1. **Gedare Bloom**, Thu, 01 Jul 2021 19:00:58 GMT
2. **status:** changed from **assigned** to **closed**

3. **resolution:** set to **fixed**

In e5a1b15/rtems:

```
m68k/uc5282: linkcmds KEEP and SORT sections
```

```
Fixes a problem with bad epilog code in _fini and to keep sections necessary with the -ffunction/data-sections.
```

```
Closes #4465.
```

**4495 - rtems-tools does not build with up-to-date llvm**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4495">https://devel.rtems.org/ticket/4495</a> ( <a href="https://devel.rtems.org/ticket/4495">https://devel.rtems.org/ticket/4495</a> )
<b>Id</b>	4495
<b>Reporter</b>	Christian Mauderer
<b>Created</b>	17 August 2021 06:39:51
<b>Modified</b>	17 August 2021 10:58:20
<b>Owner</b>	Christian Mauderer
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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>

**Comment 1**

1. **Christian Mauderer**, Tue, 17 Aug 2021 09:21:59 GMT

In 0a5d205/rtems-tools:

```
trace: Use c++14 instead of c++11 if possible
```

```
llvm version 10 uses features from c++14 standard in the headers. With that, the record/record-main-lttng.cc doesn't build any more. This patch makes sure that c++14 is used if it is available.
```

```
Updates #4495
```

**Comment 2**

1. **Christian Mauderer**, Tue, 17 Aug 2021 10:58:20 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In c7870f6/rtems-source-builder:

```
rtems-tools: Pick up fix for modern llvm
```

```
Closes #4495
```

**4535 - access JFFS2 sb->s\_root question**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4535">https://devel.rtems.org/ticket/4535</a> ( <a href="https://devel.rtems.org/ticket/4535">https://devel.rtems.org/ticket/4535</a> )
<b>Id</b>	4535
<b>Reporter</b>	chenjin_zhong
<b>Created</b>	27 October 2021 14:34:15
<b>Modified</b>	28 October 2021 05:21:11
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	fs/jffs2
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

## Description

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.
```

## Comment 1

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:19:18 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@... mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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);
}
```

## Comment 2

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:21:11 GMT
2. **component**: changed from **admin** to **fs/jffs2**

**4536 - access JFFS2 sb->s\_root**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4536">https://devel.rtems.org/ticket/4536</a> ( <a href="https://devel.rtems.org/ticket/4536">https://devel.rtems.org/ticket/4536</a> )
<b>Id</b>	4536
<b>Reporter</b>	chenjin_zhong
<b>Created</b>	27 October 2021 14:47:06
<b>Modified</b>	28 October 2021 18:29:00
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	fs/jffs2
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.
```

**Comment 1**

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:19:37 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@... mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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);
}
```

**Comment 2**

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:21:30 GMT

2. **component:** changed from **admin** to **fs/jffs2**

### Comment 3

1. **chenjin\_zhong**, Thu, 28 Oct 2021 14:53:51 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **invalid** deleted

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@... mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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.

### Comment 4

1. **Sebastian Huber**, Thu, 28 Oct 2021 18:29:00 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **invalid**

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@... mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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`.

## 4537 - mutex is not initialized in jffs2\_new\_inode

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4537">https://devel.rtems.org/ticket/4537</a> ( <a href="https://devel.rtems.org/ticket/4537">https://devel.rtems.org/ticket/4537</a> )
<b>Id</b>	4537
<b>Reporter</b>	chenjin_zhong
<b>Created</b>	27 October 2021 14:59:07
<b>Modified</b>	28 October 2021 14:45:13
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	fs/jffs2
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

### Description

Hi, I have found when call `jffs2_new_inode` to create inode. the `f->sem` is not initialized 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%x\n", 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_je16(mode);
ret = jffs2_do_new_inode(c, f, mode, ri);
if (ret) {
```

```
    forceful evict: f->sem is locked already, 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;
}
```

```
}
```

#### Comment 1

1. **Joel Sherrill**, Wed, 27 Oct 2021 18:38:19 GMT

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.

#### Comment 2

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:20:02 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@... mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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);
}
```

#### Comment 3

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:20:15 GMT
2. **component**: changed from **admin** to **fs/jffs2**

#### Comment 4

1. **chenjin\_zhong**, Thu, 28 Oct 2021 14:34:47 GMT

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.

<pre>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;</pre>
<pre>jffs2_dbg(1, "%s(): ino == %lu\n", func, ino);</pre>
<pre>inode = iget_locked(sb, ino); if (!inode)</pre>
<pre>    return ERR_PTR(-ENOMEM);</pre>
<pre>if (!(inode-&gt;i_state &amp; I_NEW))</pre>
<pre>    return inode;</pre>
<pre>f = JFFS2_INODE_INFO(inode); c = JFFS2_SB_INFO(inode-&gt;i_sb);</pre>
<pre>jffs2_init_inode_info(f); __mutex_lock(&amp;f-&gt;sem); __</pre>
<pre>ret = jffs2_do_read_inode(c, f, inode-&gt;i_ino, &amp;latest_node); if (ret)</pre>
<pre>    goto error;</pre>
<pre>inode-&gt;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-&gt;i_size = je32_to_cpu(latest_node.isize); inode-&gt;i_atime = ITIME(je32_to_cpu(latest_node.atime)); inode-&gt; i_mtime = ITIME(je32_to_cpu(latest_node.mtime)); inode-&gt;i_ctime = ITIME(je32_to_cpu(latest_node.ctime));</pre>
<pre>set_nlink(inode, f-&gt;inocache-&gt;pino_nlink);</pre>
<pre>inode-&gt;i_blocks = (inode-&gt;i_size + 511) &gt;&gt; 9;</pre>

#### Comment 5

1. **chenjin\_zhong**, Thu, 28 Oct 2021 14:42:27 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **invalid** deleted

#### Comment 6

1. **Sebastian Huber**, Thu, 28 Oct 2021 14:45:13 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **invalid**

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.\_\_

### 4538 - mutex is not initilaized in jffs2\_read\_inode

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4538">https://devel.rtems.org/ticket/4538</a> ( <a href="https://devel.rtems.org/ticket/4538">https://devel.rtems.org/ticket/4538</a> )
<b>Id</b>	4538
<b>Reporter</b>	chenjin_zhong
<b>Created</b>	27 October 2021 15:13:14
<b>Modified</b>	28 October 2021 18:26:10
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	fs/jffs2
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

#### Description

Hi, I have found when call `jffs2_read_inode` to read inode. the `f->sem` is not initialized and locked, but it is 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 == %lu\n", 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() returning\n"));
    return 0;
```

```
}
```

#### Comment 1

1. **Sebastian Huber**, Thu, 28 Oct 2021 05:20:50 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**
4. **component:** changed from **admin** to **fs/jffs2**

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the `devel@...` mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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);
}
```

#### Comment 2

1. **chenjin\_zhong**, Thu, 28 Oct 2021 14:40:25 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **invalid** deleted

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@...` mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
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);
}
```

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;

```

**Comment 3**

1. **Sebastian Huber**, Thu, 28 Oct 2021 14:43:37 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **invalid**

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.\_\_

**Comment 4**

1. **chenjin\_zhong**, Thu, 28 Oct 2021 15:05:51 GMT

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.

**Comment 5**

1. **chenjin\_zhong**, Thu, 28 Oct 2021 15:07:51 GMT
2. **status:** changed from **closed** to **reopened**
3. **resolution:** **invalid** deleted

**Comment 6**

1. **Sebastian Huber**, Thu, 28 Oct 2021 18:26:10 GMT
2. **status:** changed from **reopened** to **closed**
3. **resolution:** set to **invalid**

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.

**4539 - rtems\_filesystem\_table compile**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4539">https://devel.rtems.org/ticket/4539</a> ( <a href="https://devel.rtems.org/ticket/4539">https://devel.rtems.org/ticket/4539</a> )
<b>Id</b>	4539
<b>Reporter</b>	chenjin_zhong
<b>Created</b>	29 October 2021 06:27:19
<b>Modified</b>	10 November 2022 00:42:49
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Hi, when the macro `__CONFIGURE_APPLICATION_DISABLE_FILESYSTEM__` is defined, `rtems_filesystem_table` is undefined during linking process.

**Comment 1**

1. **Joel Sherrill**, Fri, 29 Oct 2021 13:34:40 GMT

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.

**Comment 2**

1. **chenjin\_zhong**, Tue, 02 Nov 2021 06:38:37 GMT

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/mount-mgr.c`. Therefore, the undefined error may bu caused by `__CONFIGURE_APPLICATION_DISABLE_FILESYSTEM__`.

**Comment 3**

1. **Chris Johns**, Thu, 10 Nov 2022 00:42:49 GMT

- status:** changed from **new** to **closed**
- resolution:** set to **invalid**

If you have referenced a function that pulls in the file system this will happen.

---

**4541 - rtems\_jffs2\_rmnod function problem**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4541">https://devel.rtems.org/ticket/4541</a> ( <a href="https://devel.rtems.org/ticket/4541">https://devel.rtems.org/ticket/4541</a> )
<b>Id</b>	4541
<b>Reporter</b>	chenjin_zhong
<b>Created</b>	1 November 2021 14:54:19
<b>Modified</b>	12 November 2021 13:50:17
<b>Owner</b>	
<b>Type</b>	enhancement
<b>Component</b>	fs/jffs2
<b>Status</b>	closed
<b>Resolution</b>	worksforme
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

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_rmdir(
```

```
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);
```

```
}
```

#### Comment 1

1. **Sebastian Huber**, Fri, 12 Nov 2021 13:49:58 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **worksforme**

The rmdir\_h file system operation is used by unlink() and rmdir().

#### Comment 2

1. **Sebastian Huber**, Fri, 12 Nov 2021 13:50:17 GMT
2. **component:** changed from **admin** to **fs/jffs2**

## 4553 - Adapt improved mailer.py for rtems-tools 5 branch

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4553">https://devel.rtems.org/ticket/4553</a> ( <a href="https://devel.rtems.org/ticket/4553">https://devel.rtems.org/ticket/4553</a> )
<b>Id</b>	4553
<b>Reporter</b>	Ryan Long
<b>Created</b>	1 December 2021 16:23:33
<b>Modified</b>	16 December 2021 21:27:01
<b>Owner</b>	Alex White <alex.white@...>
<b>Type</b>	defect
<b>Component</b>	tool
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Adapted the patch applied to master to fix mail support for rtems-tools so that it works with the 5 branch.

#### Comment 1

1. **Ryan Long**, Wed, 01 Dec 2021 16:27:41 GMT
2. **summary**: changed from **Adapt improved mailer.py** to **Adapt improved mailer.py for rtems-tools**

#### Comment 2

1. **Ryan Long**, Wed, 01 Dec 2021 16:36:11 GMT
2. **summary**: changed from **Adapt improved mailer.py for rtems-tools** to **Adapt improved mailer.py for rtems-tools 5 branch**

#### Comment 3

1. **Alex White**, Thu, 16 Dec 2021 21:26:51 GMT

In 56779ec/rtems-tools:

```
rtemstoolkit/mailler.py: Return full smtp-host arg value
```

```
This fixes mail.smtp_host() so that it returns the full argument value rather than just the second character.
```

```
Updates #4553
```

#### Comment 4

1. **Alex White**, Thu, 16 Dec 2021 21:26:53 GMT

In 6759c3c/rtems-tools:

```
rtemstoolkit: Filter mail options from log output
```

```
This filters mail-related options out before logging the command line options. This is needed to prevent leaking potentially sensitive information via logs and emails.
```

```
Updates #4553
```

#### Comment 5

1. **Alex White**, Thu, 16 Dec 2021 21:26:56 GMT

In a7efe4a/rtems-tools:

```
rtemstoolkit/mailler.py: Add SMTP login options
```

```
This adds more options so that the user can authenticate with the SMTP server.
```

```
Updates #4553
```

#### Comment 6

1. **Alex White**, Thu, 16 Dec 2021 21:26:59 GMT

In f7f1a3e/rtems-tools:

```
rtemstoolkit/mailler.py: Add --use-gitconfig option
```

```
This adds the option to pull mail-related configuration values from the user's git configuration.
```

Updates #4553

### Comment 7

1. **Alex White**, Thu, 16 Dec 2021 21:27:01 GMT
2. **owner:** set to **Alex White** <alex.white@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In bdd785a/rtems-tools:

```
rtems-bsp-builder: Fix mail support
```

```
This fixes a problem with mailer options support that occurred because check.py uses argparse.ArgumentParser? instead of tester.rt.options.
```

```
Closes #4553
```

---

## 4554 - Adapt improved mailer.py for RSB 5 branch

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4554">https://devel.rtems.org/ticket/4554</a> ( <a href="https://devel.rtems.org/ticket/4554">https://devel.rtems.org/ticket/4554</a> )
<b>Id</b>	4554
<b>Reporter</b>	Ryan Long
<b>Created</b>	1 December 2021 16:36:03
<b>Modified</b>	16 December 2021 21:36:06
<b>Owner</b>	Alex White <alex.white@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

Adapted the patch applied to master to fix mail support for the RSB so that it works with the 5 branch.

### Comment 1

1. **Alex White**, Thu, 16 Dec 2021 21:36:06 GMT
2. **owner:** set to **Alex White** <alex.white@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 6225ead/rtems-source-builder:

```
sb: Merge mailer changes from rtems-tools
```

```
This adds the improved mailer.py script from rtems-tools.
```

```
Closes #4554
```

---

## 4561 - Fix build issue with qemu4 on Ubuntu



---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4561">https://devel.rtems.org/ticket/4561</a> ( <a href="https://devel.rtems.org/ticket/4561">https://devel.rtems.org/ticket/4561</a> )
<b>Id</b>	4561
<b>Reporter</b>	Ryan Long
<b>Created</b>	3 December 2021 18:47:42
<b>Modified</b>	15 December 2021 14:02:09
<b>Owner</b>	Ryan Long <ryan.long@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

The following issue occurs when trying to build qemu4 on Ubuntu.

```
/usr/bin/ld: linux-user/syscall.o: in function `do_syscall1':
/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'
```

### Comment 1

1. **Ryan Long**, Fri, 03 Dec 2021 18:54:45 GMT

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](https://github.com/micro-ROS/micro_ros_setup/issues/397).

### Comment 2

1. **Ryan Long**, Fri, 03 Dec 2021 19:09:18 GMT

2. **version**: changed from **6** to **5**

3. **milestone**: changed from **6.1** to **5.1**

### Comment 3

1. **Ryan Long**, Wed, 15 Dec 2021 14:02:09 GMT

2. **owner**: set to **Ryan Long** <ryan.long@...>

3. **status**: changed from **new** to **closed**

4. **resolution**: set to **fixed**

In 2e98eec/rtems-source-builder:

```
devel/qemu4: Add patches so qemu4 can build
```

```
These patches add patches that fix the build issues preventing qemu4 from building on Ubuntu.
```

```
Closes #4561
```

---

## 4562 - Bump dtc on rtems5 to match rtems6

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4562">https://devel.rtems.org/ticket/4562</a> ( <a href="https://devel.rtems.org/ticket/4562">https://devel.rtems.org/ticket/4562</a> )
<b>Id</b>	4562
<b>Reporter</b>	Ryan Long
<b>Created</b>	3 December 2021 18:52:37
<b>Modified</b>	15 December 2021 14:02:07
<b>Owner</b>	Ryan Long <ryan.long@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

### Description

The hash for dtc needs to be bumped to fix some build errors on rtems5.

**Comment 1**

1. **Ryan Long**, Wed, 15 Dec 2021 14:02:07 GMT
2. **owner:** set to **Ryan Long** <ryan.long@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 612c4d0/rtems-source-builder:

```
devel/dtc: Bump dtc hash to match rtems6
Bumped dtc version to get rid of build failure for dtc.
Closes #4562
```

**4598 - about MIPS architecture support**


---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4598">https://devel.rtems.org/ticket/4598</a> ( <a href="https://devel.rtems.org/ticket/4598">https://devel.rtems.org/ticket/4598</a> )
<b>Id</b>	4598
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:22:28
<b>Modified</b>	10 November 2022 00:58:15
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	loongson3a1k
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Added support for the board support package of Loongson Technology Corporation company's products-LS3A1000 processor.The relevant file path is \c\src\lib\libbsp\mips\loongson3a\

The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

**Comment 1**

1. **Gedare Bloom**, Fri, 11 Feb 2022 15:39:14 GMT

Hello ostyche, 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?

**Comment 2**

1. **Chris Johns**, Thu, 10 Nov 2022 00:58:15 GMT
2. **status:** changed from **new** to **closed**
3. **version:** changed from **4.11** to **5**
4. **resolution:** set to **invalid**

Please reopen when being worked on or a fix is available.

**4599 - support pmu under MIPS platform**

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4599">https://devel.rtems.org/ticket/4599</a> ( <a href="https://devel.rtems.org/ticket/4599">https://devel.rtems.org/ticket/4599</a> )
<b>Id</b>	4599
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:25:59
<b>Modified</b>	10 November 2022 00:58:51
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/mips
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	pmu
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Added support for PMU(Performance Monitoring Unit) under MIPS platform.The relevant file path is \csrc\lib\libbsp\mips\ shared\pmu  
The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

#### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 00:58:51 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**
4. **version:** changed from **4.11** to **5**
5. **component:** changed from **admin** to **arch/mips**

Please reopen when being worked on or a fix is available.

---

### 4600 - non-alignment exception

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4600">https://devel.rtems.org/ticket/4600</a> ( <a href="https://devel.rtems.org/ticket/4600">https://devel.rtems.org/ticket/4600</a> )
<b>Id</b>	4600
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:30:07
<b>Modified</b>	10 November 2022 00:59:32
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	arch/mips
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	non-alignment
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

We improved the exception handling mechanism under the MIPS architecture by handling non-alignment exception appropriately.The relevant file paths are \csrc\lib\libbsp\mips\shared\irq\vectorexceptions.c, \csrc\lib\libbsp\mips\shared\irq\exception.S

The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

#### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 00:59:32 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**
4. **version:** changed from **4.11** to **5**
5. **component:** changed from **admin** to **arch/mips**

Please reopen when being worked on or a fix is available.

---

### 4601 - support for 64KB clusters DOSFS

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4601">https://devel.rtems.org/ticket/4601</a> ( <a href="https://devel.rtems.org/ticket/4601">https://devel.rtems.org/ticket/4601</a> )
<b>Id</b>	4601
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:32:22
<b>Modified</b>	10 November 2022 01:00:50
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	fs/fat
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	dosfs
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

Added support for 64KB clusters in DOSFS. The relevant file path is `\cpukit\libs\src\dosfs\msdos_format.c`. The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

#### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 01:00:50 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**
4. **version**: changed from **4.11** to **5**
5. **component**: changed from **admin** to **fs/fat**

Please reopen when being worked on or a fix is available.

We do not know where the sources are you refer to.

---

### 4602 - support commands such as rename

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4602">https://devel.rtems.org/ticket/4602</a> ( <a href="https://devel.rtems.org/ticket/4602">https://devel.rtems.org/ticket/4602</a> )
<b>Id</b>	4602
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:37:19
<b>Modified</b>	10 November 2022 01:01:51
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	rename ftp
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

#### Description

We modify the FTP server code to support commands such as rename. The relevant file paths are `\cpukit\ftpd\ftpd.c`. The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

#### Comment 1

1. **Chris Johns**, Thu, 10 Nov 2022 01:01:51 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**
4. **version**: changed from **4.11** to **5**
5. **component**: changed from **admin** to **network/legacy**

Please reopen when being worked on or a fix is available.

---

### 4603 - Added support for Intel I210

---

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4603">https://devel.rtems.org/ticket/4603</a> ( <a href="https://devel.rtems.org/ticket/4603">https://devel.rtems.org/ticket/4603</a> )
<b>Id</b>	4603
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:39:20
<b>Modified</b>	10 November 2022 01:02:35
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	I210
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

---

**Description**

Added support for Intel I210 NIC(Network Interface Card) drives.The relevant file path is \cpukit\I210\  
The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 01:02:35 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**
4. **version**: changed from **4.11** to **5**
5. **component**: changed from **admin** to **network/legacy**

Please reopen when being worked on or a fix is available.

---

**4604 - Telnet client protocols**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4604">https://devel.rtems.org/ticket/4604</a> ( <a href="https://devel.rtems.org/ticket/4604">https://devel.rtems.org/ticket/4604</a> )
<b>Id</b>	4604
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:41:03
<b>Modified</b>	10 November 2022 01:03:14
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	admin
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	4.11
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	Telnet
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

RTEMS doesn't support Telnet client protocols

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 01:03:14 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**

It does in the legacy and libbsd stacks.

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**4605 - TFTP client protocols**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4605">https://devel.rtems.org/ticket/4605</a> ( <a href="https://devel.rtems.org/ticket/4605">https://devel.rtems.org/ticket/4605</a> )
<b>Id</b>	4605
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:42:18
<b>Modified</b>	10 November 2022 01:03:57
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	TFTP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

RTEMS doesn't support TFTP client protocols.

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 01:03:57 GMT
2. **status:** changed from **new** to **closed**
3. **resolution:** set to **invalid**
4. **version:** changed from **4.11** to **5**
5. **component:** changed from **admin** to **network/legacy**

It does support TFTP.

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**4606 - TFTP server protocols**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4606">https://devel.rtems.org/ticket/4606</a> ( <a href="https://devel.rtems.org/ticket/4606">https://devel.rtems.org/ticket/4606</a> )
<b>Id</b>	4606
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:43:22
<b>Modified</b>	10 November 2022 01:04:55
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	TFTP
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

RTEMS doesn't support TFTP server protocols.

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 01:04:22 GMT
2. **version:** changed from **4.11** to **5**
3. **component:** changed from **admin** to **network/legacy**

Please reopen when being worked on or a fix is available.

**Comment 2**

1. **Chris Johns**, Thu, 10 Nov 2022 01:04:55 GMT
  2. **status:** changed from **new** to **closed**
  3. **resolution:** set to **invalid**
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**4608 - Added support for Intel 82580**

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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4608">https://devel.rtems.org/ticket/4608</a> ( <a href="https://devel.rtems.org/ticket/4608">https://devel.rtems.org/ticket/4608</a> )
<b>Id</b>	4608
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:47:20
<b>Modified</b>	10 November 2022 01:05:29
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	network/legacy
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	82580
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

Added support for Intel 82580 NIC drives. The relevant file path is \cpukit\82580\  
The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 01:05:29 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**
4. **version**: changed from **4.11** to **5**
5. **component**: changed from **admin** to **network/legacy**

Please reopen when being worked on or a fix is available.

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**4609 - support for DMA access**


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<b>Link</b>	<a href="https://devel.rtems.org/ticket/4609">https://devel.rtems.org/ticket/4609</a> ( <a href="https://devel.rtems.org/ticket/4609">https://devel.rtems.org/ticket/4609</a> )
<b>Id</b>	4609
<b>Reporter</b>	ostyche
<b>Created</b>	11 February 2022 03:49:27
<b>Modified</b>	10 November 2022 01:06:04
<b>Owner</b>	
<b>Type</b>	defect
<b>Component</b>	lib/block
<b>Status</b>	closed
<b>Resolution</b>	invalid
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	IDE
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

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**Description**

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  
\csrc\lib\libbsp\i386\pc386\ide\idecfg.c, \csrc\libchip\ide\  
The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

**Comment 1**

1. **Chris Johns**, Thu, 10 Nov 2022 01:06:04 GMT
2. **status**: changed from **new** to **closed**
3. **resolution**: set to **invalid**
4. **version**: changed from **4.11** to **5**
5. **component**: changed from **admin** to **lib/block**

Please reopen when being worked on or a fix is available.

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**4660 - Spike failing to build with RSB 5 on Ubuntu 21.04**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4660">https://devel.rtems.org/ticket/4660</a> ( <a href="https://devel.rtems.org/ticket/4660">https://devel.rtems.org/ticket/4660</a> )
<b>Id</b>	4660
<b>Reporter</b>	Ryan Long
<b>Created</b>	25 May 2022 18:13:09
<b>Modified</b>	2 June 2022 15:08:11
<b>Owner</b>	Ryan Long <ryan.long@...>
<b>Type</b>	defect
<b>Component</b>	tool/rsb
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

With the current hash of the RSB, I'm getting the following error on Ubuntu.

```
./fesvr/dtm.cc: In member function 'uint32_t dtm_t::get_xlen()':
./fesvr/dtm.cc:488:16: error: 'runtime_error' is not a member of 'std'
 488 |         throw std::runtime_error("FESVR DTM Does not support 128-bit");
      |         ^~~~~~
./fesvr/dtm.cc:505:14: error: 'runtime_error' is not a member of 'std'
 505 |         throw std::runtime_error("FESVR DTM can't determine XLEN. Aborting");
      |         ^~~~~~
./fesvr/dtm.cc:506:1: warning: control reaches end of non-void function [-Wreturn-type]
 506 | }
      | ^
make: *** [Makefile:347: dtm.o] Error 1
make: *** Waiting for unfinished jobs....
shell cmd failed: /bin/sh -ex /home/tester/rtems-cron-5/rtems-source-builder/bare/build/spike-66b44bfbdda562a32e4a2cd0716afb731b69cd-x86_64-linux-gnu-1/do-build
```

**Comment 1**

1. **Ryan Long**, Thu, 02 Jun 2022 15:08:11 GMT
2. **owner:** set to **Ryan Long** <ryan.long@...>
3. **status:** changed from **new** to **closed**
4. **resolution:** set to **fixed**

In 7f6cfad/rtems-source-builder:

```
devel/spike-1.1.0: bump hash
Bump the hash of spike to match the 1.1.0 release
Closes #4660
```

**4692 - Python 3.8 introduces new warning about using operator "is" with a literal**

<b>Link</b>	<a href="https://devel.rtems.org/ticket/4692">https://devel.rtems.org/ticket/4692</a> ( <a href="https://devel.rtems.org/ticket/4692">https://devel.rtems.org/ticket/4692</a> )
<b>Id</b>	4692
<b>Reporter</b>	Konrad Schwarz
<b>Created</b>	1 August 2022 15:50:29
<b>Modified</b>	12 August 2022 14:18:53
<b>Owner</b>	Chris Johns
<b>Type</b>	enhancement
<b>Component</b>	test
<b>Status</b>	closed
<b>Resolution</b>	fixed
<b>Version</b>	5
<b>Milestone</b>	5.1
<b>Priority</b>	normal
<b>Severity</b>	normal
<b>Keywords</b>	Python 3.8
<b>Cc</b>	
<b>Blocking</b>	
<b>Blocked by</b>	

**Description**

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.

**Attachments:**



**1 Konrad Schwarz, Mon, 01 Aug 2022 15:59:00 GMT**

**attach:** set to [0001-Python-3.8-warning-about-is-vs-in-comparisons-of-lit\\_patch](https://devel.rtems.org/ticket/4692/0001-Python-3.8-warning-about-is-vs-in-comparisons-of-lit_patch) ([https://devel.rtems.org/ticket/4692/0001-Python-3.8-warning-about-is-vs-in-comparisons-of-lit\\_patch](https://devel.rtems.org/ticket/4692/0001-Python-3.8-warning-about-is-vs-in-comparisons-of-lit_patch))

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**Comment 1**

1. **Joel Sherrill**, Mon, 01 Aug 2022 15:51:56 GMT
2. **owner:** changed from **joel@...** to **Chris Johns**
3. **status:** changed from **new** to **assigned**

**Comment 2**

1. **Joel Sherrill**, Mon, 01 Aug 2022 15:52:39 GMT

Konrad, there are no patches attached (yet I hope).

And thanks in advance for the patches.

**Comment 3**

1. **Konrad Schwarz**, Fri, 12 Aug 2022 14:18:53 GMT
2. **status:** changed from **assigned** to **closed**
3. **resolution:** set to **fixed**

In 04d6aa3/rtems-tools:

```
Python 3.8 warning about "is" vs "==" in comparisons of literals
```

```
Signed-off-by: Konrad Schwarz
```

```
Closes #4692
```