



RTEMS - 5.1-rc2 Release Notes

14 August 2020

RTEMS 5 Series Release Notes

These notes cover the dot releases:

5.1

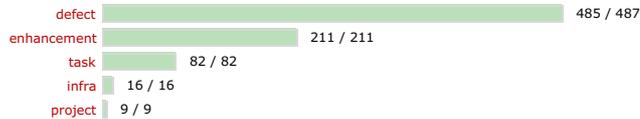
5.0

5.1 (open)

Statistics

Total	805
Fixed	735
Invalid	15
Works for me	8
Duplicate	12
Won't fix	33

Distribution



Summary

- #1247 RTEMS does not implement locks needed by multithreaded newlib
- #1394 scandir() fails due to MAXNAMELEN is incorrect
- #1662 termios.c: semaphore not deleted, consequently resulting in failure of rtems_termios_open
- #1747 Heap extend allows discontinuous memory regions.
- #1971 Memory leak in tmpfile()
- #2132 <rtems/score/basedefs.h> superfluously includes <limits.h>
- #2133 <rtems/score/basedefs.h> superfluously includes <string.h>
- #2135 times() and _times() are subject to integer overflows
- #2173 Potential integer overflow problem in EDF scheduler
- #2176 fishy behavior in termios tx task mode
- #2198 Automate doxygen build
- #2207 RTEMS tar does not overwrite.
- #2213 Decreased performance for whetstone benchmark using GCC >=4.5
- #2261 Add coverage report generation support to rtems-tools
- #2266 Move bsp_pretasking_hook() into files named bsppretaskinghook.c
- #2284 h8300 gets error linking dl0* tests
- #2289 rtems_ada_self is broken on SMP
- #2305 sp07 needs to be split into an user extensions and a notepad test
- #2306 powerpc/mvme5500/vectors/exceptionhandler.c uses task variables
- #2308 Change uniprocessor INIT task mode to preempt.
- #2325 Broken console driver infrastructure for SPARC
- #2344 Second argument of ualarm() is ignored
- #2350 One watchdog ticks header per scheduler instance
- #2354 Replace red-black tree implementation, change API
- #2355 SPARC: Several shared drivers are not SMP ready
- #2363 SPARC: Silent FP context corruption possible
- #2366 Create a Public API for the Atomic Operations
- #2367 Documentation of User Extensions needs more information
- #2377 rtems_waf: Tools without a version are not supported
- #2385 Warning from commit "bsps/arm: Do not use __ARM_ARCH_7A__"
- #2407 Enable function and data sections
- #2408 Linker set based initialization
- #2412 Improved priority inheritance implementation
- #2420 RSB %source file fails
- #2423 rtems_iterate_over_all_threads lacks user callback private pointer pass through
- #2428 Add 4.12 Tool Target Configurations to RSB
- #2441 lpc1768 variants fail to build with error in gpio.c
- #2442 Remove avrttest BSP
- #2443 Remove AVR Architectural Port
- #2444 Remove m68k/mvme136 BSP
- #2445 Remove m68k/sim68000 BSP
- #2446 Remove M32R Architectural Port
- #2447 Remove m32r/m32rsim
- #2448 Remove mips/mongoose BSP
- #2449 Remove arm/gba BSP
- #2450 Remove arm/nds
- #2451 Remove arm/gp32 BSP
- #2452 Remove H8300 Architectural Port
- #2453 Remove h8300/h8sim BSP
- #2454 Warning in threadqops.c
- #2455 Warning in spsimplsched02
- #2457 Remove powerpc/ep1a BSP
- #2458 Remove powerpc/score603e BSP
- #2459 Add rtems_chain_get_first_unprotected() to chain API
- #2464 RSB: Tool patches use the RTEMS version
- #2468 Add Thread Local Storage (TLS) support on x86
- #2477 Remove <rtems/debug.h>
- #2487 Should <https://devel.rtems.org/wiki/TBR/Delete/SpecBuilder> be Deleted?
- #2488 Vagrant Scripts
- #2490 RSB: Use SHA512 instead of MD5
- #2493 Remove notepads
- #2494 Remove task variables
- #2503 mvme5500 BSP: Exception Handler uses deprecated Notepads.
- #2509 Should "https://devel.rtems.org/wiki/TBR/Delete/BSP_Template" be replaced?
- #2513 Remove m68k/idp BSP
- #2514 Make POSIX API mandatory (except signals and the sporadic server)
- #2515 i386 score/libcpu API Layering Violation
- #2527 Move pc386/tools/bin2boot to rtems-tools
- #2529 BSP for the Atmel SAM V71/V70/E70/S70 chip platform
- #2536 RSB allows use of insecure hash algorithms like MD5 and SHA1

- #2537 Use Newlib exec*() variants and remove RTEMS versions
- #2542 Review cxx_iostream size change per function-section changes
- #2543 Obsolete gen68302 BSP
- #2544 Osolete m68k/ods68302
- #2545 Obsolete mbx8xx BSP
- #2546 Obsolete idp BSP
- #2553 [mvme3100] boot_card() broken by 37030e38
- #2554 New watchdog handler implementation
- #2555 Eliminate the Giant lock
- #2556 Implement the O(m) Independence-Preserving Protocol (OMIP)
- #2557 Add word splitting to print output
- #2559 Delete the EXTERN pattern
- #2560 smdk2410 is broken due to gp32 removal
- #2562 RSB Docs Quick Start version number
- #2576 arm/lpc176x: linker script update (add KEEP() sections)
- #2606 alarm() uses seconds watchdog and thus is affected by clock changes
- #2608 POSIX Condition Variables Clock Attribute Support
- #2617 rtems_heap_allocate_aligned_with_boundary() body and prototype inconsistent
- #2624 Fix the year 2038 problem
- #2625 Use one lookup tree per-thread for the POSIX keys
- #2626 Unify thread cancel/join and delete
- #2627 Fix CPU time used for threads on SMP
- #2628 Avoid home-grown condition variable implementation in the Classic Regions
- #2631 Use an ISR lock to protect the state of Classic Rate Monotonic objects
- #2632 rtems-tester failure
- #2633 waf build failed for rtems-libbsd
- #2634 New warning in pc386 VESA driver
- #2638 pc386: ld -r issue with per function sections
- #2641 configure: enable-rtemsbsp doesn't warn if bsp does not exist
- #2644 sis does not run on gdb 7.11 but does on gdb 7.9
- #2649 RSB remove 4.11, 4.10 and 4.9 from the master branch.
- #2663 pc386 BSP has complex dependencies
- #2664 spclock_err02
- #2669 Update OpenRISC toolchain in 4.12
- #2672 After latest patches with Objects_Get_by_name rtems-master not compiling without --enable-posix
- #2674 CORE spinlock implementation is next to be useless
- #2676 Obsolete clock_get() directive
- #2680 Add pthread_setconcurrency() and pthread_getconcurrency()
- #2683 Configuration table's smp_enabled conditional on RTEMS_SMP
- #2684 rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122: duplicate if
- #2685 c/src/lib/libbsp/arm/atsam/network/if_atsam.c:409: possible bad if statement
- #2689 POSIX key destructors must be called during thread restart
- #2692 User extensions execution order must be clarified
- #2693 Update doc to reflect obsoleting rtems_clock_get()
- #2694 linking issue for htonl, etc when using -std=c99
- #2695 Add libatomic for RTEMS
- #2696 Unpredictable errno value returned by sem_wait() in case of semaphore deletion
- #2698 GCC 6.1 is broken for microblaze
- #2700 cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition
- #2701 Rename asm file with .S(upper case) ext. name
- #2702 Remove descriptor objects for POSIX message queues
- #2706 Buffer allocation of capture engine is broken on SMP configurations
- #2707 Unsafe use of current processor index in capture engine
- #2714 A pthread_detach() does not lead to a resource reclamation
- #2718 Blocking _CORE_message_queue_Submit() may lead to unpredictable results
- #2722 SEM_VALUE_MAX is unusually small on RTEMS
- #2723 CPUINFO command to report per-processor information
- #2725 Classic binary semaphores without a locking protocol can be released by everyone
- #2726 grascs.c: Questionable use of binary semaphore
- #2727 FAT file systems use wrong semaphore for mutual exclusion
- #2728 Pipes use wrong semaphore for mutual exclusion
- #2729 TFTP client uses wrong semaphore for mutual exclusion
- #2732 Add clock_nanosleep()
- #2734 pthread_setschedprio() is missing
- #2735 pthread_setschedparam() sets the priority not according to POSIX
- #2736 pthread_getschedparam() returns wrong priority values
- #2737 Add CLOCK_DRIVER_USE_ONLY_BOOT_PROCESSOR
- #2740 Suboptimal type for Timestamp_Control
- #2741 New warning from printf plugin changes
- #2742 New warning in SHM driver
- #2745 Use clock from pthread_condattr in pthread_cond_timedwait
- #2748 Move RTEMS-specific socket wake-up to RTEMS-specific <rtems/rtems_bsdnet.h>
- #2749 rtems_task_set_scheduler() has insufficient parameters
- #2750 Compile Error When Multiprocessing Enabled
- #2751 Thread dispatch via interrupt is broken at least on ARM and PowerPC
- #2752 Relax execution environment for thread begin extensions
- #2754 no .strtab section
- #2765 Application level deadlocks may lead to SMP lock level deadlocks
- #2768 untar does not keep permissions correctly.
- #2769 rtems-syms does not clean up temp files.
- #2770 Missing documentation for RTEMS_LINKER_ROSET_CONTENT and RTEMS_LINKER_RWSET_CONTENT
- #2771 Empty C++ file with just <rtems.h> does not compile with HEAD.
- #2775 ARM CP15 arm_cp15_set_translation_table_entries fails if TTB in read-only memory
- #2776 SPI Framework
- #2777 Remove librtems++
- #2784 Add function to get the current priority of a task by scheduler instance
- #2788 RTEMS I2C API only defines Standard-mode (Sm) speed as a default.
- #2790 Linker sets broken with GCC 7
- #2795 Overrun Handling for general real-time models
- #2797 Add ability to add/remove processors to/from a scheduler instance
- #2798 Fix POSIX timer interval
- #2800 qoriq variants failing to build
- #2802 Test "libdl (RTL) 5" fails on SPARC targets

- #2803 Get rid of CPU_BIG_ENDIAN and CPU_LITTLE_ENDIAN
- #2805 Use SPRG0 on PowerPC for current per-CPU control (SMP only)
- #2806 Undocumented confdefs.h Configure Options
- #2807 rtems-docs repository is not known to trac
- #2808 Conditionally provide rtems_interrupt_frame
- #2809 Reduce interrupt latency on SMP configurations during thread dispatch
- #2810 Remove sparc/sis BSP variant
- #2811 More robust thread dispatching on SMP and ARM Cortex-M
- #2816 Many ARM BSPs have Static Assert
- #2817 All Blackfin BSPs do not Compile on Master
- #2818 NIOS2 Does Not Compile on Master
- #2819 powerpc-ss555 does not compile on master
- #2820 All SPARC64 BSPs do not Build on master
- #2821 No BSPs Build on Master
- #2822 m32csim does not build on master
- #2823 Nearly all m68k BSPs do not Build on Master
- #2824 arm/lpc23xx_tli800 no longer links tar01
- #2825 Improve the fatal error handling chapter of the user manual
- #2826 arm_cp15_get_translation_table_base_control_register warning.
- #2829 xz git URL in README is broken
- #2835 Ada support is broken on SMP configurations
- #2836 Add posix_devctl()
- #2838 Termios task driven mode should use mutex for device operations
- #2839 Add new interrupt server driven Termios mode
- #2840 Use self-contained mutexes for Termios framework
- #2841 Add NXP SC16IS752 serial device driver
- #2842 Change C11 threads support to use Classic tasks instead of POSIX threads
- #2843 Use self-contained objects instead of Classic API for drivers and support libraries
- #2844 JFFS2: Add IO controls to get filesystem instance information and force a garbage collection
- #2845 Add I2C framework documentation
- #2849 ATA/IDE support in RTEMS is out-dated
- #2850 Driver manual covers non-existent Analog Driver
- #2851 Driver manual covers non-existent Discrete Driver
- #2853 Driver manual covers non-existent Non-Volatile Memory Driver
- #2858 Add user defined thread names
- #2859 Implement POSIX Shared Memory Objects
- #2862 docs.rtems.org Add support to ReST format releases.
- #2863 Update POSIX 1003.1 Compliance Guide for ReST
- #2864 docs.rtems.org Automatic update of branches content when a rtems-doc.git change is made.
- #2865 Coverage installed when building the docs repeats catalogue.xml entries
- #2867 Fix exclude rule in rtems-test-check
- #2868 src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c: 3 * pointless local variables ?
- #2873 src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320: defective error checking ?
- #2874 src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt_timer.c: 4 * pointless check ?
- #2877 DHCP client fails on complex networks
- #2878 src/c/src/lib/libbsp/sparc/shared/can/occan.c:1573: broken error checking ?
- #2879 src/cpukit/libdebugger/rtems-debugger-server.c: four problems
- #2880 src/cpukit/libfs/src/jffs2/src/readinode.c:189: faulty logic
- #2883 src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248: strange expression ?
- #2885 Fix rtems_rate_monotonic_postponed_job_count() prototype
- #2889 RTEMS_STACK_CHECKER_EXTENSION has incomplete definition
- #2890 _RBTREE_initialize_node generates warnings
- #2893 Remove CONFIGURE_SMP_APPLICATION
- #2894 Rename CONFIGURE_SMP_MAXIMUM_PROCESSORS to CONFIGURE_MAXIMUM_PROCESSORS
- #2895 Prefix the confdefs.h internal defines with an underscore
- #2896 RSB requirements are missing pax
- #2897 Update termios.h to match the latest FreeBSD definitions
- #2905 Merge LEON
- #2906 rtems-doc waf configure does not detect sphinxcontrib.bibtex status
- #2909 xz: Support for 64-bit CRC is build although XZ_USE_CRC64 is not defined
- #2912 libdebugger: control reaches end of non-void function
- #2916 termios: Change receive callback invocation to enable select() and poll() support
- #2917 termios: Make write POSIX compatible
- #2922 libdl unresolved externals that use more than one block or multiple entries corrupts.
- #2923 Questionable Code in resource_snapshot.c
- #2924 Warnings in SPARC BSPs
- #2925 Warnings in rtl-obj-cache.c on some targets
- #2930 Coverity Reports Out of Bounds Read in drvmgr_print.c
- #2933 Flexibleassignto is broken on new ticket page.
- #2935 Termios task driven mode not compatible with SMP
- #2941 building rsb freezes
- #2942 rtems building error
- #2943 rtems building error
- #2945 Many failures on LEON3 with SMP disabled
- #2946 Add a top level global testsuite configuration file (.tcfg) and a 'user-input' test state.
- #2949 Questionable patch organization in RTEMS tools and RSB
- #2951 Error path in rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg
- #2954 ARM: Optimize context switch
- #2957 Shared memory support internal locking is broken
- #2958 Add some popular benchmark programs to the testsuite
- #2959 arm/libdl: C++ exception index tables may not be ordered correctly
- #2962 Set test configurations to reflect test results.
- #2963 Add a testsuite top level configuration file that is common to all tests.
- #2965 bootstrap sort inconsistent with sb-bootstrap for acinclude
- #2967 ARM: Change ABI to not use short enums
- #2968 newlib inttypes.h is missing some methods
- #2969 qorIQ BSPs depend on mkimage which is not always available
- #2976 warnings in rtems-debugger-server.c
- #2977 warnings in Dhrystone Benchmark
- #2980 pc586-sse does not compile fsjffs2gc01
- #2981 testdata excludes on included tcfg files does not work
- #2982 LibBSD broken with GCC+RTEMS changes
- #2983 Create <rtems/inttypes.h> to consolidate extensions to <inttypes.h>

- #2984 Changing Trac milestone page fails.
- #2990 RTEMS Source Builder Fails on Windows Builds
- #2992 Long path crashes the RSB when listing a directory.
- #2993 SMP assert in _Thread_Executing in libdebugger
- #2994 tar01 XZ error
- #2995 Missing bsets
- #2997 Monitor config command does not handle unlimited objects.
- #2998 RTEMS User Manual Quick Start does not cover releases.
- #2999 sb-check on Cygwin
- #3000 Setting interrupt level in the mode arg on SMP returns RTEMS_UNSATISFIED
- #3001 SMP build of RTEMS Testsuite does not set CONFIGURE_MAXIMUM_PROCESSORS
- #3003 FAT does not support clusters bigger than 32K
- #3006 SPARC LEON3 BSP SMP build is broken.
- #3007 ARM caching issues
- #3008 missing pax causes install failures
- #3009 Provide invalid link handler for docs.rtems.org so old docs can be removed.
- #3010 src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition
- #3011 Error compiling xilinx_zynq_zedboard.
- #3012 Global C++ IO streams are broken (cout, cin, cerr)
- #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")
- #3014 interrupt vector indexing is assuming BSP_INTERRUPT_VECTOR_MIN = 0 for this code.
- #3015 Add support for IBM PPC 750 chip
- #3016 missing a couple register names + a #ifndef __ASM__ around serial.h inclusion
- #3017 improvement in pci.h
- #3018 RSB cannot compile tool chain in CentOS 7.
- #3020 Review tests using CONFIGURE_DISABLE_SMP_CONFIGURATION
- #3023 Parameter of CPU_COPY() are in wrong order
- #3025 m32c/m32csim does not build linpack-pc.c
- #3027 RTEMS source builder fails when building gcc documentation with newer versions of gcc
- #3032 CPU_NAND_S() implementation is not in line with FreeBSD
- #3036 CPU_CMP() implementation is not in line with FreeBSD
- #3040 Cannot use RTEMS mailing list archive for patches
- #3043 4.11/rtems-nios2 does not build on Windows.
- #3046 4.12/rtems-moxie missing release number.
- #3047 Remove docs directory from the RSB
- #3049 Warnings in libdebugger
- #3052 RSB: powerpc GDB build broken on Apple Darwin
- #3054 gdb 7.12.1 on RSB 4.12 branch fail to build on Archlinux
- #3056 Add EDF SMP scheduler
- #3057 Add a workaround for the LEON3FT store-store errata
- #3059 Add a simple processor affinity support to the EDF SMP scheduler
- #3061 including 'unistd.h' in C++ does not build.
- #3063 Make the EDF scheduler the default SMP scheduler
- #3069 Add rtems_scheduler_ident_by_processor()
- #3070 Add rtems_scheduler_ident_by_processor_set()
- #3071 Create an interrupt server for every processor in the system
- #3072 Declaration of global functions in driver source files
- #3076 Test suite failures due to floating point usage
- #3077 SPARC: Add lazy floating point context switching
- #3079 Ada tests do not build
- #3080 Infinite loop in SPARC rtems_invalidate_multiple_instruction_lines()
- #3082 Add 64-bit support for PowerPC
- #3083 parallel make not working
- #3084 Makefile recipe override warning has returned
- #3085 Add hypervisor support for QorIQ BSPs
- #3087 RSB rtems-gdb-7.12-1.cfg MD5 value is ERROR
- #3088 shell test in testsuites\samples\fileio many COMMANDs is Lost
- #3089 Inconsistent blocking addressing in RFS
- #3090 Add BSP for i.MX 7
- #3091 Core Dump in powerpc-rtems4.12-ld
- #3096 Shell internal commands should be public.
- #3098 Add new RTEMS repos to github.
- #3099 Add RTEMS FDT wrapper and shell command to libmisc
- #3100 Add Xilinx AXI I2C driver
- #3101 Add I2C Drivers for LM25066A, TMP112, ADS1113 and ADS1115
- #3102 rtems-exeinfo does not decode ARM static constructors.
- #3103 rtems-tools on CentOS 7 Build Failure
- #3109 Add RISC-V support
- #3111 Newlib: Change time_t and clock_t integer types to 64-bit
- #3112 POSIX: Make pthread_mutex_t self-contained
- #3113 POSIX: Make pthread_cond_t self-contained
- #3114 POSIX: Make pthread_barrier_t self-contained
- #3115 POSIX: Make pthread_rwlock_t self-contained
- #3116 POSIX: Make sem_t self-contained
- #3117 score: Optimize _Thread_queue_Enqueue() timeout handling
- #3121 clock() implementation in Newlib is broken
- #3122 Simplify and unify BSP_output_char
- #3123 GDB 8.0.1 is broken on FreeBSD 11
- #3124 Ignore pshared attribute for POSIX semaphores
- #3125 Accept PTHREAD_PROCESS_SHARED for POSIX mutexes
- #3126 Accept PTHREAD_PROCESS_SHARED for POSIX barriers
- #3127 MIPS tool build on Darwin (MacOS) fails.
- #3128 RTEMS Tools corvar does not build on Windows.
- #3129 RTEMS Tools covoar build fails on Windows
- #3130 RTEMS Doxygen.in latex output does not build
- #3132 Add reference counting to file descriptors
- #3133 Remove rtems_libio_t::driver
- #3134 Remove LIBIO_FLAGS_CREATE
- #3135 Devel mailing list doesn't work and Git push impossible due to disk full
- #3136 Use FIFO for file descriptor free list
- #3137 Accept PTHREAD_PROCESS_SHARED for POSIX condition variables
- #3139 Remove old ISR parameter from Clock_driver_support_install_isr() and make it optional

- #3140 CPU Kit broken with --enable-rtems-debug
- #3141 Change the BSP Howto's name to something smaller.
- #3142 POSIX: Reduce size of pthread_once_t and make it zero-initialized
- #3148 PSXRDWRV Test failure on Beaglebone Black
- #3152 Beaglebone Black crashes on u-boot master build.
- #3153 Accept PTHREAD_PROCESS_SHARED for POSIX rwlocks
- #3157 PowerPC tools don't build on 32-bit hosts
- #3158 Examples v2 does not build
- #3159 Examples v2 trace linker ini files reference non-existing dump-on-error
- #3160 Trace linker score support is broken
- #3163 Add I2C device driver for temperature sensor LM75A
- #3166 New default ticket assignee: NeedsReview
- #3167 Internal status codes must not depend on RTEMS_POSIX_API
- #3168 Simplify POSIX_API_Control
- #3170 Use BSP_output_char via RTEMS printer or simple console driver for test output by default
- #3171 RSB GCC does not build on High Sierra and APFS
- #3172 i386 PC BSP does not reset when bsp_reset is called.
- #3173 Xilinx AXI I2C driver IP race condition causes clock glitch.
- #3174 Remove rtems_pthread_attribute_compare()
- #3175 Merge FreeBSD timecounter changes from 2015-01-20 to now
- #3176 __getreent in libc.a and generated by confdefs.h
- #3177 Replace/update POSIX Compliance Guide
- #3178 Update sh-rtems4.12 bset to use rtems-default (using old gcc)
- #3179 New warnings from Time Changes
- #3180 ar warning: `u' modifier ignored since `D' is the default (see `U')
- #3181 Various cc1plus warnings for "valid for C/ObjC but not for C++"
- #3182 CLOCK_REALTIME timeout implementation is not POSIX compliant
- #3185 Change uptime seconds to int32_t
- #3187 smptests/Makefile.am Issues
- #3188 Add C11 Threading Examples
- #3189 MUTEX_INITIALIZER missing braces warning
- #3190 RTEMS Tester covoar does not link on MacOS
- #3191 RTEMS Tester covoar dies with no arguments.
- #3198 Add lazy update of line control and baud divisor to NS16550 serial driver
- #3200 m32c tests don't build -- test_context too large
- #3201 epiphany tools checksum error
- #3202 or1k tools build error
- #3203 Upgrade trac to fix numerous problems.
- #3204 Exception in rtems-test
- #3205 Relative timespec timeouts are subject to integer overflows
- #3207 Supported Architectures Page is out of date
- #3209 RSB should fail on this error
- #3210 Improve the RSB build email message
- #3211 Fix pthread_create() with user provided stack
- #3212 Qemu Fails to Build, RSB Gives Odd Traceback
- #3213 Move erc32, leon2, leon3, psim and jmr3904 to Tier 2
- #3215 Configuring a System Still Includes Notepads and Has Wrong Heading
- #3216 Replace vprintk() implementation
- #3217 Add RTEMS version, build and tools details to tests
- #3218 Termios canonical mode (ICANON) does not return input line by line
- #3219 Zynq BSP missing linker option --gc-sections
- #3220 Change RTEMS release number scheme from 4.12 to 5
- #3221 RSB wiki page duplicates documentation
- #3224 Upgrade or1k and m32c to Binutils 2.29
- #3225 Upgrade m32c to GDB 8.0.1
- #3226 gdb: pr 16827, fix sim on Mavrick
- #3227 sb-check fails on Msys2 64-bit
- #3228 aarch64 missing from 5/rtems-all build set
- #3229 Add index to all documents.
- #3231 RTEMS Top level README needs updating.
- #3232 Use of `.. include::` in the User Manual should be changed.
- #3234 Quick Start Instructions Inconsistent
- #3235 Fix rtems_semaphore_flush() for priority inheritance semaphores
- #3236 Fix thread queue owner priority update in _Thread_queue_Flush_critical()
- #3237 Fix priority ceiling updates
- #3238 Git push to Trac with more than one commit does not update tickets.
- #3239 Add getentropy() implementation provided by each BSP
- #3240 cpukit/libmisc/stackchk/check.c stack addresses formatted incorrectly.
- #3242 Workarounds for UT699, UT700, and GR712RC errata
- #3243 Simplify global construction
- #3244 Change rtems_panic() implementation and document this function
- #3245 Replace BSP_panic() with rtems_panic()
- #3246 Remove _BSP_Fatal_error()
- #3247 Remove BSP-specific defaults for RTEMS_BSP_CLEANUP_OPTIONS()
- #3248 Add BSP_VERBOSE_FATAL_EXTENSION to RTEMS_BSP_CLEANUP_OPTIONS
- #3249 imx7 does not link getentropy01 test on master
- #3254 Reorganize header files to avoid "make preinstall"
- #3255 Warnings on 64-bit targets
- #3256 Ada run-time needs support for self-contained POSIX synchronization objects
- #3260 libpci depends on BSP-specific header files
- #3261 A couple of documentation typos
- #3264 Add monotonic watchdog based on uptime
- #3265 Use second one based uptime for CLOCK_MONOTONIC for FreeBSD compatibility
- #3266 cpukit/libpci references BSP headers.
- #3267 rtems/status-checks.h calls printk without including the needed header.
- #3268 PowerPC BSP include naming mess.
- #3270 Remove unused support for MPC505
- #3277 QorIQ: Add MAC-less DPAA driver to libbsd
- #3278 bsp-builder has incorrect print (%s in output)
- #3281 Add epiphany support to GDB 8.0.0
- #3283 Bad URL in OpenOCD/Xilinx_Zynq Wiki Page
- #3284 RSB uses hard coded GCC binary paths
- #3285 Reorganize BSP source directory

- #3290 Add device tree support to Altera/Intel Cyclone V BSP
- #3294 gcc version report for released tools is wrong.
- #3298 dlerror non-conformance
- #3305 Add paravirtualization support to ARM
- #3306 Add paravirtualization support to PowerPC
- #3307 PowerPC linkcmds.base missing wildcards on some sections
- #3309 rtems_task_create's initial_mode SMP update
- #3312 RSB macro calls such as define fail on unicode keys.
- #3315 Move expat's home site to github from SF.
- #3318 Improve INTERNAL_ERROR_THREAD_EXITTED to show the id and thread name
- #3320 Add a simple task console driver
- #3323 mhttpd's http etag can result in invalid caching in a browser.
- #3325 Simplify clustered scheduler configuration
- #3327 Eliminate score/cpu/*/*../types.h
- #3328 bootstrap uses non-POSIX compliant echo -e
- #3329 Trac Login Failure (bad password) Causes Internal Error
- #3334 deadlock in _once()
- #3339 Several PowerPC linker commands do not support constructors/destructors with priority
- #3340 gen83xx warning for macros redefined
- #3341 sparc64: Macro Redefined
- #3342 pthread_setschedparam() has incorrect prototype
- #3343 pthread_mutex_getprioceiling() has incorrect prototype
- #3344 mcf5272/mcf5272.h Timer3 Duplicate Definition
- #3345 mvme3100 spaces needed around quote in macro definitions in bsp.h
- #3346 bf533.h
- #3348 beatnick:spaces needed around quote in macro definitions in bsp.h
- #3349 pc386 edid.h invalid macro names
- #3350 sptimecounter02 warning due to defining _KERNEL and disabling part of <sys/time.h>
- #3352 Warning in all lpc176x variants
- #3354 PowerPC BSPs duplicate PAGE_MASK, etc redefinition
- #3358 Deprecate rtems_disk_create_physics(), etc.
- #3374 rtems-test does not honor --mail-from argument
- #3375 Remove command line pre-processor defines
- #3376 Remove klength program
- #3377 Remove eolstrip program
- #3378 Remove unhex program
- #3379 Remove packhex program
- #3380 Move rtems-bin2c program to rtems-tools
- #3381 rtems-test command line documentation appears to be out of date
- #3382 Testsuite Makefile merge to one per group of tests
- #3383 Require --enable-rtemsbsp with --enable-smp or --enable-multiprocessor
- #3384 Prefer int for int32_t
- #3385 Generate an error if RTEMS's gcc is not found when the user runs configure
- #3386 Trac's git changeset browsing is suspect.
- #3387 Add subdir-objects to automake flags
- #3388 rtems-tester: possible parsing error for qemuprep-altivec on exclude SMP configuration
- #3389 Warning flags have disappeared with recent autoconf changes
- #3390 NFS: Remove support for cexp
- #3392 infinite loop in RSB's path when a prefix path is not writable
- #3395 rtems-ld does not remove executable when there is an output error
- #3396 rtems-ld does not handle R_ARM_V4BX relocation records
- #3397 The register keyword is deprecated in C++11
- #3401 dl06: tms570* Mixed LSB/MSB Error
- #3402 dl06: mips hurricane Mixed Endian Error
- #3403 RSB RTEMS tool set build is irreproducible
- #3407 Move Gaisler.org and Gaisler.se hosted RSB patches to rtems.org
- #3409 Strip down configure checks to the bare minimum
- #3410 Remove bin2boot program used by i386 BSPs
- #3411 qemuppc does not install linkcmds.base
- #3413 examples-v2 both_hello and triple_period fail to build
- #3415 Add examples and tests as components
- #3416 Update Ubuntu RSB Instructions for 17.10
- #3417 Add libdwarf to elftoolchain and provide a C++ wrapper
- #3418 Remove difftest and sorttimes test tools
- #3419 Always build network services (tftps, ftpfs, ftpd, telnetd, libdebugger)
- #3421 New Trac components for Coverage and Trace
- #3423 examples-v2: m68k/powerpc BSPs undefined reference to _Thread_Life_action_handler
- #3424 examples-v2: no MIPS BSPs pass configuration step
- #3425 examples-v2: PowerPC fails to build fat_ramdisk
- #3432 Remove Simple SMP Priority Scheduler
- #3433 Add SMP support for RISC-V
- #3434 Add CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configuration option
- #3435 Add test case for CONFIGURE_BSP_PREREQUISITE_DRIVERS configuration option
- #3436 Remove clock driver Clock_driver_support_shutdown_hardware() hook
- #3437 Replace use of printk() in free() with a fatal error
- #3443 Remove shgen program
- #3444 Remove nios2gen program
- #3445 Remove multigen script
- #3446 Remove cvsignore-add.sh script
- #3447 Remove rtems-testsuite-autostuff script
- #3451 Remove size_rtems script
- #3452 Update RISC-V tool chain to support standard 64-bit chips
- #3453 Add RISC-V GDB
- #3454 Tracing Framework Documentation in User Manual
- #3455 Remove install-if-change script
- #3458 rtems-test should not use the env PATH to find covoar
- #3459 Rework initialization and interrupt stack support
- #3460 GDB 8 SIS LEON2 LEON3 Patches
- #3461 Canadian cross compilation of RTEMS tools not supported for x86_64-w64-mingw32
- #3463 Convert covoar to use DWARF function data
- #3465 Integrate all changes from Linux v3.11 to v4.17 made in the JFFS2 sources
- #3471 Update libfdt as of date 2018-07-09
- #3472 Update of libbsd to a version close to the FreeBSD 12 release

- #3475 Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch prediction hints
- #3478 RISC-V BSP Tester Cleanup Needed
- #3480 CONFIGURE_MINIMUM_TASK_STACK_SIZE may affect CONFIGURE_INTERRUPT_STACK_SIZE
- #3482 Relax the buffer alignment required by rtems_partition_create()
- #3484 RFS: Remove stray call of rtems_disk_release() in rtems_rfs_buffer_sync()
- #3486 Use uintptr_t and size_t instead of uint32_t in rtems_partition_create()
- #3488 Remove CONFIGURE_HAS_OWN_MOUNT_TABLE
- #3489 Obsolete CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
- #3490 Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
- #3491 Align mprotect() prototype with POSIX
- #3496 Remove superfluous interrupt enable in _Thread_Dispatch_enable()
- #3498 Command and Variable Index is empty
- #3499 The "Index" chapter is empty
- #3500 Change rtems_waf's RTEMS path check from `bin` to share/rtems<version>
- #3501 MSR_RI defined multiple places
- #3502 PL111_LCD_CONTROL_LCD_BPP_16 Redefined
- #3503 PDF Documentation is missing an index
- #3504 Warning and formatting in bsp/powerpc/mpc55xevb/dev/dspi.c
- #3505 powerpc/virtex redefined warning
- #3506 waf for building RTEMS applications needs updating
- #3507 Add flexible per-CPU data
- #3508 Add support for thread to processor pinning
- #3510 ATA driver uses deprecated rtems_blkdev services
- #3511 int/pointer size warnings in powerpc-qoriq_e6500_64
- #3512 sb-check: No python command with Python 2 and Python 3 installed
- #3513 Convert tqm8xx console driver to new Termios API
- #3516 sb-set-builder should report disk usage of build
- #3517 RSB Ubuntu Host Requirements Missing Some
- #3518 RSB MacOS Nits
- #3519 RSB does not strictly check args
- #3520 Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE
- #3522 Update mDNSResponder to Apple version v878.30.4
- #3523 Add FEC network interface driver for TQM8XX
- #3525 Add MMC/SDCard support for i.MX 7Dual BSP
- #3526 Convert PTY driver to new Termios API
- #3528 Remove undocumented and untested CONFIGURE_MAXIMUM_PTYS
- #3529 Fix issues raised by Coverity Scan for Telnet server
- #3530 Fix issues raised by Coverity Scan for FTP server
- #3531 Add POSIX Attribute Reports for More Than Scheduler (examples-v2)
- #3532 RSB source only download is host specific
- #3533 Add rtems_task_exit()
- #3535 Remove stdin, stdout, stderr convenience routines for CEXP
- #3536 Move RTEMS configuration data to a common `config` directory
- #3537 RSB and RTEMS Tools Support for python2 and python3
- #3538 Classic API Barrier Wait Section Title Has Wrong Name
- #3539 Remove CPU_PROVIDES_IDLE_THREAD_BODY
- #3542 Remove keep_stdio feature from Telnet service
- #3543 Change Telnet server to allocate most resources during initialization
- #3545 Support O_DIRECTORY open() flag
- #3546 Support O_NOFOLLOW open() flag
- #3547 Support O_CLOEXEC open() flag
- #3549 Obsolete powerpc/virtex BSP
- #3551 Move default configuration to separate library
- #3552 cpu usage error in SMP mode
- #3553 rtems-libbsd Missing waf in Top Directory
- #3554 rtems-libbsd README.waf Needs an Update Sweep
- #3555 IRC bots need to be registered to join #rtems
- #3557 Test ticket
- #3558 Update TracSpamFilter
- #3559 Fix NavAdd plugin.
- #3560 Fix FlexibleAssignTo
- #3561 Migrate to CommitTicketUpdater
- #3562 Use a short paths for the RSB temporary build path on Windows
- #3568 RSB: UnboundLocalError: local variable 'build_max_size_human' referenced before assignment
- #3569 waf version in various rtems-repositories incompatible with python 3.7
- #3576 gdb 8.0.1 sis does not build on Cygwin
- #3577 Avoid Clang and ISL host dependencies for target GCC
- #3579 testsuite's rtems-test-check.py python version support
- #3583 Add rtems_malloc() and rtems_calloc()
- #3585 Deprecate proc_ptr
- #3587 Deprecate rtems_context
- #3589 Deprecate rtems_context_fp
- #3591 Deprecate region_information_block
- #3593 Deprecate rtems_thread_cpu_usage_t
- #3595 Deprecate rtems_rate_monotonic_period_time_t
- #3598 Move internal types of API objects to separate header file
- #3599 Remove m32c architecture port
- #3600 Update or1k tools to use GCC master
- #3602 Update or1k tool chain to use the upstream GCC
- #3603 Remove support for 16-bit object identifiers
- #3604 RTL Unresolved Symbols from common section on i386/pc686 (cloned)
- #3605 RTL Allows Unloading a Module other Modules Depend Upon (cloned)
- #3609 Update Spike Version in RSB (RISC-V simulator)
- #3612 RTL unresolved compaction does not update string indexes after removing a string
- #3620 CommitTicketUpdater does not process commits in order
- #3621 Statically initialize object information structures
- #3622 Remove cache routines working with a processor set
- #3624 MSYS2 builds appear to ignore tcfg file
- #3625 RTL Allows Unloading a Module other Modules Depend Upon (cloned)
- #3626 sigtimedwait() needed when POSIX is disabled
- #3629 Add RSB reporting section to the documentation.
- #3630 Build of rtems-tools fails with i686-w64-mingw32
- #3636 Add rtems_scheduler_get_maximum_priority()

- #3637 Fix rtems_task_restart() argument type
- #3649 Error with IRC announcing in examples-v2 commits.
- #3651 Sphinx 1.8 PDF (latex) on FreeBSD does not build
- #3664 RSB config parsing slow on python3
- #3665 Add low level event recording infrastructure
- #3666 Add support for C++17 std::aligned_alloc
- #3667 Support data cache disable on ARMv7-AR
- #3668 Commit message in examples-v2 and libbsd didn't trigger a ticket update.
- #3669 rtems-docs.git does not build with Sphinx 1.8.2 and 1.8.3
- #3670 examples-v2 uses deprecated or obsolete RTEMS interfaces
- #3672 No i386 BSP can link all tests after cache manager changes
- #3673 xilinx_zynq_a9_qemu - fails to link psxconfig01
- #3674 Raspberry Pi Fails to Build
- #3675 RSB: Change default prefix to OS prefix + "rtems" + \$rtems_version
- #3677 ARM BSP contains ARM code in THUMB only build
- #3678 Add RISC-V BSP with support for the grlib
- #3682 Add BSP for Xilinx Zynq UltraScale+ MPSoC platform
- #3683 Git clone via HTTPS does not give much interactive feedback
- #3684 rtems_print_buffer is broken
- #3685 Add large memory support to libdl
- #3686 Add library searching and loading to libdl
- #3687 Add architecture section support to libdl and support PowerPC's small data.
- #3688 rtems-docs fails to build with python3
- #3692 libdl does not honour write unlock/lock for sections
- #3693 libdl incorrectly handles MIPS16hi/lo relocs
- #3694 shm_open has logically unreachable code (Coverity ID: 1399706, 1399714)
- #3696 Basic Support for Trace Compass
- #3699 Wrong system register specified for ARM virtual timer value retrieval
- #3708 Remove Doxygen comments from confdefs.h
- #3720 mfill shell command uses the wrong arguments for the memset()
- #3724 bsp/lpc24xx: Convert SSP driver to Linux API
- #3725 bsp/lpc24xx: Convert I2C driver to Linux API
- #3728 Set small data section to max size for mvme5500 and motorola_powerpc BSPs
- #3731 Add rtems_scheduler_get_processor()
- #3732 Add rtems_scheduler_get_processor_maximum()
- #3733 Add general reg support to libdebugger
- #3734 Add RTEMS_CONST attribute
- #3735 Remove CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE
- #3736 PowerPC Beatnik BSP C++ exceptions broken
- #3741 libdl loading ELF objects from libbsd NFS file system ends in a deadlock
- #3742 T_config conflicting type qualifiers for 'config'
- #3743 RSB os and arch config logic is broken
- #3746 libdl test dl05.exe failing
- #3747 Address Cortex-M3 Errata 602117
- #3748 libdl uses a linear symbol search on object file symbols
- #3751 No documentation on Region Get Information Directives
- #3753 Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR
- #3754 Users Guide Ubuntu Instructions Have Typo
- #3756 Condition codes in PSR are destroyed by lazy FP context switch
- #3760 BBB MMU update crashes
- #3762 Return the current handler from ARM cp15 set exception call
- #3763 RSB SIS build fails on FreeBSD
- #3768 Add staging support to Makefile.inc
- #3769 RSB BSP Buildsets
- #3770 RSB 3rd party packages failing to build
- #3773 RPi fails to boot
- #3774 RPi2 SMP does not build
- #3775 libdl does not handle ARM mode reloc tramp parsing
- #3776 libdl ARM does not support ARM mode trampolines.
- #3777 libdl object unload debugger delete support is broken
- #3781 RSB crashes in case the host as an unreadable directory in "/"
- #3783 MSYS2 RSB build error
- #3785 Add RISC-V BSP with support for the Freedom E310 Arty A7 FPGA
- #3789 TMS570 application build error
- #3792 RSB fails to build on MSYS2
- #3793 trace record tool does not build on Windows
- #3794 Initial POSIX Signals Mask Incorrect
- #3796 docs/develenv directory structure bitrot
- #3797 Add LLVM as a package
- #3798 Add socketmark to libbsd
- #3800 termios - Add Capability to Generate SIGINTR and SIGQUIT
- #3802 RSB Build of Spike Fails on Second Time (bug in upstream spike)
- #3803 RSB ssl context error fetching qemu patches
- #3804 sb-get-sources: Error repo_mail referenced before assignment
- #3805 libdebugger build error on atsamv
- #3806 Add fatal error for heap errors
- #3808 Fix qemu-couverture-git RSB download file name
- #3809 Fix epiphany-rtems5-gdb-7.8 RSB download file name
- #3810 Use the release details in the release build docs
- #3811 Release source path on ftp.rtems.org is wrong
- #3812 Released RSB has no source set for rtems-tools
- #3813 RSB does not handle --rsb-file in releases
- #3814 Releasing creates 2 copies of the kernel and tools.
- #3815 Improve SMP EDF scheduler configuration
- #3817 RSB fails on FreeBSD 12.0 (32bit and 64bit)
- #3821 Port NVMe support from FreeBSD to libbsd
- #3822 Release created VERSION file in rtems-tools-*.tar.xz is wrong
- #3823 Untar_family doesn't handle nested directories
- #3826 top on SMP shows invalid priorities
- #3830 Build problems with user names which contain space characters
- #3831 Duplicate description of Tiers and Rules
- #3833 Simplify RTEMS semaphore configuration
- #3834 Simplify clock driver

- #3835 Support statically allocated threads
- #3836 Specify the application configuration options
- #3837 Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR
- #3838 Rework work area initialization
- #3839 RTEMS revision does not handle ` `
- #3840 Add CONFIGURE_IMFS_ENABLE_MKFIFO
- #3841 Add rtems_object_get_local_node()
- #3842 RSB RTEMS version message string is fixed to the git hash
- #3843 Add CONFIGURE_DIRTY_MEMORY
- #3844 Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE
- #3845 Remove Ada-specific configuration options
- #3848 Libdebugger test in libbsd should depend on libdebugger.a
- #3849 Fix PSIM memory map
- #3856 posix_devctl - Add support for SOCKCLOSE
- #3857 Use EAGAIN for POSIX mq wait in ISR error
- #3859 No output from joel scripts in telnet
- #3861 Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION
- #3862 Canonicalize CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY
- #3863 Remove support for the BSP_ZERO_WORKSPACE_AUTOMATICALLY BSP option
- #3864 rtems-tester does not work with gdb simulators
- #3865 Fix linker set item declarations for small data area targets
- #3868 newlib links breaks mingw build
- #3871 Remove rtems_configuration_get_posix_api_configuration()
- #3873 Remove CONFIGURE_HAS_OWN_INIT_TASK_TABLE
- #3874 Remove CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE
- #3875 Split up confdefs.h in component based header files
- #3876 Remove CONFIGURE_DISABLE_SMP_CONFIGURATION
- #3881 Add API functions to map a task priority to/from a POSIX thread priority
- #3882 Add POSIX user environment pointer to TCB
- #3885 Context switch extension is broken in SMP configurations
- #3887 Do not report remotes in RSB build log if --mail is used
- #3888 Update rtems_waf in libbsd
- #3893 RSB staging changes have broken building a 3rd party package
- #3894 Replace the device filesystem with a specialization of the IMFS
- #3895 Add a migration to RTEMS 5 chapter to User Manual
- #3896 RSB option --source-only-download does not work with releases
- #3898 Remove CONFIGURE_MAXIMUM_DEVICES
- #3900 New template for boolean feature defines
- #3901 New template for configuration options with a value
- #3903 raspberrypi2 libbsd 5-freebsd-12 does not build
- #3904 Add methods to dump the event records in base64 encoding (optionally zlib compressed)
- #3907 Update Getting Started Instructions
- #3909 rtems_waf with python2 needs to handle unicode strings with waf
- #3911 Remove gdbarmsim
- #3914 Spike has hard-coded path to DTC
- #3919 RSB may not download source of pkconfig checked packages
- #3921 QorIQ clock tick interval is off by one hardware clock tick
- #3927 tcsh required to build sqlite -- makes all BSP bsets fail
- #3936 C++ thread-local storage broken on sparc64
- #3938 Many (~40) BSPs Fail to Link all Tests
- #3944 qoriq_e500 BSP bset fails
- #3945 Update DTC example on rtems-docs/user/rsb/configuration.rst
- #3949 clock_settime() can lead to a failed _Assert()
- #3953 rtems_extensions_create() accepts a NULL pointer table
- #3956 RSB BSP build with tests does not keep a copy
- #3960 Add to FreeBSD host setup information
- #3961 bsp/arm: CPU counter based on arm generic timer doesn't work correctly
- #3966 RSB bare version number if wrong.
- #3967 Release source package list is out of date
- #3968 symlinks in RTEMS source tree
- #3969 dl06 fails on all libdl supported architectures
- #3970 Deprecate use _RTEMS_version at API level
- #3971 Deprecate use of RTEMS_MAXIMUM_NAME_LENGTH
- #3972 Deprecate <rtems/system.h>
- #3973 Add rtems_get_copyright_notice() and deprecate _Copyright_Notice
- #3974 Deprecate ephipany port in rtems5 and remove in rtems6
- #3976 Released RSB qemu4 source download fails.
- #3987 ARMv7-M Exception handler does not store the SP
- #3992 Release URL path with sources is wrong
- #3995 Release doxygen support is broken
- #4002 Beaglebone and PC BSP stacks do not build
- #4005 Remove RTEMS_MP_NOT_CONFIGURED error condition
- #4006 rtems-test target_exe_filter fails when there is no filter
- #4010 Update mDNSResponder to Apple version v878.30.4
- #4014 RSB RTEMS 5 Post Branch Clean
- #4015 Sqlite has stopped http access
- #4016 shm_unlink uses uninitialized obj_err on successful return from _POSIX_ShM_Get_by_name
- #4017 RSB --host and --target option trigger the bset tarball
- #4021 PowerPC for libbsd does not build
- #4028 i386: SMP-System hangs with non-consecutive APIC IDs
- #4030 i386: ISR can overwrite its own stack during system initialization
- #4033 Add rtems_interrupt_server_create() and rtems_interrupt_server_destroy()
- #4038 arm/atsam/SC16IS752: Make interrupt server configurable
- #4049 RTEMS version number 5.1 breaks RTEMS version code
- #4051 libbsd test fails to build

Details

Ticket #	Created	Resolution	Component	Reporter	Owner	Modified
#1247	13 years ago	fixed	fs	strauman	Chris Johns	3 years ago
Summary	RTEMS does not implement locks needed by multithreaded newlib					

	multi-threaded newlib protects a number of internal data structures (as of newlib-1.15 these comprise: <ul style="list-style-type: none"> • 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'). <p>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.</p> <p>I am currently working on an implementation which should be available shortly.</p>					
#1394	11 years ago	fixed	tool/newlib	Daniel Hellstrom	Chris Johns	3 years ago
Summary	scandir() fails due to MAXNAMELEN is incorrect					
Description	<p>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.</p> <p>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.</p> <p>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.</p> <p>I tried to run the code below on my FAT filesystem, taken directly from the scandir(3) man page.</p> <pre> /* print files in current directory in reverse order */ #include <dirent.h> main(){ struct dirent namelist; int n; n = scandir(".", &namelist, 0, NULL); if (n < 0) perror("scandir"); else { while(n--) { printf("%s\n", namelist[n]->d_name); free(namelist[n]); } free(namelist); } } </pre>					
#1662	10 years ago	fixed	fs	Bharath Suri	Chris Johns	3 years ago
Summary	termios.c: semaphore not deleted, consequently resulting in failure of rtems_termios_open					
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.					
#1747	9 years ago	fixed	score	Chris Johns	Sebastian Huber	3 years ago
Summary	Heap extend allows discontinuous memory regions.					
Description	<p>The check in (cpukit/ChangeLog) states:</p> <p>2010-06-07 Sebastian Huber <sebastian.huber@...></p> <ul style="list-style-type: none"> • score/src/heapextend.c: Implemented support for scattered heap areas. <p>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.</p> <p>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.</p> <p>The former heap extend code:</p> <p>http://www.rtems.org/viewvc/rtems/cpukit/score/src/heapextend.c?revision=1.7&view=markup</p> <p>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.</p> <p>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.</p>					
#1971	9 years ago	fixed	fs	nopscmn	Chris Johns	3 years ago
Summary	Memory leak in tmpfile()					
Description	<p>Hello,</p> <p>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:</p> <p>Memory usage before: Number of used blocks: 12 Largest used block: 1288 Total bytes used: 3628</p> <p>Memory used after: Number of used blocks: 1013 Largest used block: 1288 Total bytes used: 112064</p> <p>By 1000 iteration, each call tmpfile() cause memory leak about 108 bytes.</p>					
#2132	7 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	<rtems/score/basedefs.h> superfluously includes <limits.h>					
Description	<p>In older RTEMS versions <rtems.h> provided <limits.h> indirectly. The include of <limits.h> was added to not break application source files that relied on this accidentally.</p> <p>We may remove this include in the future.</p>					
#2133	7 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	<rtems/score/basedefs.h> superfluously includes <string.h>					
Description	<p>In older RTEMS versions <rtems.h> provided <string.h> indirectly. The include of <string.h> was added to not break application source files that relied on this accidentally.</p> <p>We may remove this include in the future.</p>					
#2135	7 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	times() and _times() are subject to integer overflows					
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.					

	This ticket is to capture the current state of the project started by Krzysztof Mięszowicz <krzysztof.mieszowicz@...>. The goals of the project were to:					
	<ul style="list-style-type: none"> 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. 					
Description	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 krzyz-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:					
	<ul style="list-style-type: none"> 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://kmieszowicz.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.					
#2266	6 years ago	invalid	unspecified	Joel Sherrill		3 years ago
Summary	Move bsp_pretasking_hook() into files named bsppretaskinghook.c					
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.					
	<pre>\$ grep -rI 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/TLL6527M/startup/bspstart.c ./bfin/eZKit533/startup/bspstart.c ./shared/include/bootcard.h ./shared/bsppretaskinghook.c ./shared/bootcard.c</pre>					
#2284	5 years ago	wontfix	unspecified	Joel Sherrill	Chris Johns	3 years ago
Summary	h8300 gets error linking dl0* tests					
Description	<pre>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</pre>					
	dl-sym.o: In function `rtems_rtl_base_global_syms_init': rld--gTgaaa.c:(.text+0xa): undefined reference to `rtemsrtl_base_globals_size' rld--qTgaaa.c:(.text+0x10): undefined reference to `rtemsrtl_base_globals' collect2: error: ld returned 1 exit status					
#2289	5 years ago	fixed	tool/gcc	Sebastian Huber	Needs Funding	3 years ago
Summary	rtems_ada_self is broken on SMP					
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.					
#2305	5 years ago	wontfix	unspecified	Joel Sherrill		3 years ago
Summary	sp07 needs to be split into an user extensions and a notepad test					
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 sponotepad02. 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 sponotepad02 from sp07 that is not related to the tasks counting down.					
	Hopefully I can resolve this without much feedback.					
#2306	5 years ago	fixed	arch/powerpc	Joel Sherrill		3 years ago
Summary	powerpc/mvme5500/vectors/exceptionhandler.c uses task variables					
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.					
#2308	5 years ago	fixed	unspecified	Chris Johns		3 years ago
Summary	Change uniprocessor INIT task mode to preempt.					
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.					
#2325	5 years ago	fixed	arch/sparc	Sebastian Huber	Daniel Hellstrom	3 years ago
Summary	Broken console driver infrastructure for SPARC					
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()).					
#2344	5 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Second argument of ualarm() is ignored					
Description	I don't think this is in line with POSIX.					
#2350	5 years ago	fixed	score	Sebastian Huber		3 years ago
Summary	One watchdog ticks header per scheduler instance					

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.

```
<PerCPUProfilingReport processorIndex="0">
  <MaxThreadDispatchDisabledTime unit="ns">3807457</MaxThreadDispatchDisabledTime>
  <MeanThreadDispatchDisabledTime unit="ns">124091</MeanThreadDispatchDisabledTime>
  <TotalThreadDispatchDisabledTime unit="ns">1706880473</TotalThreadDispatchDisabledTime>
  <ThreadDispatchDisabledCount>13755</ThreadDispatchDisabledCount>
  <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
  <MaxInterruptTime unit="ns">24661</MaxInterruptTime>
  <MeanInterruptTime unit="ns">10148</MeanInterruptTime>
  <TotalInterruptTime unit="ns">127682501</TotalInterruptTime>
  <InterruptCount>12582</InterruptCount>
</PerCPUProfilingReport>
<PerCPUProfilingReport processorIndex="1">
  <MaxThreadDispatchDisabledTime unit="ns">1715826</MaxThreadDispatchDisabledTime>
  <MeanThreadDispatchDisabledTime unit="ns">102805</MeanThreadDispatchDisabledTime>
  <TotalThreadDispatchDisabledTime unit="ns">1884937615</TotalThreadDispatchDisabledTime>
  <ThreadDispatchDisabledCount>18335</ThreadDispatchDisabledCount>
  <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
  <MaxInterruptTime unit="ns">47</MaxInterruptTime>
  <MeanInterruptTime unit="ns">12</MeanInterruptTime>
  <TotalInterruptTime unit="ns">8299</TotalInterruptTime>
  <InterruptCount>664</InterruptCount>
</PerCPUProfilingReport>
<SMPLockProfilingReport name="Watchdog">
  <MaxAcquireTime unit="ns">47020</MaxAcquireTime>
  <MaxSectionTime unit="ns">2709</MaxSectionTime>
  <MeanAcquireTime unit="ns">31</MeanAcquireTime>
  <MeanSectionTime unit="ns">52</MeanSectionTime>
  <TotalAcquireTime unit="ns">990203330</TotalAcquireTime>
  <TotalSectionTime unit="ns">1674926849</TotalSectionTime>
  <UsageCount>31604848</UsageCount>
  <ContentionCount initialQueueLength="0">10574</ContentionCount>
  <ContentionCount initialQueueLength="1">8168</ContentionCount>
  <ContentionCount initialQueueLength="2">8578</ContentionCount>
  <ContentionCount initialQueueLength="3">31577528</ContentionCount>
</SMPLockProfilingReport>
```

Descripti
on

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.

#2354	5 years ago	fixed	unspecified	Sebastian Huber		3 years ago
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Summary: Replace red-black tree implementation, change API

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.

#2355	5 years ago	fixed	arch/sparc	Sebastian Huber	Daniel Hellstrom	3 years ago
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Summary: SPARC: Several shared drivers are not SMP ready

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.

#2363	5 years ago	duplicate	arch/sparc	Sebastian Huber		3 years ago
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Summary: SPARC: Silent FP context corruption possible

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 `sptestst/spcontext01`.

This problem exists for many years and might be working as intended. It is possible to fix this issue using the `SPARC_USE_SAFE_FP_SUPPORT` option. This is already used for the SMP configurations. The disadvantage is that this disables the deferred floating point support.

#2366	5 years ago	wontfix	score	Joel Sherrill		3 years ago
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Summary: Create a Public API for the Atomic Operations

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.

#2367	5 years ago	fixed	doc	mw	Sebastian Huber <sebastian.huber@...>	3 years ago
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Summary: Documentation of User Extensions needs more information

Description: 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.

#2377	5 years ago	wontfix	tool	Sebastian Huber		3 years ago
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Summary: rtems_waf: Tools without a version are not supported

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`)

#2385	5 years ago	fixed	arch/arm	Chris Johns	Sebastian Huber	3 years ago
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Summary: Warning from commit "bsps/arm: Do not use `ARM_ARCH_7A`"

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)
^
```

#2407	5 years ago	fixed	build	Sebastian Huber	Joel Sherrill	3 years ago
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Summary: Enable function and data sections

In order to reduce the size of executables it is beneficial to put all global functions and data into separate sections. This enables the linker to perform a garbage collection which removes all items not directly referenced. The following steps are necessary:

1. Modify the build system to use the following compiler and linker flags:
 CFLAGS += -ffunction-sections -fdata-sections LDFLAGS += -Wl,--gc-sections
2. Review all linker command files and ensure that linker sets and global constructor sections are not affected by the garbage collection (e.g. use the KEEP() directive of GNU ld).

#2408 5 years ago fixed unspecified Sebastian Huber Sebastian Huber 6 months ago

Summary
 Linker set based initialization

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(".rtmsroset.myset.content"))) \
    static item i = { f }

#endif /* MYSET_H */
```

`module.c`

```
#include "myset.h"
#include <stdio.h>

/*
 * 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 <stddef.h>

/* Should be in a proper header file */
void g(void);

/* Define the start marker */
__attribute__((used))
__attribute__((section(".rtmsroset.myset.begin")))
static volatile const item begin[0];

/* Define the end marker */
__attribute__((used))
__attribute__((section(".rtmsroset.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 0x0000000002268c
*(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 `rtms_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 `rtms_message_queue_create()` function and the constructor is not registered, thus nothing of the message queue handler will be in the final executable.

#2412	5 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Improved priority inheritance implementation					

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.

Description

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` its not NULL, the priority change propagates to the owner, and so on. In case `Thread_Priority_node::current_priority` changes, the corresponding scheduler is notified.

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.

#2420	5 years ago	wontfix	tool/rsb	Jakob Vikeftoft	Chris Johns	8 months ago
Summary	RSB %source file fails					

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.

#2423	5 years ago	fixed	unspecified	Jeffrey Hill		3 years ago
Summary	rtms_iterate_over_all_threads lacks user callback private pointer pass through					

<p>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.</p> <p>An enhanced version of the API might look like this.</p> <pre>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);</pre> <p>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.</p> <p>thanks for your consideration of this matter</p>						
<p>#2428 5 years ago fixed tool/rsb Joel Sherrill Chris Johns 3 years ago</p>	Summary	Add 4.12 Tool Target Configurations to RSB				
<p>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:</p> <p>+ (DONE) remove obsolete targets (avr, h8300, m32r) + (DONE) update versions + complete submission of patches and bump gdb + ...</p>						
<p>#2441 5 years ago fixed unspecified Joel Sherrill Sebastian Huber 3 years ago</p>	Summary	lpc1768 variants fail to build with error in gpio.c				
<p>arm-lpc1768_mbed_ahb_ram_eth arm-lpc1768_mbed_ahb_ram arm-lpc1768_mbed</p> <p>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."</p> <pre>#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_FUNC_SIZE' undeclared here (not in a function) LPC176X_RESERVED_ISR_FUNC_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</pre>	<p>arm-lpc1768_mbed_ahb_ram_eth arm-lpc1768_mbed_ahb_ram arm-lpc1768_mbed</p> <p>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."</p> <pre>#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_FUNC_SIZE' undeclared here (not in a function) LPC176X_RESERVED_ISR_FUNC_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</pre>					
<p>#2442 5 years ago fixed bsps Joel Sherrill joel.sherrill@... 3 years ago</p>	Summary	Remove avrtest BSP				
<p>Remove the avr/avrtest BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP</p>						
<p>#2443 5 years ago fixed unspecified Joel Sherrill Joel Sherrill <joel@...> 3 years ago</p>	Summary	Remove AVR Architectural Port				
<p>Remove the AVR port per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_Port.</p> <p>All BSPs must be removed before the architectural port can be removed. These are tracked by the following tickets:</p> <ul style="list-style-type: none"> #2442 - avrtest <p>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.</p>						
<p>#2444 5 years ago fixed arch/m68k Joel Sherrill Aun-Ali Zaidi <admin@...> 3 years ago</p>	Summary	Remove m68k/mvme136 BSP				
<p>Remove the m68k/mvme136 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP</p> <p>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.</p>						
<p>#2445 5 years ago fixed arch/m68k Joel Sherrill Aun-Ali Zaidi <admin@...> 3 years ago</p>	Summary	Remove m68k/sim68000 BSP				
<p>Remove the m68k/sim68000 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP</p> <p>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.</p>						
<p>#2446 5 years ago fixed unspecified Joel Sherrill Joel Sherrill 3 years ago</p>	Summary	Remove M32R Architectural Port				
<p>Remove the M32R port per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_Port.</p> <p>All BSPs must be removed before the architectural port can be removed. These are tracked by the following tickets:</p> <ul style="list-style-type: none"> #2447 - m32rsim <p>Rationale: The M32R port is incomplete, appears to have no users, and the CPU architecture is end-of-lived.</p>						
<p>#2447 5 years ago fixed bsps Joel Sherrill Aun-Ali Zaidi <admin@...> 3 years ago</p>	Summary	Remove m32r/m32rsim				
<p>Remove the m32r/m32rsim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP</p>						
<p>#2448 5 years ago fixed arch/mips Joel Sherrill 3 years ago</p>	Summary	Remove mips/mongoose BSP				
<p>Remove the m32r/m32rsim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP</p> <p>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.</p>						
<p>#2449 5 years ago fixed arch/arm Joel Sherrill Aun-Ali Zaidi <admin@...> 3 years ago</p>						

RTEMS has an API for dynamic debug support in <rtems/debug.h>. 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/sptestes/spreigion_err01/init.c: puts( "TA1 - rtems_debug_disable - RTEMS_DEBUG_REGION" );
testsuites/sptestes/spreigion_err01/init.c: rtems_debug_disable( RTEMS_DEBUG_REGION );
testsuites/sptestes/spreigion_err01/init.c: puts( "TA1 - rtems_debug_enable - RTEMS_DEBUG_REGION" );
testsuites/sptestes/spreigion_err01/init.c: rtems_debug_enable( RTEMS_DEBUG_REGION );
testsuites/sptestes/sp10/init.c: puts( "Init - rtems_debug_is_enabled - is 0x1 set? No" );
testsuites/sptestes/sp10/init.c: is_set = rtems_debug_is_enabled( 0x1 );
testsuites/sptestes/sp10/init.c: puts( "Init - rtems_debug_enable - set 0x1" );
testsuites/sptestes/sp10/init.c: rtems_debug_enable(0x1);
testsuites/sptestes/sp10/init.c: puts( "Init - rtems_debug_is_enabled - is 0x1 set? Yes" );
testsuites/sptestes/sp10/init.c: is_set = rtems_debug_is_enabled( 0x1 );
testsuites/sptestes/sp10/init.c: puts( "Init - rtems_debug_disable - clear 0x1" );
testsuites/sptestes/sp10/init.c: rtems_debug_disable(0x1);
testsuites/sptestes/sp10/init.c: puts( "Init - rtems_debug_is_enabled - is 0x1 set? No" );
testsuites/sptestes/sp10/init.c: is_set = rtems_debug_is_enabled( 0x1 );
    
```

Descripti
on

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.

#2487	5 years ago	fixed	tool/website	Joel Sherrill	Chris Johns	3 years ago
Summary	Should https://devel.rtems.org/wiki/TBR/Delete/SpecBuilder be Deleted?					
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.					
#2488	5 years ago	fixed	unspecified	Joel Sherrill	Ben Gras	3 years ago
Summary	Vagrant Scripts					
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?					
#2496	5 years ago	wontfix	tool/rsb	Sebastian Huber	Chris Johns	2 years ago
Summary	RSB: Use SHA512 instead of MD5					
Description	Since MD5 is not a secure hash algorithm, we should change all hashes used by the RSB configuration files to use SHA512.					
#2493	5 years ago	fixed	unspecified	Sebastian Huber	Joel Sherrill <joel.sherrill@...>	3 years ago
Summary	Remove notepads					
Description	Notepads were marked as obsolete in #2265. Next step is to remove them. Documentation should mention that notepads are removed an list the alternatives, e.g. POSIX keys or thread local storage.					
#2494	5 years ago	fixed	unspecified	Sebastian Huber		3 years ago
Summary	Remove task variables					
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.					
#2503	5 years ago	fixed	arch/powerpc	Aun-Ali Zaidi	joel.sherrill@...	3 years ago
Summary	mvme5500 BSP: Exception Handler uses deprecated Notepads.					
Description	The MVME5500 BSP uses Notepads in its exception handler and #2493 removes them. This is obviously not portable and requires a rewrite.					
#2509	5 years ago	fixed	tool/website	Santosh Vattam	Joel Sherrill	3 years ago
Summary	Should " https://devel.rtems.org/wiki/TBR/Delete/BSP_Template " be replaced?					
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 Is it a good idea to replace the older page with the newly created page?					
#2513	5 years ago	fixed	arch/m68k	Joel Sherrill		3 years ago
Summary	Remove m68k/idp BSP					
Description	Remove the m68k/idp BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP					
#2514	5 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Make POSIX API mandatory (except signals and the sporadic server)					
Description	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 #2406.					
#2515	5 years ago	fixed	unspecified	Gedare Bloom	Gedare Bloom	3 years ago
Summary	i386 score/libcpu API Layering Violation					
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.					
#2527	5 years ago	wontfix	tool	Joel Sherrill	Chris Johns	3 years ago
Summary	Move pc386/tools/bin2boot to rtems-tools					
Description	Per discussion with Chris. Begin to eliminate BSP specific tools.					

#2529	5 years ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	3 years ago
Summary	BSP for the Atmel SAM V71/V70/E70/S70 chip platform					
Description	http://www.atmel.com/products/microcontrollers/arm/sam-v-mcus.aspx					
#2536	5 years ago	fixed	tool/rsb	Sebastian Huber	Chris Johns <chrisj@...>	3 years ago
Summary	RSB allows use of insecure hash algorithms like MD5 and SHA1					
Description	Support for these hashes should be removed. Hashes should be mandatory.					
#2537	5 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Use Newlib exec*() variants and remove RTEMS versions					
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.					
#2542	5 years ago	fixed	bsps	Joel Sherrill	joel.sherrill@...	3 years ago
Summary	Review cxx_iostream size change per function-section changes					
Description	<p>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.</p> <p>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.</p> <p>commit 6d21c13e5094d490280a941cf0e8333f91f85715 Author: Ralph Holmes <ralph@...> Date: Sat Jan 23 21:15:40 2016 +0000</p> <p>powerpc/gen5200: Add per-section compilation and linking support.</p> <p>For the brs5l BSP variant:</p>					
#2543	5 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Obsolete gen68302 BSP					
Description	Delete the gen68302 BSP after 4.11 and before 4.12.					
#2544	5 years ago	duplicate	unspecified	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Obsolete m68k/ods68302					
Description	Obsolete and remove the ods68302 BSP before 4.12.					
#2545	5 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Obsolete mbx8xx BSP					
Description	Obsolete and remove.					
#2546	5 years ago	fixed	arch/m68k	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Obsolete idp BSP					
Description	Obsolete and remove the m68k/idp BSP before the 4.12 release.					
#2553	5 years ago	fixed	arch/powerpc	Nick Withers	Sebastian Huber	3 years ago
Summary	[mvme3100] boot_card() broken by 37030e38					
Description	<p>Backtrace with 37030e38* (with a fatal exception handler installed):</p> <pre>#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=0x1ab6348, 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 ../../../../../../../../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=0x1ab6398, area_count=area_count@entry=1, extend=extend@entry=0x0 <preload>) at ../../../../../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/malloc_initialize.c:53 #5 0x0005cf84 in bsp_work_area_initialize_default (area_size=<optimized out>, area_begin=<optimized out>) 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=<optimized out>) at ../../../../../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mvme3100/../../../../shared/bootcard.c:80 #8 0x00003294 in __rtems_entry_point () at ../../../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mvme3100/start/start.S:89</pre> <p>If I reverse the changes to <code>c/src/lib/libbsp/shared/bootcard.c</code> it works again.</p> <p>* With RSB e3b9fb68 and the following RTEMS patches:</p> <ul style="list-style-type: none"> https://git.rtems.org/rtems/patch/?id=af418e8f6b76a14a1d543d79fc79aa469f06b47d https://git.rtems.org/rtems/patch/?id=7a0c4854cabe8665b7e50a3bafebce84e7872a4 https://git.rtems.org/rtems/patch/?id=4202a31f91ca3d19ca18f08730a4be52fb71cc04 					
#2554	5 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	New watchdog handler implementation					

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 `smpstests/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.

#2555	5 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Eliminate the Giant lock					

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.

#2556	5 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Implement the $O(m)$ Independence-Preserving Protocol (OMIP)					

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 C_A and the remaining processors are assigned to a cluster C_B for soft real-time worker tasks. The worker tasks use a shared resource, e.g. a file system for data storage. Let us suppose a task R of partition P sends a message to the workers. This may make a waiting worker ready, which in turn pre-empts the owner of a shared resource. In this case the scheduler helping protocol takes action and is carried out by the task R. This contradicts the intended isolation of scheduler instances.

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 unlocked 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;
  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 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.

#2557	5 years ago	fixed	doc	Amar Takhar	Amar Takhar	3 years ago
Summary	Add word splitting to print output					
#2559	5 years ago	fixed	score	Sebastian Huber	Sebastian Huber	4 months ago

Summary	Delete the EXTERN pattern					
Change the following pattern: some.h:	<pre>#ifndef SOME_XYZ_EXTERN #define SOME_XYZ_EXTERN extern #endif SOME_XYZ_EXTERN type xyz;</pre>					
some_xyz.c:	<pre>#define SOME_XYZ_EXTERN #include <some.h></pre>					
Description	into: some.h:					
	<pre>extern type xyz;</pre>					
some_xyz.c:	<pre>#include <some.h> type xyz;</pre>					
See discussion:	https://lists.rtems.org/pipermail/devel/2016-January/013506.html					
	Update Developer Coding Conventions accordingly.					
#2560	5 years ago	fixed	arch/arm	Sebastian Huber		3 years ago
Summary	smdk2410 is broken due to gp32 removal					
Description	The smdk2410 BSPs use files of the removed gp32 BSP.					
	[f2a228b2cb5ce376c56ae8d767084b92f2822af0/rtems]					
#2562	5 years ago	fixed	tool/rsb	Gedare Bloom	Gedare Bloom	4 months ago
Summary	RSB Docs Quick Start version number					
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.					
#2576	5 years ago	fixed	arch/arm	Joel Sherrill	Joel Sherrill <joel@...>	2 years ago
Summary	arm/lpc176x: linker script update (add KEEP() sections)					
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.					
#2606	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	alarm() uses seconds watchdog and thus is affected by clock changes					
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().					
#2608	4 years ago	fixed	posix	Joel Sherrill	Gedare Bloom	3 years ago
Summary	POSIX Condition Variables Clock Attribute Support					
Description	<p>I am beginning to add support for the clock attribute to POSIX condition variables.</p> <p>http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_condattr_getclock.html</p> <p>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.</p> <p>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.</p> <p>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?</p>					
#2617	4 years ago	fixed	score	Joel Sherrill	Sebastian Huber	3 years ago
Summary	rtems_heap_allocate_aligned_with_boundary() body and prototype inconsistent					
Description	<p>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.</p> <p>The malloc.h header file has this:</p> <pre>void *rtems_heap_allocate_aligned_with_boundary(size_t size, uintptr_t alignment, uintptr_t boundary);</pre> <p>malloc_deferred.c has this:</p> <pre>void *rtems_heap_allocate_aligned_with_boundary(uintptr_t size, uintptr_t alignment, uintptr_t boundary)</pre>					
#2624	4 years ago	fixed	tool/newlib	Sebastian Huber	Needs Funding	2 years ago
Summary	Fix the year 2038 problem					

RTEMS uses currently a signed 32-bit integer for time_t on Newlib. Thus, it is affected by the year 2038 problem. There are only 22 years left and this time span is within the realistic time frame of some RTEMS applications that are developed now.

The time_t should be changed to int64_t in Newlib. To make sure that all integer operations are carried out properly I suggest to temporarily do this

```

{{{#include <sys/_stdint.h>
typedef struct {
    int64_t val;
} time_t;
static inline time_t _time_add(time_t a, time_t b) {
    time_t r = { a_val + b_val }; return r;
}
static inline time_t _time_sub(time_t a, time_t b) {
    time_t r = { a_val - b_val }; return r;
}
static inline time_t _time_mul(time_t a, time_t b) {
    time_t r = { a_val * b_val }; return r;
}
static inline time_t _time_div(time_t a, time_t b) {
    time_t r = { a_val / b_val }; return r;
}}}}
    
```

Make sure that RTEMS and Newlib build with this. Add test cases to highlight the time_t integer limits.

#2625	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Use one lookup tree per-thread for the POSIX keys

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.

#2626	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Unify thread cancel/join and delete

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.

#2627	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Fix CPU time used for threads on SMP

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.

#2628	4 years ago	wontfix	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Avoid home-grown condition variable implementation in the Classic Regions

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.

#2631	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Use an ISR lock to protect the state of Classic Rate Monotonic objects

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.

#2632	4 years ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	3 years ago
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Summary: rtems-tester failure

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/s/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):
    
```

Description: File "../rtems-tools/tester/rtems-test", line 40, in <module>
 rt.test.run()
 File "/data/home/joel/rtems-4.11-work/rtems-tools/tester/rt/test.py", line 287, in run
 tst.reraise()
 File "/data/home/joel/rtems-4.11-work/rtems-tools/tester/rt/test.py", line 123, in reraise
 raise (self.result[0], self.result[1], self.result[2])
 TypeError?: `int()` takes exactly 2 arguments (1 given)

#2633	4 years ago	fixed	network/legacy	joguin	Sebastian Huber	3 years ago
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Summary: waf build failed for rtems-libbsd

The rtems-libbsd failed when building with waf. Here is the output:

```
[488/845] Compiling freesbsd/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 ../freesbsd/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 <anonymous>' has no member named '_bsd_ticks'; did you mean 'ticks'?
    cpu->Watchdog.ticks + ticks
In file included from ../freesbsd/sys/kern/subr_sleepqueue.c:62:0: ../freesbsd/sys/kern/subr_sleepqueue.c: In function 'sleepq_set_timeout':
../freesbsd/sys/kern/subr_sleepqueue.c:424:29: error: 'Thread_Timer_information {aka struct <anonymous>}' has no member named 'state'
    BSD_ASSERT(executing->Timer.state == WATCHDOG_INACTIVE);
../freesbsd/sys/kern/subr_sleepqueue.c:424:2: note: in expansion of macro 'BSD_ASSERT'
    BSD_ASSERT(executing->Timer.state == WATCHDOG_INACTIVE); ~
../freesbsd/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 ../freesbsd/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
```

Descripti
on

#2634	4 years ago	fixed	arch/i386	Joel Sherrill	Pavel Pisa <ppisa@...>	3 years ago
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Summar
y

New warning in pc386 VESA driver

Pavel.. can you look into this?

Descripti
on

```
../freesbsd/sys/c/lib/libbsp/i386/pc386/console/fb_vesa_rm.c: In function 'find_mode_using_EDID':
../freesbsd/sys/c/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) ~
```

#2638	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill <joel@...>	3 years ago
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Summar
y

pc386: ld -r issue with per function sections

Descripti
on

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../freesbsd/sys/c/lib/lib/ -B../freesbsd/sys/c/lib/pc386/lib/ -specs bsp_specs -qrtems -mtune=i386 -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -qnlincmds -nostdlib -r -Wl,--gc-sections -Wl,-Ttext,0x00100000 -o ne2000_rel ne2000.o /data/home/joel/rtems-4.11-work/tools/4.12/bin/./lib/gcc/i386-rtems4.12/6.0.0/./freesbsd/i386-rtems4.12/bin/ld: gc-sections requires either an entry or an undefined symbol collect2: error: ld returned 1 exit status
```

#2641	4 years ago	fixed	build	aurelio	Chris Johns	2 years ago
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Summar
y

configure: enable-rtemsbsp doesn't warn if bsp does not exist

Descripti
on

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.

#2644	4 years ago	fixed	tool/rsb	Joel Sherrill		3 years ago
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Summar
y

sis does not run on gdb 7.11 but does on gdb 7.9

Descripti
on

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.

#2649	4 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 years ago
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Summar
y

RSB remove 4.11, 4.10 and 4.9 from the master branch.

Descripti
on

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.

#2663	4 years ago	wontfix	arch/i386	Joel Sherrill	Sebastian Huber	3 years ago
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Summar
y

pc386 BSP has complex dependencies

Descripti
on

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%.

#2664	4 years ago	duplicate	score	Joel Sherrill	Sebastian Huber	3 years ago
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Summar
y

spclock_err02

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 < 0x40000000" 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 ..\..\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 ..\..\cpukit\score\src\interr.c:36
```

```
#1 0x0200aed4 in rtems_fatal (source=source@entry=RTEMS_FATAL_SOURCE_ASSERT, error=error@entry=33694096) at ..\..\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 <_func.3277> "_Watchdog_Ticks_from_timespec", failedexpr=failedexpr@entry=0x201a638 "ticks < 0x40000000") at ..\..\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 ..\..\cpukit\score\src\coretodset.c:40
```

```
#5 0x02009880 in rtems_clock_set (tod=tod@entry=0x2022304) at ..\..\cpukit\rtems\src\clockset.c:42
```

```
#6 0x02001818 in Init (argument=<optimized out>) at ..\..\cpukit\testsuites\sptests\spclock_err02\init.c:93
```

```
#7 0x0200fcbc in _Thread_Entry_adaptor_numeric (executing=0x201fb90) at ..\..\cpukit\score\src\threadentryadaptornumeric---Type <return> to continue, or q <return> to quit---
```

```
.c:25 #8 0x02012e0c in _Thread_Handler () at ..\..\cpukit\score\src\threadhandler.c:93
```

```
#9 0x02012d60 in _Thread_Handler () at ..\..\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)
```

#2669	4 years ago	fixed	tool/rsb	Stefan Wallentowitz		3 years ago
Summary	Update OpenRISC toolchain in 4.12					
Description	Bump the OpenRISC toolchain to newer versions: <ul style="list-style-type: none"> Binutils to 2.26 GCC to 4.9.3 GDB to 7.11 					
#2672	4 years ago	fixed	unspecified	Serg Kruglov	Sebastian Huber <sebastian.huber@...>	3 years ago
Summary	After latest patches with Objects_Get_by_name rtems-master not compiling without --enable-posix					
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.					
#2674	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	CORE spinlock implementation is next to be useless					
Description	<p>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.</p> <p>Alternative implementation:</p> <p>Disable thread dispatching and interrupts while owning the spinlock. Forbid blocking calls while owning the spinlock.</p> <p>Drawback: The test cases of the Linux Test Project would fail: https://github.com/linux-test-project/ntp/blob/master/testcases/open_posix_testsuite/conformance/interfaces/pthread_spin_lock/1-2.c</p> <p>Optimization: User provided storage space for pthread_spin_t. In line with POSIX:</p> <p>"Only the object referenced by lock may be used for performing synchronization."</p> <p>http://pubs.opengroup.org/onlinepubs/009695399/functions/pthread_spin_destroy.html</p>					
#2676	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill <j Joel@...>	3 years ago
Summary	Obsolete clock_get() directive					
Description	<p>This is deprecated on the 4.11 branch and its use has been isolated in the source tree.</p> <ul style="list-style-type: none"> Remove clock_get() Should allow deletion of rtems_clock_get_options <pre>\$ grep -rI "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</pre>					
#2680	4 years ago	fixed	doc	Joel Sherrill	Chris Johns	3 years ago
Summary	Add pthread_setconcurrency() and pthread_getconcurrency()					
Description	<p>* Code merged. Ticket changed to documentation to remind us to add documentation when master documentation reopens in new format.</p> <p>We only require the simple implementation documented here: http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_getconcurrency.html</p> <p>This is required for FACE Conformance.</p>					
#2683	4 years ago	invalid	score	Chris Johns	Sebastian Huber	5 months ago
Summary	Configuration table's smp_enabled conditional on RTEMS_SMP					

The `rtems_configuration_table` has:

```
#ifndef RTEMS_SMP
bool smp_enabled;
#endif
```

Description

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

#2684	4 years ago	fixed	arch/sparc	David Binderman	Sebastian Huber	3 years ago
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Summary: `rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122: duplicate if`

`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) {
```

Description

#2685	4 years ago	fixed	arch/arm	David Binderman	Sebastian Huber	3 years ago
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Summary: `c/src/lib/libbsp/arm/atsam/network/if_atsam.c:409: possible bad if statement`

`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)) {
    /*
```

Description

- invalid phy number */

Maybe better code

```
if ((phy <= 0)
    (phy >= 31)) {
    /*
```

- invalid phy number */

#2689	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: `POSIX key destructors must be called during thread restart`

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.`

#2692	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: `User extensions execution order must be clarified`

Description: `The implemented and documented execution order of some user extensions disagree. Intended behaviour must be tested. Documentation must be updated accordingly.`

#2693	4 years ago	fixed	doc	Joel Sherrill	Chris Johns	4 months ago
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Summary: `Update doc to reflect obsoleting rtems_clock_get()`

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.`

#2694	4 years ago	workforme	network/legacy	Joel Sherrill	Sebastian Huber	3 years ago
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Summary: `linking issue for htonl, etc when using -std=c99`

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 <arpa/inet.h>

```
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.

Description

```
===== 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
=====
```

#2695	4 years ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: `Add libatomic for RTEMS`

#2696	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: `Unpredictable errno value returned by sem_wait() in case of semaphore deletion`

<p> Description on _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(). </p>	#2698	4 years ago	fixed	tool/gcc	Sebastian Huber	3 years ago	
<p> Summary GCC 6.1 is broken for microblaze </p> <p> The enabled libatomic reveals a bug in the microblaze RTEMS configuration: </p> <p> 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 </p> <p> Reason: </p> <p> gcc/config/microblaze/microblaze.h: %!T*: -dT xilinx.ld%s" </p> <p> This should be somehow fixed in the RTEMS GCC configuration for microblaze. </p>	#2700	4 years ago	fixed	unspecified	David Binderman	Sebastian Huber <sebastian.huber@...>	3 years ago
<p> Summary cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition </p> <p> cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition (assignment + comparison); Clarify expression with parentheses. </p> <p> Source code is </p> <pre> if ((len = getgroups(NGROUPS, gids) < 0)) { maybe better code if ((len = getgroups(NGROUPS, gids) < 0) { </pre>	#2701	4 years ago	fixed	build	printk	Amar Takhar	3 years ago
<p> Summary Rename asm file with .S(upper case) ext. name </p> <p> Description on 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. </p>	#2702	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
<p> Summary Remove descriptor objects for POSIX message queues </p> <p> Description on 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. </p>	#2706	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	3 years ago
<p> Summary Buffer allocation of capture engine is broken on SMP configurations </p> <p> Description on The capture engine uses function static variables. </p>	#2707	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	3 years ago
<p> Summary Unsafe use of current processor index in capture engine </p> <p> Description on The current processor index is used outside a thread dispatch disabled section. </p>	#2714	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
<p> Summary A pthread_detach() does not lead to a resource reclamation </p> <p> Description on According to POSIX a pthread_detach() should lead to a resource reclamation if the thread is already cancelled. </p>	#2718	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
<p> Summary Blocking _CORE_message_queue_Submit() may lead to unpredictable results </p> <p> Description on The thread wait return code is not properly initialized before the thread queue enqueue. </p>	#2722	4 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	3 years ago
<p> Summary SEM_VALUE_MAX is unusually small on RTEMS </p> <p> Description on RTEMS defines SEM_VALUE_MAX to 32767 in Newlib </p> <pre> newlib/libc/sys/rtems/include/limits.h </pre> <p> Other systems use INT_MAX or 2147483647. </p>	#2723	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
<p> Summary CPUINFO command to report per-processor information </p>							

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
```

Descripti
on

#2725	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Classic binary semaphores without a locking protocol can be released by everyone

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:

Descripti
on

```
*** 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.

#2726	4 years ago	fixed	arch/sparc	Sebastian Huber	Daniel Hellstrom	3 years ago
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Summary grscs.c: Questionable use of binary semaphore

Use a simple binary semaphore or binary semaphore with inherit priority instead.

Descripti
on

```
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- /* Create semaphores for blocking ASCS TC/TM functions */
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- if(rtems_semaphore_create(rtems_build_name('A','S','C','0'),1,
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- (RTEMS_FIFO|RTEMS_BINARY_SEMAPHORE|
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- RTEMS_NO_INHERIT_PRIORITY|RTEMS_LOCAL|
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- RTEMS_NO_PRIORITY_CEILING), 0,
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- &cfg->tcsem1) != RTEMS_SUCCESSFUL) {
c/src/lib/libbsp/sparc/shared/ascs/grscs.c-
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- goto init_error2;
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- }
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- if(rtems_semaphore_create(rtems_build_name('A','S','C','2'),0,
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- (RTEMS_FIFO|RTEMS_BINARY_SEMAPHORE|
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- RTEMS_NO_INHERIT_PRIORITY|RTEMS_LOCAL|
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- RTEMS_NO_PRIORITY_CEILING), 0,
c/src/lib/libbsp/sparc/shared/ascs/grscs.c- &cfg->tcsem2) != RTEMS_SUCCESSFUL) {
```

#2727	4 years ago	fixed	fs/fat	Sebastian Huber	Sebastian Huber	3 years ago
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Summary FAT file systems use wrong semaphore for mutual exclusion

Descripti
on

```
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.

#2728	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Pipes use wrong semaphore for mutual exclusion

Descripti
on

```
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.

#2729	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary TFTP client uses wrong semaphore for mutual exclusion

Descripti
on

```
cpukit/libnetworking/lib/tftpDriver.c- rtems_build_name('T', 'F', '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.

#2732	4 years ago	fixed	posix	Gedare Bloom	Gedare Bloom	3 years ago
Summary	Add clock_nanosleep()					
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					
#2734	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	3 years ago
Summary	pthread_setschedprio() is missing					
Description	See also http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_setschedprio.html and http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2_chap02.html#tag_15_08_04_01 In particular the distinction to pthread_setschedparam() (SCHED_FIFO, item 7.). Prototype is defined in Newlib provide <pthread.h>.					
#2735	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	pthread_setschedparam() sets the priority not according to POSIX					
Description	See also 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.).					
#2736	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	pthread_getschedparam() returns wrong priority values					
Description	See also 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."					
#2737	4 years ago	fixed	bsps	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add CLOCK_DRIVER_USE_ONLY_BOOT_PROCESSOR					
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.					
#2740	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Suboptimal type for Timestamp_Control					
Description	Currently we have <pre>typedef struct bintime Timestamp_Control;</pre> this type offers more precision than needed. Maybe use sbintime_t (also known as int64_t) instead to simplify computations.					
#2741	4 years ago	fixed	bsps	Joel Sherrill	Chris Johns	3 years ago
Summary	New warning from printf plugin changes					
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 <pre>return _Thread_Executing ? (Printf) printf : printk;</pre>					
#2742	4 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	3 years ago
Summary	New warning in SHM driver					
Description	Not sure how to fix this one ../../../../../../../../rtems/c/src/libchip/shmdr/init.c:241:29: warning: assignment from incompatible pointer type [-Wincompatible-pointer-types] <pre>MPCI_Shmem_extensions.fatal = MPCI_Fatal;</pre> PowerPC/psim with multiprocessing enabled.					
#2745	4 years ago	fixed	posix	Gedare Bloom	Gedare Bloom	3 years ago
Summary	Use clock from pthread_condattr in pthread_cond_timedwait					
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					
#2748	4 years ago	fixed	network/legacy	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	3 years ago
Summary	Move RTEMS-specific socket wake-up to RTEMS-specific <rtems/rtems_bsdnet.h>					
Description	The <sys/socket.h> contains definitions for the RTEMS-specific socket wake-up support. Move this stuff to <rtems/rtems_bsdnet.h> since this feature is not present in standard network stacks. Portable applications should not use it.					
#2749	4 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 years ago
Summary	rtems_task_set_scheduler() has insufficient parameters					

#2768	4 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
Summary	untar does not keep permissions correctly.					
Description	<p>On disk I have 'x' with:</p> <pre>\$ ls -las x 4 -rwxr-xr-x 1 chris caeng 48 Jul 14 11:46 x</pre> <p>the tar file shows:</p> <pre>\$ tar tvf rootfs.tar -rwxr-xr-x 0 chris caeng 48 Jul 14 11:46 x</pre> <p>and in the IMFS it shows:</p> <pre>[/] # ls -las x 0 -rw-r--r-- 1 root root 48 Jan 1 00:00 x</pre> <p>The makes adding 'joel' scripts difficult.</p>					
#2769	4 years ago	invalid	unspecified	Chris Johns	Chris Johns	2 years ago
Summary	rtems-syms does not clean up temp files.					
Description	<p>I am seeing temps files such as:</p> <pre>\$ ls -las /tmp/rld-* 0 -rw----- 1 chris wheel 0 Jul 27 18:16 /tmp/rld--04lbaa.rldxxx 0 -rw----- 1 chris wheel 0 Jul 27 18:42 /tmp/rld--0niaaa.rldxxx 0 -rw----- 1 chris wheel 0 Jul 27 18:39 /tmp/rld--0viaaa.rldxxx 0 -rw----- 1 chris wheel 0 Jul 27 18:38 /tmp/rld--1hhaaa.rldxxx 88 -rw----- 1 chris wheel 87426 Jul 27 18:30 /tmp/rld--1libaaa.c 0 -rw----- 1 chris wheel 0 Jul 27 18:24 /tmp/rld--2Ezaaa.rldxxx 0 -rw----- 1 chris wheel 0 Jul 29 17:11 /tmp/rld--2rwaaa.rldxxx 0 -rw----- 1 chris wheel 0 Jul 29 18:14 /tmp/rld--2sbaaa.rldxxx 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.rldxxx 0 -rw----- 1 chris wheel 0 Jul 27 18:38 /tmp/rld--4bfaaa.rldxxx</pre> <p>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.</p>					
#2770	4 years ago	fixed	doc	Christian Mauderer	Sebastian Huber	3 years ago
Summary	Missing documentation for RTEMS_LINKER_ROSET_CONTENT and RTEMS_LINKER_RWSET_CONTENT					
Description	<p>Currently the two macros</p> <pre>RTEMS_LINKER_ROSET_CONTENT RTEMS_LINKER_RWSET_CONTENT</pre> <p>are not documented. This should be added as soon as the doc repo is ready for it.</p> <p>The macros have been introduced in this commit:</p> <p>https://git.rtems.org/rtems/commit/?id=5fe6d07ad5690e3d9c6445ca3a465a700a5a5015</p>					
#2771	4 years ago	wontfix	score	Chris Johns		3 years ago
Summary	Empty C++ file with just <rtems.h> does not compile with HEAD.					
Description	<p>I have an application that does not build.</p> <p>The following C++ file:</p> <pre>\$ cat t1.cpp #include <rtems.h></pre> <p>does not compile with git head 5fe6d07ad5690e3d9c6445ca3a465a700a5a5015 on Zynq ARM. Build with:</p> <pre>\$ /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 -mfpu=neon -mfloat-abi=hard -mtune=cortex-a9 \ -g -O2 -DNDDEBUG -std=c++11 \ -Werror -Wall -Wextra \ -o t1.o \ -c t1.cpp</pre> <p>Some (too much to post) of the output is:</p> <pre>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/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/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; ^~~~~~</pre> <p>If '-std=c++11' is removed or replaced with '-std=gnu++11' the error becomes:</p> <pre>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'</pre>					
#2775	4 years ago	fixed	arch/arm	Chris Johns	Chris Johns <chrisj@...>	3 years ago
Summary	ARM CP15 arm_cp15_set_translation_table_entries fails if TTB in read-only memory					

<p>Descripti on</p> <p>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.</p> <p>I suggest the MMU be disabled, the table updated and then the MMU enabled.</p> <p>Note, the issue only shows up on real hardware, qemu does not complain.</p>	#2776	4 years ago	fixed	score	Alexander Krutwig	Sebastian Huber	3 years ago
<p>Summar y</p> <p>SPI Framework</p>							
<p>Descripti on</p> <p>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.</p>	#2777	4 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
<p>Summar y</p> <p>Remove librtems++</p>							
<p>Descripti on</p> <p>This is old and there are better design patterns for threading and C++. We recommend you use the new C++ standards based support.</p>	#2784	4 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 years ago
<p>Summar y</p> <p>Add function to get the current priority of a task by scheduler instance</p>							
<p>Descripti on</p> <pre> /** * @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); </pre>	#2788	4 years ago	wontfix	score	Chris Johns	Chris Johns	3 years ago
<p>Summar y</p> <p>RTEMS I2C API only defines Standard-mode (Sm) speed as a default.</p>							
<p>Descripti on</p> <p>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.</p> <p>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.</p>	#2790	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
<p>Summar y</p> <p>Linker sets broken with GCC 7</p>							
<p>Descripti on</p> <p>See also: https://gcc.gnu.org/ml/gcc/2016-09/msg00114.html</p> <p>The</p> <pre>#define MAKEGCCNOTKNOWTHEADDRESS(ptr) asm(""+"r"(ptr))</pre> <p>is probably the best option. It works probably also with link-time optimization.</p>	#2795	4 years ago	fixed	score	Kuan	Gedare Bloom <gedare@...>	3 years ago
<p>Summar y</p> <p>Overrun Handling for general real-time models</p>							
<p>Descripti on</p> <p>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.</p> <p>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.</p> <p>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].</p> <p>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.</p> <p>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].</p> <p>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)</p> <p>[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 [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?doi=2597457.2597459 [5] Chen et al., Overrun Handling for Mixed-Criticality Support in RTEMS, WMC 2016, accepted.</p>	#2797	4 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 years ago
<p>Summar y</p> <p>Add ability to add/remove processors to/from a scheduler instance</p>							

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.

Descripti
on

```
/**
 * @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
);
```

#2798 4 years ago fixed posix Sebastian Huber Sebastian Huber 3 years ago

Summary
Fix POSIX timer interval

See also:

<https://lists.rtems.org/pipermail/users/2016-October/030714.html>

Descripti
on

```
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
```

#2800 4 years ago fixed arch/powerpc Joel Sherrill Sebastian Huber 3 years ago

Summary
qoriq variants failing to build

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;
^~~~~~
```

Descripti
on

Found during full build sweep based on this commit:

```
commit bb9f09f34c9bdcf4d2631afd317bcefd8426efb
Author: Sebastian Huber <sebastian.huber@embedded-brains.de>
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.
```

#2802 4 years ago fixed lib/dl Sebastian Huber Chris Johns 3 years ago

Summary
Test "libdl (RTL) 5" fails on SPARC targets

On GR740 I get:

```
rt1: RELOC_32 0x60ae8 @ 0x86edc in /dl-o5.o
rt1: relocation: .rela.eh_frame, syms:.symtab
rt1: 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 [%10], %g2 <rtems_rt1_elf_relocate_rela+204>
CPU 1: Power down mode
CPU 2: Power down mode
CPU 3: Power down mode
```

On GR712RC I get:

```
rt1: WDISP_30 0x7ffe2ccd @ 0x40087108 in /dl-o5.o
rt1: relocation: .rela.gcc_except_table.exception_dl, syms:.symtab
rt1: rela: sym:_ZTISt9exception(32)=40060ae8 type:3 off:00000034 addend:0
rt1: RELOC_32 0x40060ae8 @ 0x400871b4 in /dl-o5.o
rt1: relocation: .rela.eh_frame, syms:.symtab
rt1: rela: sym:__gxx_personality_v0(20)=40001dec type:3 off:00000013 addend:0
```

Target resets now.

#2803	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Get rid of CPU_BIG_ENDIAN and CPU_LITTLE_ENDIAN					
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.					
#2805	4 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Use SPRG0 on PowerPC for current per-CPU control (SMP only)					
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.					
#2806	4 years ago	fixed	doc	Joel Sherrill	Sebastian Huber	4 months ago
Summary	Undocumented confdefs.h Configure Options					
Description	<p>The following constants in confdefs.h that are available for users to use are not defined in the Sphinx documentation.</p> <ul style="list-style-type: none"> • 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 					
#2807	4 years ago	fixed	admin	Sebastian Huber	Amar Takhar	3 years ago
Summary	rtems-docs repository is not known to trac					
#2808	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Conditionally provide rtems_interrupt_frame					
Description	Provide rtems_interrupt_frame only if CPU_ISR_PASSES_FRAME_POINTER is defined to TRUE.					
#2809	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Reduce interrupt latency on SMP configurations during thread dispatch					
Description	<p>Currently we have this situation:</p> <p>https://docs.rtems.org/doc-current/share/rtems/html/c_user/Symmetric-Multiprocessing-Services-Thread-Dispatch-Details.html#Symmetric-Multiprocessing-Services-Thread-Dispatch-Details</p> <p>"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,</p> <ul style="list-style-type: none"> • the executing thread, • the heir thread, and • an boolean flag indicating if a thread dispatch is necessary or not. <p>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.</p> <p>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.</p> <p>It is difficult to avoid this issue with the interrupt latency since interrupts normally store the context of the interrupted thread on its stack. In case a thread is marked as not executing, we must not use its thread stack to store such an interrupt context. We cannot use the heir stack before it stopped execution on another processor. If we enable interrupts during this transition, then we have to provide an alternative thread independent stack for interrupts in this time frame. This issue needs further investigation.</p> <p>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."</p> <p>Add an interrupt frame to the per-CPU control which can be used during context switches on SMP configurations.</p>					
#2810	4 years ago	fixed	arch/sparc	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Remove sparc/sis BSP variant					

<p>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.</p> <p>arm-rtems4.12-gcc -B./.././../lpc23xx_tli800/lib/ -specs bsp_specs -qrtems -mcpu=arm7tdmi-s -mthumb -Os -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -Wl,--gc-sections -mcpu=arm7tdmi-s -mthumb -DHAVE_XZ=1 -o tar01.exe init.o test_cat.o initial_filesystem_tar.o initial_filesystem_tar_gz.o initial_filesystem_tar_xz.o -lrtemscpu -lz /data/home/joel/rtems-4.11-work/tools/4.12/bin/./lib/gcc/arm-rtems4.12/6.2.1/./.././../arm-rtems4.12/bin/ld: tar01.exe section '.data' will not fit in region ROM_INT' /data/home/joel/rtems-4.11-work/tools/4.12/bin/./lib/gcc/arm-rtems4.12/6.2.1/./.././../arm-rtems4.12/bin/ld: region `ROM_INT' overflowed by 36 bytes collect2: error: ld returned 1 exit status gmake[7]: * [tar01.exe] Error 1</p>	#2825	4 years ago	fixed	doc	Sebastian Huber		3 years ago
<p>Summary</p> <p>Improve the fatal error handling chapter of the user manual</p>							
<p>Description</p> <p>At least replace the "Document me" markers with something useful.</p>	#2826	4 years ago	fixed	arch/arm	Chris Johns		3 years ago
<p>Summary</p> <p>arm_cp15_get_translation_table_base_control_register warning.</p>							
<p>Description</p> <p>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"</p> <pre> ../../../../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; ^~~~~ </pre>	#2829	4 years ago	fixed	unspecified	Joel Sherrill	Chris Johns	3 years ago
<p>Summary</p> <p>xz git URL in README is broken</p>							
<p>Description</p> <p>Use http://git.tukaani.org/</p>	#2835	4 years ago	duplicate	tool/gcc	Sebastian Huber	Needs Funding	3 years ago
<p>Summary</p> <p>Ada support is broken on SMP configurations</p>							
<p>Description</p> <p>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.</p>	#2836	4 years ago	fixed	score	Joel Sherrill	Joel Sherrill	3 years ago
<p>Summary</p> <p>Add posix_devctl()</p>							
<p>Description</p> <p>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.</p> <p>ioctl() is not a standardized method per POSIX and is not included in the FACE Profiles.</p> <p>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.</p> <p>This requires adding the <devctl.h> file to newlib. That has been done. I am testing my implementation but a tool update will be needed before this can be pushed to the community. This is OK because we have other reasons to move to a new gcc and newlib version soon.</p>	#2838	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
<p>Summary</p> <p>Termios task driven mode should use mutex for device operations</p>							
<p>Description</p> <p>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.</p>	#2839	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
<p>Summary</p> <p>Add new interrupt server driven Termios mode</p>							
<p>Description</p> <p>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.</p>	#2840	4 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	2 years ago
<p>Summary</p> <p>Use self-contained mutexes for Termios framework</p>							

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/at91 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								

Descripti
on

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.

#2841	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Add NXP SC16IS752 serial device driver
Description Add Termios device driver for NXP SC16IS752 (RS232/RS485 over SPI or I2C).

#2842	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	31 hours ago
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Summary Change C11 threads support to use Classic tasks instead of POSIX threads
Description The C11 <threads.h> support should be available in all RTEMS configurations. Since the POSIX API is still optional the C11 threads implementation should be changed to use Classic tasks.

#2843	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Use self-contained objects instead of Classic API for drivers and support libraries
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:

- | | |
|-----------------|---|
| Descripti
on | <ol style="list-style-type: none"> 1. Use C11 mutexes and condition variables. 2. Turn the POSIX synchronization objects into self-contained objects and use them. 3. Use FreeBSD synchronization objects like MUTEX(9) or CONDVAR(9). 4. Add RTEMS-specific self-contained synchronization objects and use them. |
|-----------------|---|

Option 1. and 2. lack support for binary semaphores which are used for task/interrupt synchronization, e.g. Termios.

Option 2. needs run-time evaluation to figure out the actual object variant, e.g. non-recursive, recursive, ceiling, error-checking, robust POSIX mutex.

Option 3. uses hash tables, thus it is not suitable for real-time systems.

Option 1. and 2. lack support for user-defined object names that may help for system diagnostic, tracing and debugging.

Option 4. could be used to avoid all shortcomings of options 1-3. It would be trivial to implement, test and document.

In order to enable user-defined object names one option is to add a const char *name member to Thread_queue_Queue.

#2844	4 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	3 years ago
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Summary JFFS2: Add IO controls to get filesystem instance information and force a garbage collection
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).

#2845	4 years ago	fixed	doc	Sebastian Huber		3 years ago
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Summary Add I2C framework documentation
Description The new I2C framework lacks documentation.

#2849	4 years ago	fixed	doc	Sebastian Huber		3 years ago
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Summary ATA/IDE support in RTEMS is out-dated
Description The ATA/IDE support in RTEMS is out-dated. New platforms should consider to use the SATA support provided by FreeBSD via libbsd.

#2850	4 years ago	fixed	doc	Sebastian Huber		3 years ago
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Update the documentation accordingly.

Summary	Driver manual covers non-existent Analog Driver					
Description	Remove this chapter from the documentation.					
#2851	4 years ago	fixed	doc	Sebastian Huber		3 years ago
Summary	Driver manual covers non-existent Discrete Driver					
Description	Remove this chapter from the documentation.					
#2853	4 years ago	fixed	doc	Sebastian Huber		3 years ago
Summary	Driver manual covers non-existent Non-Volatile Memory Driver					
Description	Remove this chapter from the documentation.					
#2858	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add user defined thread names					
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.					
#2859	4 years ago	fixed	posix	Gedare Bloom	Gedare Bloom	3 years ago
Summary	Implement POSIX Shared Memory Objects					
Description	<p>POSIX Shared Memory is a widely used API for inter-process communication. The functions in the API include:</p> <ul style="list-style-type: none"> • shm_open • ftruncate • mmap • munmap • shm_unlink • close • fstat • fchown • fchmod 					
#2862	4 years ago	fixed	doc	Chris Johns	Chris Johns	3 years ago
Summary	docs.rtems.org Add support to ReST format releases.					
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.					
#2863	4 years ago	duplicate	doc	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Update POSIX 1003.1 Compliance Guide for ReST					
Description	<p>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.</p> <p>I will have to decipher what we used to do and define a new procedure.</p> <p>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.</p>					
#2864	4 years ago	fixed	doc	Chris Johns		3 years ago
Summary	docs.rtems.org Automatic update of branches content when a rtems-doc.git change is made.					
Description	Add support to automatically update the branches when a git commit happens.					
#2865	4 years ago	fixed	doc	Chris Johns	Chris Johns	3 years ago
Summary	Coverpage installed when building the docs repeats catalogue.xml entries					
Description	The catalogue repeats entries.					
#2867	4 years ago	fixed	tool	Stavros Passas	Chris Johns	3 years ago
Summary	Fix exclude rule in rtems-test-check					
Description	<p>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.</p> <p>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.</p>					
#2868	4 years ago	fixed	arch/arm	David Binderman	Gedare Bloom <gedare@...>	3 years ago
Summary	src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c: 3 * pointless local variables ?					
Description	<pre>[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 ?</pre>					
#2873	4 years ago	fixed	arch/arm	David Binderman	Gedare Bloom <gedare@...>	3 years ago
Summary	src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320: defective error checking ?					

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.

#2874	4 years ago	fixed	arch/powerpc	David Binderman	Sebastian Huber <sebastian.huber@...>	3 years ago
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Summary src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt_timer.c: 4 * pointless check ?

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.

#2877	4 years ago	fixed	score	Stavros Passas	joel.sherrill@...	3 years ago
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Summary DHCP client fails on complex networks

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:

1. Broadcast a DHCP discover;
2. Wait for a DHCP offer;
3. Transmit a DHCP request;
4. Wait for a DHCP ack;

However the network stack is not cleaned between the reception of a DHCP offer and a DHCP ack, so if multiple offers are received, just the first one will be processed during the "Receive DHCP offer" phase, and the next one will be received when we expect a "DHCP ack", which makes our implementation assume the DHCP handshake is invalid and fail. Thus we restart the network and retry the whole process from the beginning which will cause the same issue again.

This issue that is present from when I remember in RTEMS, definitely from 4.10 up to now.

#2878	4 years ago	fixed	arch/sparc	David Binderman	Daniel Hellstrom	3 years ago
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Summary src/c/src/lib/libbsp/sparc/shared/can/occan.c:1573: broken error checking ?

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.

#2879	4 years ago	fixed	score	David Binderman	Chris Johns	3 years ago
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Summary src/cpukit/libdebugger/rtems-debugger-server.c: four problems

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' ) {

```

#2880	4 years ago	wontfix	unspecified	David Binderman		3 years ago
Summary	src/cpukit/libfs/src/jffs2/src/readinode.c:189: faulty logic					
Description	src/cpukit/libfs/src/jffs2/src/readinode.c:189]: (style) Condition 'tn.fn ofs >= offset' is always true					
	Source code is					
	<pre> if (tn->fn->ofs < offset) next = tn->rb.rb_right; else if (tn->fn->ofs >= offset) next = tn->rb.rb_left; else break; </pre>					
	Maybe better code					
	<pre> if (tn->fn->ofs < offset) next = tn->rb.rb_right; else if (tn->fn->ofs > offset) next = tn->rb.rb_left; else break; </pre>					
#2883	4 years ago	fixed	arch/arm	David Binderman	Pavel Pisa	3 years ago
Summary	src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248: strange expression ?					
Description	src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248]: (style) Same expression on both sides of ' '					
	Source code is					
	<pre> uint32_t flr_tx_ready = TMS570_SCI_FLR_TX_EMPTY TMS570_SCI_FLR_TX_EMPTY; </pre>					
#2885	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Fix rtems_rate_monotonic_postponed_job_count() prototype					
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()).					
#2889	4 years ago	fixed	score	Stavros Passas	Stavros Passas <stavros.passas@...>	3 years ago
Summary	RTEMS_STACK_CHECKER_EXTENSION has incomplete definition					
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.					
#2890	4 years ago	fixed	score	Stavros Passas	Sebastian Huber <sebastian.huber@...>	3 years ago
Summary	_RBTree_Initialize_node generates warnings					
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.					
#2893	4 years ago	fixed	config	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Remove CONFIGURE_SMP_APPLICATION					
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.					
#2894	4 years ago	fixed	config	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Rename CONFIGURE_SMP_MAXIMUM_PROCESSORS to CONFIGURE_MAXIMUM_PROCESSORS					
Description	Rename CONFIGURE_SMP_MAXIMUM_PROCESSORS to CONFIGURE_MAXIMUM_PROCESSORS since the SMP part is superfluous.					
#2895	4 years ago	fixed	config	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Prefix the confdefs.h internal defines with an underscore					
Description	Prefix the confdefs.h internal defines with an underscore to simplify the review of this extremely complex header file.					
#2896	4 years ago	wontfix	tool/rsb	Joel Sherrill	Chris Johns	3 years ago
Summary	RSB requirements are missing pax					
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					
#2897	4 years ago	fixed	score	Kevin Kirsipel	Needs Funding	3 years ago
Summary	Update termios.h to match the latest FreeBSD definitions					
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_flags (not using the cfgetispeed, cfgetospeed, cfsetispeed, cfsetospeed functions).					
#2905	4 years ago	fixed	arch/sparc	Tanu Hari Dixit	Daniel Hellstrom	3 years ago
Summary	Merge LEON					


```
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
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redirect: <https://nchc.dl.sourceforge.net/project/expat/expat/2.1.0/expat-2.1.0.tar.gz>

```
downloading: sources/expat-2.1.0.tar.gz - 549.4kB of 549.4kB (100%) building: expat-2.1.0-x86_64-linux-gnu-1 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-linux-gnu-1.txt reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-linux-gnu-1.xml config: tools/rtems-binutils-2.27-1.cfg package: sparc-rtems4.12-binutils-2.27-x86_64-linux-gnu-1 download: ftp://ftp.gnu.org/gnu/binutils/binutils-2.27.tar.bz2 -> sources/binutils-2.27.tar.bz2 downloading: sources/binutils-2.27.tar.bz2 - 24.9MB of 24.9MB (100%) download: https://git.rtems.org/rtems-tools/plain/tools/4.12/binutils/binutils-2.26-gas-reloc.patch -> patches/binutils-2.26-gas-reloc.patch downloading: patches/binutils-2.26-gas-reloc.patch - 0.0 bytes of 510.0 bytes (0% downloading: patches/binutils-2.26-gas-reloc.patch - 510.0 bytes of 510.0 bytes (100%) building: sparc-rtems4.12-binutils-2.27-x86_64-linux-gnu-1 reporting: tools/rtems-binutils-2.27-1.cfg -> sparc-rtems4.12-binutils-2.27-x86_64-linux-gnu-1.txt reporting: tools/rtems-binutils-2.27-1.cfg -> sparc-rtems4.12-binutils-2.27-x86_64-linux-gnu-1.xml config: tools/rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg package: sparc-rtems4.12-gcc-6.3.0-newlib-2.5.0.20170228-x86_64-linux-gnu-1 download: ftp://ftp.gnu.org/gnu/gcc/gcc-6.3.0/gcc-6.3.0.tar.bz2 -> sources/gcc-6.3.0.tar.bz2 downloading: sources/gcc-6.3.0.tar.bz2 - 95.3MB of 95.3MB (100%) download: ftp://sourceware.org/pub/newlib/newlib-2.5.0.20170228.tar.gz -> sources/newlib-2.5.0.20170228.tar.gz downloading: sources/newlib-2.5.0.20170228.tar.gz - 17.1MB of 17.1MB (100%) download: http://www.mpfr.org/mpfr-2.4.2/mpfr-2.4.2.tar.bz2 -> sources/mpfr-2.4.2.tar.bz2 downloading: sources/mpfr-2.4.2.tar.bz2 - 1.0MB of 1.0MB (100%) download: http://www.multiprecision.org/mpc/download/mpc-0.8.1.tar.gz -> sources/mpc-0.8.1.tar.gz downloading: sources/mpc-0.8.1.tar.gz - 532.2kB of 532.2kB (100%) download: ftp://ftp.gnu.org/gnu/gmp/gmp-4.3.2.tar.bz2 -> sources/gmp-4.3.2.tar.bz2 downloading: sources/gmp-4.3.2.tar.bz2 - 1.8MB of 1.8MB (100%) building: sparc-rtems4.12-gcc-6.3.0-newlib-2.5.0.20170228-x86_64-linux-gnu-1
```

#2942	3 years ago	invalid	unspecified	DHANPAL SINGH	3 years ago
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Summary
rtems building error

<p>Description i am attaching the screenshot of file system</p>						
#2945	3 years ago	worksforme	unspecified	Joel Sherrill	Daniel Hellstrom	3 years ago
Summary	Many failures on LEON3 with SMP disabled					
Description	<p>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</p> <p>Passed: 458 Failed: 20 Timeouts: 73 Invalid: 3</p> <p>Total: 554</p> <p>Failures:</p> <p>cdtest.exe spintrcritical20.exe d105.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 psxgetusage01.exe spccpucounter01.exe spintrcritical03.exe psxtimes01.exe</p> <p>Timeouts:</p> <p>nsecs.exe sptask_err02.exe sprrivenv01.exe psxkey03.exe psxsignal01.exe psx06.exe psx10.exe sp04.exe mrfs_fstime.exe ticker.exe psxmsgq03.exe psxkey09.exe psx07.exe sptimerserver01.exe psxsusleep.exe psxstack02.exe psxkey07.exe psxkey10.exe stackchk.exe sp01.exe fileio.exe spsimplsched01.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 spedsched01.exe uid01.exe mdosfs_fstime.exe psx16.exe psxaio03.exe sp19.exe psxtime.exe psx09.exe psxkey06.exe psxlock.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 spffio03.exe psxtimer01.exe monitor.exe</p> <p>Invalid:</p> <p>cxix_jstream.exe spinternalerror01.exe sptimecounter01.exe</p>					
#2946	3 years ago	fixed	unspecified	Chris Johns	joel.sherrill@...	3 years ago
Summary	Add a top level global testsuite configuration file (.tcfg) and a 'user-input' test state.					
Description	<p>Adding a top level testsuite configuration file lets us specify tests that have a common test state across all BSPs.</p> <p>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.</p>					
#2949	3 years ago	wontfix	tool/rsb	Sebastian Huber		3 years ago
Summary	Questionable patch organization in RTEMS tools and RSB					
Description	<p>Patches for RTEMS tools are available via the RTEMS tools repository: https://git.rtems.org/rtems-tools/tree/tools</p> <p>They are organized using subdirectories.</p> <p>The RSB uses these patches. It removes the subdirectories and collects everything in a "patches" directory, e.g.</p> <p>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</p> <p>This works only in case the patch file names are unique. So, the use of subdirectories in the RTEMS tools is questionable.</p>					
#2951	3 years ago	fixed	build	alexgerbor	chrisj@...	3 years ago
Summary	Error path in rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg					
Description	<p>newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff in path https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/ not found</p> <p>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</p> <p>Log from execute /source-builder/sb-set-builder:</p> <p>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</p>					
#2954	3 years ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	3 years ago
Summary	ARM: Optimize context switch					
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.					
#2957	3 years ago	fixed	score	Sebastian Huber	Gedare Bloom	3 years ago
Summary	Shared memory support internal locking is broken					
Description	<p>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:</p> <pre>#0 _Terminate (the_source=INTERNAL_ERROR_CORE, the_error=31) at ../../../../../../rtems/c/src/../../../../cpukit/score/src/interr.c:35 #1 0x0011654 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 ../../../../../../rtems/c/src/../../../../cpukit/score/src/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 <rtems_libio_iops+168>, 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</pre>					
#2958	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add some popular benchmark programs to the testsuite					

After the tool upgrade, the pc586-sse BSP does not compile the test fsjffs2gc01:

Descripti
on

```
i386-rtems4.12-gcc -B../..../pc586-sse/lib/ -specs bsp_specs -qrtems -DHAVE_CONFIG_H -I. -I../..../rtems/c/src/../../testsuites/fstests/fsjffs2gc01 -I. -I../..../rtems/c/src/../../testsuites/fstests/support -I../..../rtems/c/src/../../testsuites/fstests/jffs2_support -I../..../rtems/c/src/../../testsuites/fstests/./support/include -I../..../rtems/c/src/../../testsuites/fstests/./psxtests/include -mtune=pentium -march=pentium -msse2 -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT fstest_support.o -MD -MP -MF .deps/fstest_support.Tpo -c -o fstest_support.o test -f ../support/fstest_support.c | echo
'../..../rtems/c/src/../../testsuites/fstests/fsjffs2gc01/./support/fstest_support.c In file included from
../..../rtems/c/src/../../testsuites/fstests/fsjffs2gc01/./support/fstest_support.c:30:0:
../..../rtems/c/src/../../testsuites/fstests/./psxtests/include/pmacros.h:99:2: error: #error "unsupported size of off_t"

#error "unsupported size of off_t"

gmake[6]: * [fstest_support.o] Error 1 gmake[6]: Leaving directory `./data/home/joel/rtems-work/rtems-testing/rtems/build-i386-pc586-sse-rtems/i386-rtems4.12/c/pc586-sse/testsuites/fstests/fsjffs2gc01'
```

#2981 3 years ago fixed unspecified Joel Sherrill Chris Johns 3 years ago

Summar
y

testdata excludes on included tcfg files does not work

Descripti
on

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.

#2982 3 years ago invalid tool/gcc Chris Johns Sebastian Huber 3 years ago

Summar
y

LibBSD broken with GCC+RTEMS changes

The RTEMS Header test is libbsd is broken. I assume including <rtems.h> and no other is still a requirement. Maybe we need a test for this.
The example code is:

Descripti
on

```

$ 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 -mfpu=neon -mfloat=abi=hard -mtune=cortex-a9 -ffunction-sections -fdata-
sections -DHAVE_RTEMS_SCORE_CPUOPTS_H=1 t.c -c -o t.o

*/

#include <rtems.h>

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 -mfpu=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 -mfpu=neon -mfloat=abi=hard -mtune=cortex-a9 -ffunction-sections -fdata-
sections -DHAVE_RTEMS_SCORE_CPUOPTS_H=1 t.cpp -c -o t.o

*/

#include <rtems.h>

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 -mfpu=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 *cpuset
    ^~~~~~
/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.

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/excounss0o:1 e<.R TUEsMeS 'Nheexlups' dteov ilcies>t
ccogmemma0n:d s<.C
adence CGEM Gigabit Ethernet Interface> on nexus0
miibus0: <MII bus> on cgem0
[/] # e1000phy0: <Marvell 88E1512 Gigabit PHY> 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: <Zynq-7000 slcr block> 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 = 0000FFFD 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
```

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on

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 = 0000FFFD 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 = 0000FFFD 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
```

#2994	3 years ago	fixed	unspecified	Joel Sherrill	Chris Johns	3 years ago
Summary	tar01 XZ error					
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					
#2995	3 years ago	fixed	tool/rsb	Hassan Karim	joel.sherrill@...	3 years ago
Summary	Missing bsets					
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					
#2997	3 years ago	fixed	score	Chris Johns	Chris Johns	3 years ago
Summary	Monitor config command does not handle unlimited objects.					

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
```

#2998	3 years ago	fixed	doc	Chris Johns	chrisj@...	5 months ago
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Summary RTEMS User Manual Quick Start does not cover releases.

Description 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.

#2999	3 years ago	wontfix	tool/rsb	Joel Sherrill	Chris Johns	3 years ago
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Summary sb-check on Cygwin

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.

#3000	3 years ago	fixed	score	Chris Johns	Joel Sherrill	19 months ago
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Summary Setting interrupt level in the mode arg on SMP returns RTEMS_UNSATISFIED

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`.

#3001	3 years ago	fixed	score	Chris Johns	Sebastian Huber	3 years ago
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Summary SMP build of RTEMS Testsuite does not set CONFIGURE_MAXIMUM_PROCESSORS

Description The default setting for `CONFIGURE_MAXIMUM_PROCESSORS` is `1` and this means `rtems_configuration_is_smp_enabled()` returns `false`. Only the `smp-tests` 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.

#3003	3 years ago	fixed	fs/fat	munster	Sebastian Huber	3 years ago
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Summary FAT does not support clusters bigger than 32K

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>

#3006	3 years ago	fixed	arch/sparc	Chris Johns	Daniel Hellstrom	3 years ago
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Summary SPARC LEON3 BSP SMP build is broken.

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
```

#3007	3 years ago	fixed	arch/arm	munster	joel.sherrill@...	4 months ago
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Summary ARM caching issues

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.

#3008	3 years ago	fixed	doc	Hassan Karim	chrisj@...	3 years ago
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Summary missing pax causes install failures

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 Under this section, 11.1.5. Ubuntu

#3009	3 years ago	wontfix	tool/website	Chris Johns	joel.sherrill@...	3 years ago
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Summary Provide invalid link handler for docs.rtems.org so old docs can be removed.

Description The docs.rtems.org website has lots of old docs which need to be removed.

See [#3009](#) for a reference to old documentation.

#3010	3 years ago	fixed	unspecified	David Binderman	Gedare Bloom <gedare@...>	3 years ago
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Summary `src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition`

src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition (bitwise operator + comparison); Clarify expression with parentheses.

Source code is

```

Description
on
    } else if ( (flags & MAP_PRIVATE != MAP_PRIVATE) ) {
Maybe better code
    } else if ( (flags & MAP_PRIVATE) != MAP_PRIVATE ) {

```

#3011	3 years ago	workforme	arch/arm	Arturo Pérez	Gedare Bloom	3 years ago
------------------	-------------	-----------	----------	--------------	--------------	-------------

Summary
Error compiling xilinx_zynq_zedboard.

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.

```

#3012	3 years ago	fixed	tool/newlib	Sebastian Huber	Chris Johns	3 years ago
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Summary
Global C++ IO streams are broken (cout, cin, cerr)

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

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 <ext/stdio_filebuf.h>
 #include <ext/stdio_sync_filebuf.h>

+#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;

```

Description

```

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);

```

#3013	3 years ago	fixed	tool/website	Nikolay Komashinskiy	Amar Takhar	22 months ago
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Summary
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'")

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")
```

Descripti
on

#3014	3 years ago	fixed	bsps	phongvanpham	joel.sherrill@...	3 years ago
Summary	interrupt vector indexing is assuming BSP_INTERRUPT_VECTOR_MIN = 0 for this code.					
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.					
#3015	3 years ago	fixed	arch/powerpc	phongvanpham	joel.sherrill@...	3 years ago
Summary	Add support for IBM PPC 750 chip					
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.					
#3016	3 years ago	fixed	bsps	phongvanpham	joel.sherrill@...	3 years ago
Summary	missing a couple register names + a #ifndef ASM around serial.h inclusion					
Description	In rtems\c\src\libchip\serial\ns16550_p.h, need to add a couple register and #ifndef around serial.h					
#3017	3 years ago	worksforme	score	phongvanpham	joel.sherrill@...	3 years ago
Summary	improvement in pci.h					
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.					
#3018	3 years ago	fixed	tool/rsb	phongvanpham	Chris Johns	3 years ago
Summary	RSB cannot compile tool chain in CentOS 7.					
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."					
#3020	3 years ago	invalid	unspecified	Sebastian Huber	Sebastian Huber	4 weeks ago
Summary	Review tests using CONFIGURE_DISABLE_SMP_CONFIGURATION					
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.					
#3023	3 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Parameter of CPU_COPY() are in wrong order					

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);
```

Description

However, in Newlib we have:

```
static __inline void CPU_COPY( cpu_set_t *dest, const cpu_set_t *src )
{
    *dest = *src;
}
```

#3025	3 years ago	fixed	unspecified	Chris Johns	joel.sherrill@...	3 years ago
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Summary
m32c/m32csm does not build linpack-pc.c

1 tests m32c/m32csm build:

configure: /opt/work/chris/rtems/kernel/rtems.git/configure --target\ =m32c-rtems4.12 --enable-rtemsbsp=m32csm --prefix=/opt/rtems/4.12\ --enable-tests

Description

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

#3027	3 years ago	fixed	tool/rsb	Worth Burruss	Chris Johns	2 years ago
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Summary
RTEMS source builder fails when building gcc documentation with newer versions of gcc

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.

#3032	3 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	3 years ago
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Summary
CPU_NAND_S() implementation is not in line with FreeBSD

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 *dstset,
    const cpu_set_t *srcset1, const cpu_set_t *srcset2)
{
    cpu_set_word_t *wdest = &dstset->_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]);
}
```

Description

#3036	3 years ago	fixed	tool/newlib	Sebastian Huber	joel.sherrill@...	3 years ago
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Summary
CPU_CMP() implementation is not in line with FreeBSD

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);
}
```

Description

#3040	3 years ago	invalid	tool/website	Sebastian Huber	Amar Takhar	22 months ago
-------	-------------	---------	--------------	-----------------	-------------	---------------

Summary
Cannot use RTEMS mailing list archive for patches

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>

#3043	3 years ago	fixed	unspecified	Chris Johns		3 years ago
-------	-------------	-------	-------------	-------------	--	-------------

Summary
4.11/rtems-nios2 does not build on Windows.

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`.

#3046	3 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 years ago
-------	-------------	-------	----------	-------------	-------------	-------------

Summary
4.12/rtems-moxie missing release number.

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.


```

builder/rtems/~/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-tfile.o remote-sim.o cli-dump.o
cli-decode.o cli-script.o cli-cmds.o cli-setshow.o cli-logging.o cli-interp.o cli-utils.o mi-out.o mi-console.o mi-cmds.o mi-cmd-catch.o mi-cmd-
env.o mi-cmd-var.o mi-cmd-break.o mi-cmd-stack.o mi-cmd-file.o mi-cmd-disas.o mi-symbol-cmds.o mi-cmd-target.o mi-cmd-info.o mi-interp.o mi-
main.o mi-parse.o mi-getopt.o tui-command.o tui-data.o tui-disasm.o tui-file.o tui-hooks.o tui-interp.o tui-io.o tui-layout.o tui-out.o tui-regs.o
tui-source.o tui-stack.o tui-win.o tui-windata.o tui-wingeneral.o tui-winsource.o tui.o python.o py-arch.o py-auto-load.o py-block.o py-bp-event.o
py-breakpoint.o py-cmd.o py-continue-event.o py-xmethods.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-inftread.o py-lazy-string.o py-linetable.o py-newobjfileevent.o
py-objfile.o py-param.o py-prettyprint.o py-progspace.o py-signalevent.o py-stopevent.o py-symbol.o py-symtab.o py-threadevent.o py-type.o py-
unwind.o py-utils.o py-value.o py-varobj.o guile.o elfread.o stap-probe.o dtrace-probe.o posix-hdep.o posix-strerror.o c-exp.o cp-name-parser.o
ada-exp.o jv-exp.o d-exp.o f-exp.o go-exp.o m2-exp.o p-exp.o rust-exp.o version.o annotate.o addrmap.o auto-load.o auxv.o agent.o bfd-target.o
blockframe.o breakpoint.o break-catch-sig.o break-catch-throw.o break-catch-syscall.o findvar.o regcache.o cleanups.o charset.o continuations.o
corelow.o disasm.o dummy-frame.o dfp.o source.o value.o eval.o valops.o valarith.o valprint.o printcmd.o block.o symtab.o psymtab.o symfile.o
symfile-debug.o symmisc.o linespec.o dictionary.o namespace.o location.o infcall.o infcmd.o infrun.o expprint.o environ.o stack.o tid-parse.o
thread.o thread-fsm.o exceptions.o extension.o filesystem.o filestuff.o inf-child.o interps.o minidebug.o main.o macrotab.o macrocmd.o macroexp.o
macroscope.o mi-common.o event-loop.o event-top.o inf-loop.o completer.o gdbarch.o arch-utils.o gdbtypes.o gdb bfd.o gdb_obstack.o osabi.o
copying.o memattr.o mem-break.o target.o target-dcache.o parse.o language.o build-id.o buildsym.o findcmd.o std-regs.o signals-state-save-
restore.o signals.o exec.o reverse.o bcache.o objfiles.o observer.o minsyms.o maint.o demangle.o dbxread.o coffread.o coff-pe-read.o dwarf2read.o
mipsread.o stabsread.o corefile.o dwarf2expr.o dwarf2loc.o dwarf2-frame.o dwarf2-frame-tailcall.o ada-lang.o c-lang.o d-lang.o f-lang.o objc-lang.o
ada-tasks.o ada-varobj.o c-varobj.o ui-out.o cli-out.o varobj.o vec.o go-lang.o go-valprint.o go-typeprint.o jv-lang.o jv-valprint.o jv-
typeprint.o jv-varobj.o m2-lang.o opencl-lang.o p-lang.o p-typeprint.o p-valprint.o selftest.o sentinel-frame.o complaints.o typeprint.o ada-
typeprint.o c-typeprint.o f-typeprint.o m2-typeprint.o ada-valprint.o c-valprint.o cp-valprint.o d-valprint.o f-valprint.o m2-valprint.o ser-
event.o serial.o mdebugread.o top.o utils.o ui-file.o user-regs.o frame.o frame-unwind.o doublest.o frame-base.o inline-frame.o gnu-v2-abi.o gnu-
v3-abi.o cp-abi.o cp-support.o cp-namespace.o d-namespace.o reggroups.o rust-lang.o trad-frame.o tramp-frame.o solib.o solib-target.o prologue-
value.o memory-map.o memrange.o xml-support.o xml-syscall.o xml-utils.o target-descriptions.o target-memory.o xml-tdesc.o xml-builtin.o inferior.o
osdata.o gdb_usleep.o record.o record-full.o gcore.o gdb_vecs.o jit.o progspace.o skip.o probe.o common-utils.o 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 ../liberty/libliberty.a
../libdecnumber/libdecnumber.a -lncurses -lm -L/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/config-1dl -framework
CoreFoundation -lpython2.7 -u _PyMac_Error /System/Library/Frameworks/Python.framework/Versions/2.7/Python -lexpat ../liberty/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_error, __Z25type_name_no_tag_or_errorP4type,
_Z12memory_error18target_xfer_statusm, __bfd_error_handler, __Z20annotate_error_beginv, __Z19compile_rx_or_errorP17re_pattern_bufferPKcS2,
_Z12catch_errorsPFIvES_PcI1return_mask, __Z20memory_error_message18target_xfer_statusP7gdbarchm, __Z11range_errorPKcz,
_Z13gdb_xml_errorP14gdb_xml_parserPKcz, __Z29observer_notify_command_errorv, _gdbpy_gdb_memory_error, _bfd_set_error,
_Z23invalid_thread_id_errorPKc, __Z11throw_error6errorsPKcz, _gdbpy_gdb_error, __Z14gdb_bfd_errmsg9bfd_errorPPc,
_Z29observer_attach_command_errorPFvVE, __Z27gdbpy_print_python_errors_pv, _bfd_get_error, __Z14internal_errorPKciS0z,
_Z17get_regcomp_erroriP17re_pattern_buffer, __Z14annotate_errrov)
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

```

#3054	3 years ago	fixed	unspecified	AndiK	Andreas Kölbl <andreas.koelbl@...>	3 years ago
Summary	gdb 7.12.1 on RSB 4.12 branch fail to build on Archlinux					
Description	7.12.1 does not compile with latest guile As already stated here: 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.					
#3056	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add EDF SMP scheduler					
Description	The current SMP schedulers are all fixed-priority schedulers. Add a job-level fixed priority scheduler (EDF).					
#3057	3 years ago	fixed	tool/gcc	Sebastian Huber	Daniel Hellstrom	3 years ago
Summary	Add a workaround for the LEON3FT store-store errata					
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.					
#3059	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add a simple processor affinity support to the EDF SMP scheduler					
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.					
#3061	3 years ago	invalid	tool	Chris Johns	chrisj@...	3 years ago
Summary	including 'unistd.h' in C++ does not build.					

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 -grtems -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'
```

Descripti
on

#3063	3 years ago	fixed	config	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Make the EDF scheduler 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), etc. use a one-to-one thread processor affinity for example.

#3069	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add rtems_scheduler_ident_by_processor()					

```
/**
 * @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.
 */
```

Descripti
on

#3070	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add rtems_scheduler_ident_by_processor_set()					

```
/**
 * @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] cpuset_size 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 cpuset_size,
  cpu_set_t *cpuset,
  rtems_id *id
);
```

Descripti
on

#3071	3 years ago	fixed	bsp	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Create an interrupt server for every processor in the system					

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.

Summary Inconsistent blocking addressing in RFS

Background There are two ways to address a block in RFS:

1. Via a single 32bit block number (bno)
2. Via a group number(gno) and a bit offset (bit)

They should be fully convertible (1-1 mapping). In other words, the equation to convert 1 to 2 should be unique within the RFS implementation.

The bug The RFS implementation contains two different conversions between 1 and 2.

Details

1. In `rtems_rfs_group_bitmap_alloc` (`rtems-rfs-group.c`, line 172)


```
bno = gno * group_blocks + bit
```
2. In `rtems_rfs_group_bitmap_alloc` (`rtems-rfs-group.c`, line 228)


```
bno = gno * group_blocks + bit + 1 (via rtems_rfs_group_block() function)
```
3. In `rtems_rfs_group_bitmap_free` (`rtems-rfs-group.c`, line 283)


```
bno = gno * group_blocks + bit + 1 (RTEMS_RFS_SUPERBLOCK_SIZE)
```
4. 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:

1. `rtems-rfs-group.c`: all references to the conversion must be updated to use `RTEMS_RFS_SUPERBLOCK_SIZE` explicitly.
2. `rtems_rfs_group_block` converts the pair to bno via:


```
#define rtems_rfs_group_block(_g, _b) (((_g)->base) + (_b))
```

`(_g)->base` is calculated via `rtems-rfs-format.c` from:

```
#define rtems_rfs_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)
```

#3090	3 years ago	fixed	bsps	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Add BSP for i.MX 7

#3091	3 years ago	fixed	tool	Joel Sherrill	Sebastian Huber	3 years ago
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Summary Core Dump in powerpc-rtems4.12-ld

This appears to have been introduced by the new binutils. Impacts `qemuprep` and `qemuprep-altivec` BSPs.

Description `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=0xffffffc gmake[8]: * [qemu_fakerom.bin] Segmentation fault`

#3096	3 years ago	fixed	shell	Chris Johns	Chris Johns	3 years ago
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Summary Shell internal commands should be public.

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.

#3098	3 years ago	fixed	admin	Chris Johns	Amar Takhar	22 months ago
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Summary Add new RTEMS repos to github.

Please add:

1. `rtems-docs.git`
2. `rtems-release.git`

to our github repos.

#3099	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
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Summary Add RTEMS FDT wrapper and shell command to libmisc

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.

#3100	3 years ago	fixed	arch/arm	Chris Johns	Chris Johns	3 years ago
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Summary Add Xilinx AXI I2C driver

Description Add a Xilinx AXI I2C driver.

#3101	3 years ago	fixed	score	Chris Johns	Chris Johns	3 years ago
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Summary Add I2C Drivers for LM25066A, TMP112, ADS1113 and ADS1115

Description	Add drivers for: 1. LM25066A 2. TMP112 3. ADS1113 4. ADS1115				
#3102	3 years ago	fixed	tool	Chris Johns	Chris Johns 3 years ago
Summary	rtems-exeinfo does not decode ARM static constructors.				
Description	The sections for ARM are not the same as other architectures.				
#3103	3 years ago	fixed	tool	Joel Sherrill	chrisj@... 3 years ago
Summary	rtems-tools on CentOS 7 Build Failure				
Description	<p>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.</p> <pre>[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 headerunistd.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', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/libiberty', '-I./rtemstoolkit/libiberty', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION=4.12', '-DRTEMS_RELEASE=4.12.78bbe4c1a31d', '-DFASTLZ_LEVEL=1', '-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', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/libiberty', '-I./rtemstoolkit/libiberty', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION=4.12', '-DRTEMS_RELEASE=4.12.78bbe4c1a31d', '-DFASTLZ_LEVEL=1', '-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: # ifndef basename /* Return the file name within directory of FILENAME. We don't declare the function if the `basename' macro is available (defined in <libgen.h>) which makes the XPG version of this function available. */ # ifdef CORRECT_ISO_CPP_STRING_H_PROTO extern "C++" char *basename (char *filename) THROW_asm ("basename") nonnull ((1)); extern "C++" const char *basename (const char *filename) THROW_asm ("basename") nonnull ((1)); # else extern char *basename (const char *filename) THROW nonnull ((1)); # endif # endif # endif ===== I think we are getting the C++ prototype from string.h and a conflicting C prototype from libiberty.h</pre>				
#3109	3 years ago	fixed	arch/riscv	Sebastian Huber	Hesham Almatary 2 years ago

Summary	Add RISC-V support					
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.					
#3111	3 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Newlib: Change time_t and clock_t integer types to 64-bit					
#3112	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	POSIX: Make pthread_mutex_t self-contained					
Description	Change the POSIX mutex into a self-contained object using <sys/lock.h>, e.g.					
	<pre>typedef struct { struct _Mutex_recursive_Control _mutex; unsigned int _flags; struct _Scheduler_Control *_scheduler; __uint64_t _priority_ceiling; } pthread_mutex_t;</pre>					
#3113	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	POSIX: Make pthread_cond_t self-contained					
Description	Change the POSIX condition variable into a self-contained object using <sys/lock.h>, e.g.					
	<pre>typedef struct { struct _Condition_Control _condition; pthread_mutex_t *_mutex; clockid_t _clock; } pthread_cond_t;</pre>					
#3114	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	POSIX: Make pthread_barrier_t self-contained					
Description	Change the POSIX barrier into a self-contained object using <sys/lock.h>, e.g.					
	<pre>typedef struct { struct _Thread_queue_Queue _queue; unsigned int _flags; unsigned int _count; } pthread_barrier_t;</pre>					
#3115	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	POSIX: Make pthread_rwlock_t self-contained					
Description	Change the POSIX read-write lock into a self-contained object using <sys/lock.h>, e.g.					
	<pre>typedef struct { struct _Thread_queue_Queue _queue; unsigned int _flags; unsigned int _readers; } pthread_rwlock_t;</pre>					
#3116	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	POSIX: Make sem_t self-contained					
Description	Change the POSIX semaphore into a self-contained object using <sys/lock.h>, e.g.					
	<pre>typedef struct { struct _Semaphore_Control _sem; } sem_t;</pre>					
#3117	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	score: Optimize _Thread_queue_Enqueue() timeout handling					
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().					
#3121	3 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	3 years ago
Summary	clock() implementation in Newlib is broken					
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().					
#3122	3 years ago	fixed	bsps	Sebastian Huber	Sebastian Huber	16 months ago
Summary	Simplify and unify BSP_output_char					
Description	The BSP_output_char should output a char and not mangle 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.					
#3123	3 years ago	wontfix	tool/gdb	Sebastian Huber	Sebastian Huber	3 years ago
Summary	GDB 8.0.1 is broken on FreeBSD 11					
Description	I tried to add the patches for 7.11, but this results in:					
	<pre>----- --- 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</pre>					
#3124	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Ignore pshared attribute for POSIX semaphores					
Description	Since we have only one process, sharing between processes is trivial.					
#3125	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Accept PTHREAD_PROCESS_SHARED for POSIX mutexes					

Descripti on	Since we have only one process, sharing between processes is trivial.					
#3126	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summar y	Accept PTHREAD_PROCESS_SHARED for POSIX barriers					
Descripti on	Since we have only one process, sharing between processes is trivial.					
#3127	3 years ago	fixed	tool/gcc	Chris Johns	Chris Johns	22 months ago
Summar y	MIPS tool build on Darwin (MacOS) fails.					
Descripti on	This is the same bug that effects FreeBSD. For details see: https://gcc.gnu.org/bugzilla/show_bug.cgi?id=66032 https://gcc.gnu.org/bugzilla/show_bug.cgi?id=62097					
#3128	3 years ago	fixed	tool	Chris Johns	chrisj@...	3 years ago
Summar y	RTEMS Tools corvar does not build on Windows.					
The following error has appeared on Windows:						
Descripti on	<pre>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 <sys/queue.h> ^ compilation terminated. Waf: Leaving directory `D:/opt/rtems/rsb.git/rtems/build/rtH/rtems-tools.git/build'</pre>					
#3129	3 years ago	fixed	tool	Chris Johns	joel	3 years ago
Summar y	RTEMS Tools covoar build fails on Windows					
The following warnings and errors are present so the RSB tools do not finish and install:						
Descripti on	<pre>[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/covoar/app_common.cc [101/150] Compiling tester/covoar/CoverageFactory.cc [102/150] Compiling tester/covoar/CoverageMap.cc [103/150] Compiling tester/covoar/CoverageMapBase.cc [104/150] Compiling tester/covoar/CoverageRanges.cc [105/150] Compiling tester/covoar/CoverageReaderBase.cc [106/150] Compiling tester/covoar/CoverageReaderQEMU.cc [107/150] Compiling tester/covoar/CoverageReaderRTEMS.cc [108/150] Compiling tester/covoar/CoverageReaderSkyeye.cc [109/150] Compiling tester/covoar/CoverageReaderTSIM.cc [110/150] Compiling tester/covoar/CoverageWriterBase.cc [111/150] Compiling tester/covoar/CoverageWriterRTEMS.cc [112/150] Compiling tester/covoar/CoverageWriterSkyeye.cc [113/150] Compiling tester/covoar/CoverageWriterTSIM.cc [114/150] Compiling tester/covoar/DesiredSymbols.cc [115/150] Compiling tester/covoar/ExecutableInfo.cc [116/150] Compiling tester/covoar/Explanations.cc [117/150] Compiling tester/covoar/GcovData.cc [118/150] Compiling tester/covoar/GcovFunctionData.cc [119/150] Compiling tester/covoar/ObjdumpProcessor.cc ../tester/covoar/DesiredSymbols.cc: In member function 'void Coverage::DesiredSymbols::determineSourceLines(Coverage::CoverageRanges*, Coverage::ExecutableInfo)': ../tester/covoar/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 'ccovoar' failed with exit status 1 (run with -v to display more information)</pre>					
#3130	3 years ago	fixed	doc	Chris Johns	chrisj@...	3 years ago
Summar y	RTEMS Doxygen.in latex output does not build					
Descripti on	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".					
#3132	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	3 years ago
Summar y	Add reference counting to file descriptors					

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;
}
```

Descripti
on

A close() should return -1 with EBUSY in case the file descriptor is referenced. In this case, no close operation will be performed.

#3133	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Remove rtems_libio_t::driver

Description Remove unused rtems_libio_t::driver member.

#3134	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Remove LIBIO_FLAGS_CREATE

Description Remove unused LIBIO_FLAGS_CREATE flag.

#3135	3 years ago	fixed	admin	Sebastian Huber	amar@...	3 years ago
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Summary Devel mailing list doesn't work and Git push impossible due to disk full

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'
```

Descripti
on

We have on dispatch.rtems.org:

Filesystem	Size	Used	Avail	Capacity	Mounted on
/dev/gpt/root0	88G	82G	-600M	101%	/

#3136	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Use FIFO for file descriptor free list

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.

#3137	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Accept PTHREAD_PROCESS_SHARED for POSIX condition variables

Description Since we have only one process, sharing between processes is trivial.

#3139	3 years ago	fixed	bsps	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Remove old ISR parameter from Clock_driver_support_install_isr() and make it optional

Description The old ISR is not used by the clock driver shell.

#3140	3 years ago	fixed	score	Chris Johns	joel.sherrill@...	3 years ago
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Summary CPU Kit broken with --enable-rtems-debug

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
```

Descripti
on

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 e6d0a8bae6d16eba605370c11a5928b797820bb-modified, Newlib 2.5.0.20170818)
```

#3141	3 years ago	fixed	doc	Chris Johns	Chris Johns	3 years ago
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Summary Change the BSP Howto's name to something smaller.

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

#3142	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
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Summary POSIX: Reduce size of pthread_once_t and make it zero-initialized

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.

#3148	3 years ago	fixed	posix	Chris Johns	joel.sherrill@...	3 years ago
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Summary PSXRDWRV Test failure on Beaglebone Black

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!!!!
```

Descripti
on

#3152	3 years ago	wontfix	arch/arm	Chris Johns	Chris Johns	22 months ago
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Summary Beaglebone Black crashes on u-boot master build.

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: nzcw IRQs off FIQs on Mode SVC_32
] Resetting CPU ...
    
```

Descripti
on

and the code is:

```

BSP_START_TEXT_SECTION void bsp_start_hook_0(void)
{
}
80000104: e12fff1e bx lr

80000108 <bsp_start_hook_1>:
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
    
```

#3153	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Accept PTHREAD_PROCESS_SHARED for POSIX rwlocks					

Description Since we have only one process, sharing between processes is trivial.

#3157	3 years ago	fixed	unspecified	Jeff Mayes	Joel Sherrill	3 years ago
Summary	PowerPC tools don't build on 32-bit hosts					

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/lib/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 confstest.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

#3158	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
Summary	Examples v2 does not build					

Description Updating waf breaks the rootfs. Add rootfs support to [rtems-waf.git](https://github.com/rtems-waf).

#3159	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
Summary	Examples v2 trace linker ini files reference non-existing dump-on-error					

Description Remove the dump-on-error option.

#3160	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
Summary	Trace linker score support is broken					

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
```

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This is a snip of the errors.

#3163	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add I2C device driver for temperature sensor LM75A					
#3166	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	3 years ago
Summary	New default ticket assignee: NeedsReview?					
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.					

#3167	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Internal status codes must not depend on RTEMS_POSIX_API					
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.					
#3168	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Simplify POSIX_API_Control					
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.					
#3170	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	3 years ago
Summary	Use BSP_output_char via RTEMS printer or simple console driver for test output by default					
Description	<p>Test runs with a interrupt driven console driver result in unreliable test outcomes.</p> <p>Problem was noticed with test runs on Microzed, for example libtest/block08:</p> <p>The test prints:</p> <pre>** END OF TEST BLOCK 8 ***</pre> <p>The <code>rtems-test</code> command marks the result as a failure. There is a single <code>*</code> missing from the start of the line. I attach the full test trace.</p>					
#3171	3 years ago	fixed	tool/gcc	Chris Johns	Chris Johns	22 months ago
Summary	RSB GCC does not build on High Sierra and APFS					
Description	The issue has been reported upstream as https://gcc.gnu.org/bugzilla/show_bug.cgi?id=81797					
#3172	3 years ago	fixed	arch/i386	Chris Johns	Chris Johns	3 years ago
Summary	i386 PC BSP does not reset when bsp_reset is called.					
Description	Removal of the Edison support removed the standard PC reset using the keyboard controller rather than the specific Edison support.					
#3173	3 years ago	fixed	arch/arm	Chris Johns	Chris Johns	3 years ago
Summary	Xilinx AXI I2C driver IP race condition causes clock glitch.					
Description	The Xilinx AXI I2C IP has a race condition when the PIRQ read FIFO level is reached and the clock is throttling.					
#3174	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Remove rtems_pthread_attribute_compare()					
Description	The rtems_pthread_attribute_compare() function is undocumented and used only in one test. Move it to the test.					
#3175	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Merge FreeBSD timecounter changes from 2015-01-20 to now					
#3176	3 years ago	fixed	tool/newlib	Joel Sherrill	Joel Sherrill	2 years ago
Summary	getreent in libc.a and generated by confdefs.h					
Description	<p>Some applications are getting duplicate symbol definitions for <code>getreent()</code>. One of the examples-v2 programs is doing this. It is because there are two bodies for this method -- one from <code>confdefs.h</code> and another from <code>newlib</code>.</p> <p>https://sourceware.org/ml/newlib/2017/msg01020.html addresses the issues and needs to be incorporated by the RSB.</p> <p>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.</p>					
#3177	3 years ago	fixed	doc	Joel Sherrill	Chris Johns	3 years ago
Summary	Replace/update POSIX Compliance Guide					
Description	<p>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:</p> <ol style="list-style-type: none"> 1. new Sphinx document 2. contents generated from POSIX API tracking spreadsheet (CSV) 3. outline per .h file, not functional area 4. use bullets, not tables so easier to format 					
#3178	3 years ago	fixed	tool/gcc	Joel Sherrill	Joel Sherrill <joel@...>	3 years ago
Summary	Update sh-rtems4.12 bset to use rtems-default (using old gcc)					
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.					
#3179	3 years ago	fixed	posix	Joel Sherrill	Sebastian Huber	3 years ago
Summary	New warnings from Time Changes					

New warnings after picking up your recent commits. How are you checking for warnings?

```

../../../../../../../../rtems/c/src/../../../../cpukit/posix/src/pthreadatrrdefault.c:58:5: warning: initialization discards 'const' qualifier from pointer target type [-Wdiscarded-qualifiers]
    ^
../../../../../../../../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(
    ^

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#3180	3 years ago	fixed	build	Joel Sherrill	Sebastian Huber	22 months ago
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Summary: ar warning: 'u' modifier ignored since 'D' is the default (see 'U')

Remove this warning
 Description: sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')

#3181	3 years ago	fixed	build	Joel Sherrill	Joel Sherrill <joel@...>	3 years ago
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Summary: Various ccl1plus warnings for "valid for C/ObjC but not for C++"

Fix these
 Description: ccl1plus: warning: command line option '-Wmissing-prototypes' is valid for C/ObjC but not for C++
 ccl1plus: warning: command line option '-Wimplicit-function-declaration' is valid for C/ObjC but not for C++
 ccl1plus: warning: command line option '-Wstrict-prototypes' is valid for C/ObjC but not for C++
 ccl1plus: warning: command line option '-Wnested-externs' is valid for C/ObjC but not for C++

#3182	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago
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Summary: CLOCK_REALTIME timeout implementation is not POSIX compliant

Description: Changes of the CLOCK_REALTIME must trigger absolute timeouts. This is not the case. There is no test for this in RTEMS.

#3185	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Change uptime seconds to int32_t

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().

#3187	3 years ago	fixed	build	Joel Sherrill	Sebastian Huber	3 years ago
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Summary: smptests/Makefile.am Issues

Description: There appear to be two issues in smptests/Makefile.am:
 1. smppxaffinity0[12] are listed twice. This causes a warning. I am unsure if they should always be built or only when POSIX is enabled.
 2. smppxmutex01 is listed in the "HAS_POSIX" section. Aren't POSIX mutexes always on now so this test should not be inside the conditional?

#3188	3 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	3 years ago
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Summary: Add C11 Threading Examples

Description: C11 is new and we need to provide examples.

#3189	3 years ago	fixed	tool/newlib	Joel Sherrill	Sebastian Huber	3 years ago
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Summary: MUTEX_INITIALIZER missing braces warning

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
    
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#3190	3 years ago	fixed	tool	Chris Johns	Chris Johns	3 years ago
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Summary RTEMS Tester covoar does not link on MacOS

Description The executables do not link on MacOS.

#3191	3 years ago	fixed	tool	Chris Johns	Joel Sherrill	3 years ago
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Summary RTEMS Tester covoar dies with no arguments.

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<char, std::__1::char_traits<char>, std::__1::allocator<char> >
Abort trap: 6
    
```

Descripti
on

#3198	3 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	3 years ago
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Summary Add lazy update of line control and baud divisor to NS16550 serial driver

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.

#3200	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	3 years ago
-------	-------------	-------	-------------	---------------	-----------------	-------------

Summary m32c tests don't build -- test_context too large

```

../../../../../../../../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.
    
```

#3201	3 years ago	fixed	arch/epiphany	Joel Sherrill	Joel Sherrill <joel@...>	3 years ago
-------	-------------	-------	---------------	---------------	--------------------------	-------------

Summary epiphany tools checksum error

```

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: 4d911e7bff41827dd7712669d20e4a1bf02806df0fae113ff0e7d13466bef2e =>
2b2034fd12fd5108205ade66400c175ede8cef8141a38ae03fc78bf2d65325 warning: checksum error: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip error: checksum failure
file: sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip
    
```

#3202	3 years ago	fixed	arch/or1k	Joel Sherrill	Joel Sherrill <joel@...>	3 years ago
-------	-------------	-------	-----------	---------------	--------------------------	-------------

Summary or1k tools build error

```

I assume this is a side-effect of recent checksum changes. Otherwise, there is a serious problem.

ownload: (full) https://git.rtems.org/rtems-tools/plain/tools/4.12/gdb/gdb-7.11-sis-leon2-leon3.diff -> patches/gdb-7.11-sis-leon2-leon3.diff download: https://git.rtems.org/rtems-
tools/plain/tools/4.12/gdb/gdb-7.11-sis-leon2-leon3.diff -> patches/gdb-7.11-sis-leon2-leon3.diff checksums: gdb-7.11-sis-leon2-leon3.diff:
0b8b2a23c7d1592315fe0130188f457c80f8b1e26645535bed091a5e0671682dc44a1987d00e6939a1b1c562c7579404db43183e66c29c2b479446aa61ca4f6 =>
4c44afec9c00a45b9322d78da3796f3294f207ddae9fe9faab3327b6991ac75 warning: checksum error: gdb-7.11-sis-leon2-leon3.diff error: checksum failure file: patches/gdb-7.11-
sis-leon2-leon3.diff
    
```

#3203	3 years ago	fixed	admin	Amar Takhar	Amar Takhar	22 months ago
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Summary Upgrade trac to fix numerous problems.

There are a ton of issues going on with trac that need to be resolved. The two major ones are:

Description

- 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!

#3204	3 years ago	workforme	tool	Joel Sherrill	Chris Johns	8 months ago
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Summary

Exception in rtems-test

Note: No category for rtems-tools.

Description

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 <module>
    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'
```

#3205	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
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Summary

Relative timespec timeouts are subject to integer overflows

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.

#3207	3 years ago	fixed	doc	Joel Sherrill		3 years ago
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Summary

Supported Architectures Page is out of date

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.

#3209	3 years ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	2 years ago
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Summary

RSB should fail on this error

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 ()
```

Description

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
```

#3210	3 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 years ago
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Summary

Improve the RSB build email message

Description

The message needs more detail to provide a suitable archive.

#3211	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	3 years ago
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Summary

Fix pthread_create() with user provided stack

Description

In case the user provides a stack with address and size, then do not alter the stack size.

#3212	3 years ago	workforme	tool/rsb	Joel Sherrill	Chris Johns	8 months ago
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Summary

Qemu Fails to Build, RSB Gives Odd Traceback

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 <file>..." 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/do_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
```

Descripti
on

#3213	3 years ago	fixed	tool	Joel Sherrill	Chris Johns	8 months ago
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Summary: Move erc32, leon2, leon3, psim and jmr3904 to Tier 2

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?

#3215	3 years ago	fixed	doc	Joel Sherrill	Joel Sherrill	3 years ago
-------	-------------	-------	-----	---------------	---------------	-------------

Summary: Configuring a System Still Includes Notepads and Has Wrong Heading

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
```

#3216	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Replace vprintk() implementation

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.

#3217	3 years ago	fixed	lib	Chris Johns	Chris Johns	2 years ago
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Summary: Add RTEMS version, build and tools details to tests

Published test results need the RTEMS version, how it is built and the tools used to build the kernel and tests.

#3218	3 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	3 years ago
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Summary: Termios canonical mode (ICANON) does not return input line by line

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.

#3219	3 years ago	fixed	bsps	Chris Johns	Chris Johns	2 years ago
-------	-------------	-------	------	-------------	-------------	-------------

Summary: Zynq BSP missing linker option --gc-sections

This Zynq BSP is missing this option.

#3220	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
-------	-------------	-------	-------------	-----------------	-----------------	-------------

Summary: Change RTEMS release number scheme from 4.12 to 5

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)

Descripti
on

The following steps are necessary to carry out the number change:

1. ~~Change version of RTEMS tools~~
2. ~~Change version of RSB~~
3. ~~Change version of RTEMS~~
4. ~~Documentation repo - Easy~~
5. ~~Documentation website repo - Easy~~
6. Release procedure repo. Easy.
7. ~~Trac tickets - Not sure~~
8. ~~Trac wiki - Medium(?) - A wiki search of 4.12 gives 21 hits~~
9. rtems.org website. That needs Joel.
10. Make announcement on the devel and user mailing list

#3221	3 years ago	fixed	doc	Sebastian Huber	Chris Johns	4 months ago
Summary	RSB wiki page duplicates documentation					
Descripti on	The wiki page https://devel.rtems.org/wiki/Developer/Tools/RSB duplicates content with https://docs.rtems.org/branches/master/rsb/index.html					
#3224	3 years ago	fixed	tool/binutils	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Upgrade or1k and m32c to Binutils 2.29					
#3225	3 years ago	fixed	tool/gdb	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Upgrade m32c to GDB 8.0.1					
#3226	3 years ago	fixed	tool/gdb	Sebastian Huber	Sebastian Huber	3 years ago
Summary	gdb: pr 16827, fix sim on Mavrick					
#3227	3 years ago	workforme	admin	Joel Sherrill	Chris Johns	3 years ago
Summary	sb-check fails on Msys2 64-bit					
Descripti on	<p>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</p> <pre>\$./source-builder/sb-check error: no hosts defaults found; please add</pre> <p>After adding some prints, I learned this:</p> <pre>\$./source-builder/sb-check posix made it MSYS_NT-10.0 error: no hosts defaults found; please add</pre> <p>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:</p> <pre>\$./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</pre> <p>I installed binutils explicitly with pacman and then sb-check is complaining about gcc. I did a find to locate the gcc's installed:</p> <pre>\$ 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.</pre>					
#3228	3 years ago	fixed	tool/rsb	Chris Johns		3 years ago
Summary	aarch64 missing from 5/rtems-all build set					
Descripti on	This arch needs to be added to the all build set.					
#3229	3 years ago	fixed	doc	Chris Johns	Chris Johns	22 months ago

Summary	Add index to all documents.					
Description	Indexes currently do not work. Fix this adding them to all documents. Add index entries where possible.					
#3231	3 years ago	fixed	rtems	Chris Johns	Chris Johns	4 months ago
Summary	RTEMS Top level README needs updating.					
Description	<ul style="list-style-type: none"> Add markdown header. Does the release process add a VERSION file to releases? Docs link is wrong. Anything else we need to add? 					
#3232	3 years ago	fixed	doc	Chris Johns	Chris Johns	3 years ago
Summary	Use of <code>.. include::</code> in the User Manual should be changed.					
Description	This tricket for Sphinx highlights an issue when using <code>.. include::</code> , we should be using <code>.. toctree::</code> : https://github.com/sphinx-doc/sphinx/issues/3432					
#3234	3 years ago	invalid	doc	Joel Sherrill	Joel Sherrill	3 years ago
Summary	Quick Start Instructions Inconsistent					
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.					
#3235	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Fix rtems_semaphore_flush() for priority inheritance semaphores					
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.					
#3236	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Fix thread queue owner priority update in _Thread_queue_Flush_critical()					
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.					
#3237	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Fix priority ceiling updates					
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.					
#3238	3 years ago	fixed	admin	Chris Johns	Amar Takhar	22 months ago
Summary	Git push to Trac with more than one commit does not update tickets.					
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.					
#3239	3 years ago	fixed	dev	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add getentropy() implementation provided by each BSP					
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.					
#3240	3 years ago	fixed	lib	Andrei Chichak	Chris Johns	3 years ago
Summary	cpukit/libmisc/stackchk/check.c stack addresses formatted incorrectly.					
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.					
#3242	3 years ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Workarounds for UT699, UT700, and GR712RC errata					
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					
#3243	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Simplify global construction					
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					
#3244	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Change rtems_panic() implementation and document this function					
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 printk(). Document this function in Fatal Manager chapter. Replace all BSP_panic() with rtems_panic().					
#3245	3 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Replace BSP_panic() with rtems_panic()					

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 $debase.Tpo -c -o pci_access.o /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pci_access.c &\
mv -f $debase.Tpo $debase.Po
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 <libcpu/byteorder.h>
      ^~~~~~
```

Descripti
on

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
```

#3267	3 years ago	fixed	lib	Chris Johns	2 years ago
-------	-------------	-------	-----	-------------	-------------

Summary
rtems/status-checks.h calls printf without including the needed header.

```
/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");
      ^~~~~~
```

Descripti
on

#3268	3 years ago	fixed	arch/powerpc	Chris Johns	3 years ago
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Summary
PowerPC BSP include naming mess.

The PowerPC BSP family headers need some refactoring for the RTEMS 5 release. The BSP family relies on the preinstall process to get suitable headers installed to work and removing [preinstall](#) exposes this. The specific issue appears with [irq.h](#) when building the [no-preinstall](#) branch. There is a PowerPC BSP family header and a number of BSPs also have an [irq.h](#) which overrides families header. The code has `#include <bsp/irq.h>` and the header used depends on the include order on the GCC command line. This is fragile for any user. These headers needs to be moved to BSP specific paths, for example `#include <mvme3100/irq.h>`.

#3270	3 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	3 years ago
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Summary
Remove unused support for MPC505

There is some support for MPC505 in libcpu, however, I cannot find a BSP for this code. Remove this apparently dead code.

#3277	3 years ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	3 years ago
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Summary
QoriQ: Add MAC-less DPAA driver to libbsd

The SDK Linux DPAA driver supports a so called MAC-less interface driver. This driver allows Ethernet communication between guest systems of a hypervisor.

#3278	3 years ago	fixed	tool	Joel Sherrill	Chris Johns	3 years ago
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Summary
bsp-builder has incorrect print (%s in output)

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
```

#3281	3 years ago	wontfix	tool/gdb	Sebastian Huber	Sebastian Huber	3 years ago
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Summary
Add epiphany support to GDB 8.0.0

#3283	3 years ago	fixed	doc	Joel Sherrill	Chris Johns	3 years ago
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Summary
Bad URL in OpenOCD/Xilinx_Zynq Wiki Page

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>

#3284	3 years ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	3 years ago
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Summary
RSB uses hard coded GCC binary paths

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/infesible in most situations.

#3285	3 years ago	fixed	build	Sebastian Huber	Sebastian Huber	2 years ago
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Summary
Reorganize BSP source directory

Now, that all BSP header files are in

- bsp/include
- bsp/@RTEMS_CPU@/include
- bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/include

we should also move the BSP sources to this new directory tree. How do we want to organize the BSP sources in bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@?

- include (this is already there, see #3254)
- config
 - somebsp.cfg
- start (everything required to run a minimal application without devices)
 - start.S
 - bspstart.c
 - 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)
- 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.

Descripti
on

#3290	3 years ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	3 years ago
Summary	Add device tree support to Altera/Intel? Cyclone V BSP					
#3294	3 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 years ago
Summary	gcc version report for released tools is wrong.					
Description	The release gcc version string has the RTEMS release and not the actual release.					
#3298	3 years ago	fixed	lib/dl	Chris Johns	Chris Johns	18 months ago
Summary	dlerror non-conformance					
Description	This is a port of the 4.11 patches from #2747 to <code>master</code> . Please refer to that ticket for details.					
#3305	2 years ago	fixed	arch/arm	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Add paravirtualization support to ARM					
Description	The Arm port does not currently have paravirtualization support.					
#3306	2 years ago	fixed	arch/powerpc	Joel Sherrill	Joel Sherrill <joel@...>	2 years ago
Summary	Add paravirtualization support to PowerPC					
Description	The PowerPC port does not currently have paravirtualization support.					
#3307	2 years ago	fixed	arch/powerpc	Joel Sherrill	Joel Sherrill	2 years ago
Summary	PowerPC linkcmds.base missing wildcards on some sections					
Description	Some sections were missing sections. Wildcards needed to be added.					
#3309	2 years ago	fixed	doc	Chris Johns		22 months ago
Summary	rtems_task_create's initial_mode SMP update					
Description	The <code>initial_mode</code> 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.					
#3312	2 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
Summary	RSB macro calls such as define fail on unicode keys.					
Description	<p>The <code>define</code> call in <code>macros.py</code> checks for a <code>str</code> while the <code>__getitem__</code> call can convert a <code>unicode</code> string to <code>str</code>. Remove the check.</p> <p>Remove the other places in <code>macros.py</code> a <code>key</code> <code>str</code> check is made and see if they can be improved.</p> <p>The following has been reported to me:</p> <pre>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 <module> 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: <type 'unicode'></pre>					
#3315	2 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
Summary	Move expat's home site to github from SF.					
Description	Move expat's home site from SF to github: https://libexpat.github.io/					
#3318	2 years ago	fixed	bsp	mletcher	Sebastian Huber	2 years ago
Summary	Improve INTERNAL_ERROR_THREAD_EXITTED to show the id and thread name					

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 }
```

Description

#3320	2 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	2 years ago
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Summary
Add a simple task console driver

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 ``getchark()``.

    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 ``fdatasync(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.
```

Description

#3323	2 years ago	fixed	lib	Chris Johns	Chris Johns	2 years ago
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Summary
mhttpd's http etag can result in invalid caching in a browser.

The mhttp's http etag uses the mtime and file length and this can cause subtle issues if a target has no RTC or it is incorrect and files are being copied without preserving the mtime or changes happen that do not change the length.

The `cp` and `untar` code do not update a file's time.

Add support for an etag callback so a user can manage the tag, ie MD5 or something similar.

#3325	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 years ago
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Summary
Simplify clustered scheduler configuration

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.

#3327	2 years ago	fixed	score	Joel Sherrill		2 years ago
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Summary
Eliminate score/cpu/*../types.h

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

#3328	2 years ago	fixed	build	Amaan Cheval		2 years ago
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Summary
bootstrap uses non-POSIX compliant echo -e

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>

#3329	2 years ago	fixed	tool/website	Joel Sherrill	Amar Takhar	22 months ago
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Summary: Trac Login Failure (bad password) Causes Internal Error

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',
 '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
```

Description

#3334	2 years ago	fixed	posix	Stavros Passas	Sebastian Huber	18 months ago
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Summary: deadlock in _once()

RTEMS threads getting locked up when using certain c++ functionality. Issue happens for example when std::future is combined with std::async.

Description

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.

<p>Descripti on</p>	<p>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</p> <pre>sed -i 's/[[:space:]]*\$/' file</pre> <p>performs a similar task. Remove it.</p>					<p>2 years ago</p>	<p>fixed</p>	<p>tool</p>	<p>Sebastian Huber</p>	<p>Sebastian Huber</p>	<p>2 years ago</p>
<p>Summar y</p>	<p>Remove unhex program</p>										
<p>Descripti on</p>	<p>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.</p>					<p>2 years ago</p>	<p>fixed</p>	<p>tool</p>	<p>Sebastian Huber</p>	<p>Sebastian Huber</p>	<p>2 years ago</p>
<p>Summar y</p>	<p>Remove packhex program</p>										
<p>Descripti on</p>	<p>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> <pre> /***** 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 packhex.c * *****/ </pre>										
<p>Summar y</p>	<p>Move it to rtems-tools.</p>										
<p>Descripti on</p>	<p>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.</p>					<p>2 years ago</p>	<p>fixed</p>	<p>tool</p>	<p>Sebastian Huber</p>	<p>Sebastian Huber</p>	<p>2 years ago</p>
<p>Summar y</p>	<p>Move rtems-bin2c program to rtems-tools</p>										
<p>Descripti on</p>	<p>rtems-test command line documentation appears to be out of date</p>										
<p>Summar y</p>	<p>https://docs.rtems.org/branches/master/user/tools/tester.html#command-line-help does not look like the current output of the --help.</p> <p>This may also apply to other branches and branch specific tickets filed.</p>										
<p>Descripti on</p>	<p>Testsuite Makefile merge to one per group of tests</p>					<p>2 years ago</p>	<p>fixed</p>	<p>build</p>	<p>Chris Johns</p>	<p>Chris Johns</p>	<p>22 months ago</p>
<p>Summar y</p>	<p>Merge the nested Makefile.am files into a single file per group of tests.</p> <p>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.</p>										
<p>Descripti on</p>	<p>Require --enable-rtemsbsp with --enable-smp or --enable-multiprocessor</p>					<p>2 years ago</p>	<p>fixed</p>	<p>build</p>	<p>Chris Johns</p>	<p>Chris Johns</p>	<p>2 years ago</p>
<p>Summar y</p>	<p>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.</p>										
<p>Descripti on</p>	<p>Prefer int for int32_t</p>					<p>2 years ago</p>	<p>fixed</p>	<p>tool/gcc</p>	<p>Sebastian Huber</p>	<p>Sebastian Huber</p>	<p>8 months ago</p>
<p>Summar y</p>	<p></p>										

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 <stdint.h>

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 *);
```

Descripti
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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 @@
 @@ -48,3 +48,7 @@
     -latomic -lc -lgcc --end-group %!{qnlincmds: -T linkcmds%s}}}"

 #define TARGET_POSIX_IO
+
+/* Use int for int32_t (see stdint-newlib.h). */
+#undef STDINT_LONG32
+#define STDINT_LONG32 0
```

#3385	2 years ago	fixed	build	Chris Johns	Chris Johns	2 years ago
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Summary: Generate an error if RTEMS's gcc is not found when the user runs configure

Description: Generate an error when the user runs configure if one cannot be found in the path.

#3386	2 years ago	invalid	admin	Chris Johns	Amar Takhar	22 months ago
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Summary: Trac's git changeset browsing is suspect.

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:

1. [900c40730dbee34cd7a6f1c03c80896951bf1b9c/rtems](#)
2. [d8de6b9dbe4ab1ef375ecce55e8bfb1028c5dd13/rtems](#)
3. [9704efb4ec088a472842cbc9bc46392685ebc806/rtems](#)

and others do not:

- a. [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.

#3387	2 years ago	wontfix	build	Chris Johns	Sebastian Huber	8 months ago
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Summary: Add subdir-objects to automake flags

Description: This will be fixed by the new build system, see [#3818](#).

#3388	2 years ago	fixed	tool	Joel Sherrill	chrisj@...	4 months ago
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Summary: rtems-tester: possible parsing error for qemu-prep-altivec on exclude SMP configuration

These failures have persisted across all the autoconf changes:

Failures:

powerpc/qemuprep-altivec:

```
configure --target=powerpc-rtems5 --enable-rtemsbsp=qemuprep-altivec\ --prefix=/home/joel/rtems-work/bsps --enable-networking --enable-smp
ld/collect2:0 error: no error message found!
```

powerpc/qemuprep-altivec:

```
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!
```

Descripti
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powerpc/qemuprep-altivec:

```
configure --target=powerpc-rtems5 --enable-rtemsbsp=qemuprep-altivec\ --prefix=/home/joel/rtems-work/bsps --enable-debug --enable-\
-networking -
-enable-smp ld/collect2:0 error: no error message found!
```

powerpc/qemuprep-altivec:

```
configure --target=powerpc-rtems5 --enable-rtemsbsp=qemuprep-altivec\ --prefix=/home/joel/rtems-work/bsps --enable-smp ld/collect2:0 error: no
error message found!
```

I checked and it looks like qemuprep-altivec is listed in the smp excludes section.

It is the only BSP with a - in the name that is in smp-excludes. Could it be that the matching fails in this case?

The other is pc586-sse which is SMP excluded also but using a different mechanism..

#3389	2 years ago	fixed	config	Joel Sherrill		22 months ago
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Summary Warning flags have disappeared with recent autoconf changes

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.

#3390	2 years ago	fixed	network/legacy	Sebastian Huber	Sebastian Huber	2 years ago
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Summary NFS: Remove support for cexp

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
```

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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>

#3392	2 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
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Summary infinite loop in RSB's path when a prefix path is not writable

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`.

#3395	2 years ago	fixed	tool	Chris Johns	Chris Johns	2 years ago
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Summary rtems-ld does not remove executable when there is an output error

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.

#3396	2 years ago	fixed	tool	Chris Johns	Chris Johns	2 years ago
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Summary rtems-ld does not handle R_ARM_V4BX relocation records

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.

#3397	2 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
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Summary The register keyword is deprecated in C++11

The following code gives a warning with GCC and `-std=c++17`:

```
void f(void)
{
    register int i;
}
```

Descripti
on

```
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.

#3401	2 years ago	fixed	tool	Joel Sherrill	chrisj@...	22 months ago
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Summary dl06: tms570* Mixed LSB/MSB Error

```
ld-arm-tms570ls3137_hdk-rtems/arm-rtems5/c/tms570ls3137_hdk/testsuites/libtests' rtems-ld -r /home/joel/rtems-work/rtems-testing/rtems/build-arm-tms570ls3137_hdk-
rtems/arm-rtems5/c/tms570ls3137_hdk -O rap -b dl06.pre -e rtems_main -s \
```

```
-o dl06.rap dl06-o1.o dl06-o2.o -lm
error: elf:check_file: /data/home/joel/rtems-work/tools/5/bin/./lib/gcc/arm-rtems5/7.3.0/./../././arm-rtems5/lib/libc.a:lib_a-_Exit.o@23760: Mixed data types not allowed
(LSB/MSB).
```

#3402	2 years ago	fixed	tool	Joel Sherrill	chrisj@...	22 months ago
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Summary dl06: mips hurricane Mixed Endian Error

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).
```

#3403	2 years ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber	2 years ago
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Summary RSB RTEMS tool set build is irreproducible

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.

#3407	2 years ago	fixed	tool	Joel Sherrill		22 months ago
Summary	Move Gaisler.org and Gaisler.se hosted RSB patches to rtems.org					
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.					
#3409	2 years ago	wontfix	build	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Strip down configure checks to the bare minimum					
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.					
#3410	2 years ago	fixed	arch/i386	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove bin2boot program used by i386 BSPs					
Description	For which boot loader is this? Can it be removed? The sources have no copyright information.					
#3411	2 years ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber	2 years ago
Summary	qemuppc does not install linkcmds.base					
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.					
#3413	2 years ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber	8 months ago
Summary	examples-v2 both_hello and triple_period fail to build					
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					
#3415	2 years ago	fixed	admin	Joel Sherrill	Chris Johns	22 months ago
Summary	Add examples and tests as components					
Description	It seems as if we should have tests and examples as components.					
#3416	2 years ago	fixed	tool	Joel Sherrill	Joel Sherrill <joel@...>	8 months ago
Summary	Update Ubuntu RSB Instructions for 17.10					
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)					
#3417	2 years ago	fixed	tool	Chris Johns	Chris Johns	22 months ago
Summary	Add libdwarf to elftoolchain and provide a C++ wrapper					
Description	Update the elftoolchain and add libdwarf. Provide a C++ framework to create reusable access to libdwarf.					
#3418	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove difftest and sorttimes test tools					
Description	Evaluation of test results and report generation should move to somewhere else, e.g. the RTEMS tester.					
#3419	2 years ago	fixed	network/legacy	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Always build network services (tftpfs, ftpfs, ftpd, telnetd, libdebugger)					
Description	Always build network services (tftpfs, ftpfs, ftpd, telnetd, libdebugger) which only depend on the POSIX socket API (provided by Newlib header files) as support libraries. Remove them from libbsd. The network services must reside in dedicated libraries to avoid a cyclic dependency between libbsd.a and librtemscpu.a.					
#3421	2 years ago	wontfix	admin	Joel Sherrill	chrisj@...	22 months ago
Summary	New Trac components for Coverage and Trace					
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.					
#3423	2 years ago	duplicate	admin	Joel Sherrill		2 years ago
Summary	examples-v2: m68k/powerpc BSPs undefined reference to __Thread_Life_action_handler					
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-qoriq_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					
#3424	2 years ago	fixed	examples	Joel Sherrill	Joel Sherrill	22 months ago
Summary	examples-v2: no MIPS BSPs pass configuration step					

<pre> Checking for program 'ar' : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar Checking for program 'g++' : /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 rbt4925' </pre>						
#3425	2 years ago	fixed	unspecified	Joel Sherrill		2 years ago
Summary	examples-v2: PowerPC fails to build fat_ramdisk					
<pre> beatnik, gwlcfm, haleakala, mpc5566evb, mpc5566evb_spe, mpc5566evb_spe, mpc56431_evb, mpc5668g, mpc5674f_ecu508_app, mpc5674f_ecu508_boot, mpc5674fevb, mpc5674fevb_spe, mpc5674f_rsm6, mvme3100, mvme3100, phycore_mpc5554, qemu-prep-alivec, qemu-prep [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:40:2, 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:40:2, 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 </pre>						
#3432	2 years ago	wontfix	score	Joel Sherrill		2 years ago
Summary	Remove Simple SMP Priority Scheduler					
<p>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.</p> <p>This ticket is a proposal to remove this as no longer having a use case.</p>						
#3433	2 years ago	fixed	arch/riscv	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Add SMP support for RISC-V					
<p>The project includes the following tasks:</p> <ul style="list-style-type: none"> • 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 						
#3434	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configuration option					
#3435	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add test case for CONFIGURE_BSP_PREREQUISITE_DRIVERS configuration option					
Description	This configuration option is untested					
#3436	2 years ago	fixed	dev	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Remove clock driver Clock_driver_support_shutdown_hardware() hook					
<p>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.</p> <pre> #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 </pre> <p>The aim is to stop clock tick interrupts at some late point in the exit() procedure.</p> <p>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.</p> <p>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.</p> <p>Remove the superfluous Clock_driver_support_shutdown_hardware() hook.</p>						
#3437	2 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Replace use of printk() in free() with a fatal error					
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.					

#3443	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove shgen program					
Description	Rename it to rtems-shgen.					
#3444	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove nios2gen program					
Description	Rename it to rtems-nios2gen					
#3445	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove multigen script					
Description	This script is unused and out dated.					
#3446	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove cvsignore-add.sh script					
Description	This script is obsolete since moving to Git.					
#3447	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove rtems-testsuite-autostuff script					
Description	It is not used.					
#3451	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove size_rtems script					
Description	This script is horribly out of date. A new version could be placed in RTEMS tools if necessary.					
#3452	2 years ago	fixed	arch/riscv	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Update RISC-V tool chain to support standard 64-bit chips					
Description	<p>First step is to include this bug fix in Binutils: https://sourceware.org/bugzilla/show_bug.cgi?id=23244</p> <p>Second step is a multilib update. Third step is a merge of the riscv32 and riscv64 tool chains into a single riscv tool chain.</p>					
#3453	2 years ago	fixed	arch/riscv	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add RISC-V GDB					
#3454	2 years ago	fixed	doc	Vidushi Vashishth	Vidushi Vashishth	18 months ago
Summary	Tracing Framework Documentation in User Manual					
Description	<p>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.</p> <p>2) Expand the chapter to include CTF generation (currently under development) as it evolves.</p>					
#3455	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove install-if-change script					
Description	<p>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.</p> <p>This script is used by the standard Makefile support:</p> <pre>c/src/make/host.cfg.in:INSTALL_CHANGE=\$(PROJECT_BIN)/install-if-change</pre> <p>The INSTALL_CHANGE is used by:</p> <pre>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)"</pre> <p>Is the variant stuff still supported?</p> <p>I would remove the support for it and replace the "install-if-change" script with the standard "install" program.</p>					
#3458	2 years ago	fixed	tool	Chris Johns	Chris Johns <chrisj@...>	2 years ago
Summary	rtems-test should not use the env PATH to find covoar					
Description	<p>The <code>rtems-test</code> command should know where <code>covoar</code> 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.</p> <p>There should be no need to run install to use and test <code>rtems-test</code> with coverage.</p> <p>The <code>rtems-test</code> python code for running the tests knows where it is and adjusts. For example using an absolute path to <code>rtems-tests</code> in a build directly results in it being able to find the development tree <code>rtemstoolkit</code> and configuration data. The command needs to be taught to find the development version of <code>covoar</code>.</p> <p>Note, currently <code>covoar</code> 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.</p>					
#3459	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	17 months ago
Summary	Rework initialization and interrupt stack support					

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
    
```

Descripti
on

Do the following steps to unify and simplify the initialization and interrupt stack support.

1. Add RTEMS_DECLARE_GLOBAL_SYMBOL() and RTEMS_DEFINE_GLOBAL_SYMBOL() macros to basedefs.h, to allow a global symbol definition via C code, e.g. in confdefs.h, to make the interrupt stack size available to the low level initialization code.
2. Add a special input section ".rtemsstack" to the linker command files to allow a placement of the interrupt stacks. The BSPs can provide the optimal memory location for this section, e.g. on-chip RAM, tightly-coupled memory.

This makes the CPU_HAS_SOFTWARE_INTERRUPT_STACK and CPU_HAS_HARDWARE_INTERRUPT_STACK CPU port defines superfluous, since the low level initialization code has all information available via global symbols.

This makes the CPU_ALLOCATE_INTERRUPT_STACK CPU port define superfluous, since the interrupt stacks are allocated by confdefs.h for all architectures. There is no need for BSP-specific linker command file magic.

#3460	2 years ago	fixed	tool/gdb	Chris Johns	Chris Johns	18 months ago
Summary	GDB 8 SIS LEON2 LEON3 Patches					
Description	Jiri patch for gdb-8.0.1.					
#3461	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Canadian cross compilation of RTEMS tools not supported for x86_64-w64-mingw32					
#3463	2 years ago	fixed	tool	Chris Johns		22 months ago
Summary	Convert covoar to use DWARF function data					
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.					
#3465	2 years ago	fixed	fs/jffs2	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Integrate all changes from Linux v3.11 to v4.17 made in the JFFS2 sources					

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.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:

Descripti on

```
From e8bbeeb755a077cfc0f814b07739f9225642d65c Mon Sep 17 00:00:00 2001
From: Cody P Schafer <cody@linux.vnet.ibm.com>
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 <cody@linux.vnet.ibm.com>
Cc: Michel Lespinasse <walken@google.com>
Cc: Jan Kara <jack@suse.cz>
Cc: David Woodhouse <dwmw2@infradead.org>
Signed-off-by: Andrew Morton <akpm@linux-foundation.org>
Signed-off-by: Linus Torvalds <torvalds@linux-foundation.org>
```

we have to a postorder iterator to the red-black tree support code.

The remaining 23 patches are easy to apply.

#3471	2 years ago	fixed	lib	Sebastian Huber	Sebastian Huber	2 years ago
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Summary Update libfdt as of date 2018-07-09

Descripti on The initial import of libfdt was in 2015. Update it to the version as of date 2018-07-09.

#3472	2 years ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	19 months ago
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Summary Update of libbsd to a version close to the FreeBSD 12 release

Descripti on 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.

#3475	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
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Summary Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch prediction hints

Descripti on Add macros to <rtems/score/basedefs.h> for the GNU extension builtin_expect(). Use RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() similar to the FreeBSD predict_true() and predict_false(). Alternatives are the Linux likely() and unlikely() or directly the GCC builtin_expect(), however, the FreeBSD names seem to be the most easy to understand.

#3478	2 years ago	fixed	arch/riscv	Joel Sherrill	Sebastian Huber	2 years ago
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Summary RISCv BSP Tester Cleanup Needed

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

#3480	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	22 months ago
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Summary CONFIGURE_MINIMUM_TASK_STACK_SIZE may affect CONFIGURE_INTERRUPT_STACK_SIZE

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.

#3482	2 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
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Summary Relax the buffer alignment required by rtems_partition_create()

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?

#3484	2 years ago	fixed	fs/rfs	Sebastian Huber	Sebastian Huber	2 years ago
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Summary RFS: Remove stray call of rtems_disk_release() in rtems_rfs_buffer_sync()

Descripti on The function rtems_rfs_buffer_sync() erroneously calls rtems_disk_release(). This screws up the reference counting of the disk.

#3486	2 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
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<p>On Ubuntu 18.04.1 LTS there is no command named Python. I have the following Python commands:</p> <pre>python2.7 python3.6 python3.6m-config python3m-config python 2.7-config python3.6-config python3-config python3 python3.6m python3m</pre> <p>I am going to symlink python2.7 to python to make it work, but there should be a better solution.</p>	#3513	2 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	2 years ago
<p>Convert tqm8xx console driver to new Termios API</p>	#3516	2 years ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	23 months ago
<p>sb-set-builder should report disk usage of build</p>	#3517	2 years ago	fixed	doc	Joel Sherrill	Joel Sherrill <joel@...>	23 months ago
<p>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.</p> <p>It is frustrating and a bad experience to watch the build fail 90% of the way through.</p>	#3518	2 years ago	fixed	doc	Joel Sherrill	Chris Johns	23 months ago
<p>RSB Ubuntu Host Requirements Missing Some</p>	#3519	2 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
<p>Add libncurses5-dev and zlib1g-dev to Ubuntu apt-get instructions</p> <p>Also bison and flex seemed to be missing per one of the persons trying it.</p>	#3520	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 years ago
<p>RSB MacOS Nits</p> <p>The MacOS section of the RSB manual has some minor things that need to be fixed:</p> <ul style="list-style-type: none"> says Serria when it should be Sierra (I think). has +sb-check+ which indicates a formatting error <p>Please review as a Mac user and make sure that's it. :)</p>	#3521	2 years ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	2 years ago
<p>RSB does not strictly check args</p>	#3522	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 years ago
<p>The RSB loose argument parsing in the RSB needs to change. The RSB needs to strictly check arguments to avoid simple user errors.</p>	#3523	2 years ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	23 months ago
<p>Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE</p> <p>This configuration is untested and undocumented. Remove it to avoid a potential exposure of internal data structures to the application domain.</p>	#3524	2 years ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	23 months ago
<p>Update mDNSResponder to Apple version v878.30.4</p> <p>Download</p> <p>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</p> <p>from</p> <p>https://opensource.apple.com/tarballs/mDNSResponder/</p> <p>Merge each update into libbsd/mDNSResponder.</p>	#3525	23 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	23 months ago
<p>Add FEC network interface driver for TQM8XX</p>	#3526	23 months ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	23 months ago
<p>Import legacy network driver and port it to libbsd.</p>	#3527	23 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
<p>Add MMC/SDCard support for i.MX 7Dual BSP</p>	#3528	23 months ago	fixed	config	Sebastian Huber	Sebastian Huber	23 months ago
<p>Port device drivers from FreeBSD for i.MX 7Dual uSDHC module.</p>	#3529	23 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	5 months ago
<p>Convert PTY driver to new Termios API</p>	#3530	23 months ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	23 months ago
<p>Remove undocumented and untested CONFIGURE_MAXIMUM_PTYS</p>	#3531	23 months ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	23 months ago
<p>Remove the undocumented and untested CONFIGURE_MAXIMUM_PTYS configuration option. Add a rtems_telnetd_config_table::client_maximum member to the Telnet configuration.</p>	#3532	23 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	15 months ago
<p>Fix issues raised by Coverity Scan for Telnet server</p>	#3533	23 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	5 months ago
<p>Fix issues raised by Coverity Scan for FTP server</p>	#3534	23 months ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	23 months ago
<p>Add POSIX Attribute Reports for More Than Scheduler (examples-v2)</p>	#3535	23 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	15 months ago
<p>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.</p> <p>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.</p>	#3536	23 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	15 months ago
<p>RSB source only download is host specific</p>							

The RSB source only download is host specific. Configurations for builds can restrict sources or patches by host to work around specific host issues. Currently a source only download is host specific because the host check is based on the host the RSB is being run on.

The release process uses source only downloading to create the complete set of sources in a release. This issue means some host specific source may not be captured.

I am yet to figure how to resolve this issue because the download logic is driven by the configuration scripts and this type of logic exists in configuration files such as `rtems-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg`:

```
%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 8a11bd619c2e55466688e328da00b387d02395c1e8ff4a99225152387a1e60a4
%endif
```

The simpler construct in `rtems-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.

#3533	23 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Add rtems_task_exit()					

The `rtems_task_delete(RTEMS_SELF)` function does not return. In order to aid compilers and static analysis tools provide an `rtems_task_exit()` function which can be specified as a no return function.

```
void rtems_task_exit(void) RTEMS_NO_RETURN;
```

This is similar to the POSIX equivalent.

```
void pthread_exit (void * __value_ptr) __dead2;
```

#3535	23 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove stdin, stdout, stderr convenience routines for CEXP					

These functions should be moved to a general CEXP support.

#3536	23 months ago	fixed	tool	Chris Johns	Chris Johns	23 months ago
Summary	Move RTEMS configuration data to a common <code>config</code> directory					

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.

#3537	23 months ago	fixed	tool	Chris Johns	Chris Johns	20 months ago
Summary	RSB and RTEMS Tools Support for python2 and python3					

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.

#3538	23 months ago	fixed	doc	Joel Sherrill	Joel Sherrill	23 months ago
Summary	Classic API Barrier Wait Section Title Has Wrong Name					

The section title says obtain not wait.

Likely also applies to 4.11.

#3539	23 months ago	fixed	score	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove CPU_PROVIDES_IDLE_THREAD_BODY					

Remove the `CPU_PROVIDES_IDLE_THREAD_BODY` option to avoid unnecessary conditional compilation.

#3542	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Remove keep_stdio feature from Telnet service					

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.

#3543	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Change Telnet server to allocate most resources during initialization					

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.

#3545	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Support <code>O_DIRECTORY</code> <code>open()</code> flag					

Use this flag in `opendir()`.

#3546	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Support <code>O_NOFOLLOW</code> <code>open()</code> flag					

#3547	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Support <code>O_CLOEXEC</code> <code>open()</code> flag					

Descripti on	This is a POSIX flag. Make sure its use causes no open failure.					
#3549	22 months ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	22 months ago
Summar y	Obsolete powerpc/virtex BSP					
Descripti on	This BSP is quite old (was added 1995), unmaintained and likely without users: https://lists.rtems.org/pipermail/users/2018-September/032557.html					
#3551	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	21 months ago
Summar y	Move default configuration to separate library					
Descripti on	An RTEMS application default configuration is contained in cpukit/libmisc/dummy/default-configuration.c. This default configuration is contained in librtmscpu.a. This has at least two problems:					
	<ol style="list-style-type: none"> 1. Application configuration errors may pull in the default configuration which in turn leads to multiply define symbols error. This is quite confusing. You have to consult the linker map file to figure out what cased the pull in of the default configurations. You need to know what a linker map file is and how you generate it with your build system. This is not very user friendly. 2. It prevents the use of default configuration items for each subsystem in librtmscpu.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. librtmsdefaultconfig.a.					
#3552	22 months ago	fixed	shell	jameszj	Chris Johns	8 months ago
Summar y	cpu usage error in SMP mode					
Descripti on	<ul style="list-style-type: none"> • CPU load dispaly error in SMP mode Load Average: 100.510% Load: 100.966% Idle: 99.033% <p>In fact,CPU is doing nothing.</p> <ul style="list-style-type: none"> • priority display unreadable in SMP mode in diffrent Schedulers priority is map to a core priority, I think unmap maybe reasonable when display the infomation 					
#3553	22 months ago	fixed	build	Joel Sherrill		22 months ago
Summar y	rtems-libbsd Missing waf in Top Directory					
Descripti on	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.					
#3554	22 months ago	fixed	network/libbsd	Joel Sherrill	Sebastian Huber	19 months ago
Summar y	rtems-libbsd README.waf Needs an Update Sweep					
Descripti on	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.					
#3555	22 months ago	fixed	admin	Amar Takhar	Amar Takhar	22 months ago
Summar y	IRC bots need to be registered to join #rtems					
Descripti on	Due to the spam on Freenode only registered users can join #rtems. The bots both need accounts now.					
#3557	22 months ago	fixed	admin	Amar Takhar	Amar Takhar	22 months ago
Summar y	Test ticket					
Descripti on	Using this as a test ticket to test out my fix.					
#3558	22 months ago	fixed	admin	Amar Takhar	Amar Takhar	22 months ago
Summar y	Update TracSpamFilter?					
Descripti on	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.					
#3559	22 months ago	fixed	admin	Amar Takhar	Amar Takhar	22 months ago
Summar y	Fix NavAdd? plugin.					
Descripti on	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: <ul style="list-style-type: none"> • "New Ticket" now goes to /wiki/NewTicket • There is a new buton "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. <p>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.</p>					
#3560	22 months ago	fixed	admin	Amar Takhar	Amar Takhar	22 months ago
Summar y	Fix FlexibleAssignTo?					
Descripti on	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.					
#3561	22 months ago	fixed	admin	Amar Takhar	Amar Takhar	21 months ago
Summar y	Migrate to CommitTicketUpdater?					
Descripti on	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.					
#3562	22 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	22 months ago
Summar y	Use a short paths for the RSB temporary build path on Windows					

	The <code>{_tmproot}</code> path is currently based on a <code>BuildRoot</code> setting in the build configuration files. The line is:					
Description	<code>BuildRoot: \${_tmppath}/\${name}-root-\${_id_u} -n)</code>					
	This is for a shared <code>\$TEMP</code> path plus the name is not shortened so on Windows these paths become long. Remove the <code>BuildRoot</code> from all configuration files and add support for a shortened temporary path. Windows needs short paths due to the 256 max. path length issue.					
#3568	22 months ago	fixed	tool/rsb	Sebastian Huber	Chris Johns	19 months ago
Summary	RSB: UnboundLocalError?: local variable 'build_max_size_human' referenced before assignment					
	<pre> ./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-orlk-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 <module> 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 </pre>					
#3569	22 months ago	fixed	build	Malte Munch	Chris Johns	6 months ago
Summary	waf version in various rtems-repositories incompatible with python 3.7					
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.					
#3576	22 months ago	fixed	tool/gdb	Joel Sherrill	Joel Sherrill	21 months ago
Summary	gdb 8.0.1 sis does not build on Cygwin					
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.					
#3577	22 months ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Avoid CLoog and ISL host dependencies for target GCC					
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.					
#3579	22 months ago	fixed	admin	Chris Johns	Chris Johns <chrisj@...>	21 months ago
Summary	testsuite's rtems-test-check.py python version support					
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.					
#3583	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Add rtems_malloc() and rtems_calloc()					
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 <rtems/malloc.h> which do the same as the corresponding C/POSIX functions except setting errno. The posix_memalign() and aligned_alloc() functions do not have this issue with the errno.					
#3585	22 months ago	fixed	score	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Deprecate proc_ptr					
	See comment in basedefs.h					
Description	<pre> /** * XXX: Eventually proc_ptr needs to disappear!!! */ typedef void * proc_ptr; </pre>					
#3587	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Deprecate rtems_context					
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.					
#3589	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Deprecate rtems_context_fp					
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.					
#3591	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Deprecate region_information_block					
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.					
#3593	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Deprecate rtems_thread_cpu_usage_t					
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.					
#3595	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Deprecate rtems_rate_monotonic_period_time_t					
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.					

#3598	22 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Move internal types of API objects to separate header file					
Description	<p>The <rtems.h> header file still exposes a lot of implementation details via the definition of internal data structures, e.g. the *_Control structures of the API objects. They are only necessary for the application configuration. Move them to separate header files. Currently we have:</p> <ul style="list-style-type: none"> • <rtems/rtems/XYZ.h> • <rtems/rtems/XYZimpl.h> <p>Use</p> <ul style="list-style-type: none"> • <rtems/rtems/XYZdata.h> <p>for this new header file.</p> <p>Potential new header files are:</p> <ul style="list-style-type: none"> • rtems/extensiondata.h • rtems/rtems/asrdata.h • rtems/rtems/barrierdata.h • rtems/rtems/dpmmemdata.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/taskdata.h • rtems/rtems/timerdata.h 					
#3599	21 months ago	fixed	arch/m32c	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Remove m32c architecture port					
Description	<p>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:</p> <p>https://lists.rtems.org/pipermail/users/2018-January/031991.html</p>					
#3600	21 months ago	fixed	arch/or1k	Joel Sherrill	Joel Sherrill	8 months ago
Summary	Update or1k tools to use GCC master					
Description	<p>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.</p> <p>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.</p>					
#3602	21 months ago	fixed	arch/or1k	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Update or1k tool chain to use the upstream GCC					
#3603	21 months ago	fixed	score	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Remove support for 16-bit object identifiers					
Description	<p>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.</p>					
#3604	21 months ago	fixed	lib/dl	Joseph Hickey	Chris Johns	21 months ago
Summary	RTL Unresolved Symbols from common section on i386/pc686 (cloned)					
Description	<p>Cloned from #3527:</p> <p>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 <code>dllopen()</code>, these global symbols are not resolved as expected.</p> <p>The RTL reports unresolved symbols, and runtime code that take the address of the global get <code>NULL</code> instead.</p> <p>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.</p> <p>Test platform is QEMU using pc686 BSP, RTEMS source version 4.11.3 (latest on 4.11 git branch as of this writing)</p>					
#3605	21 months ago	fixed	lib/dl	Kevin Gordon		8 months ago
Summary	RTL Allows Unloading a Module other Modules Depend Upon (cloned)					
Description	<p>Cloned from #3195:</p> <p>Consider the following example using ELF .o files from compiled source files module-0.c and module-1.c from ticket #3194:</p> <p>module-0.o is loaded using <code>dlopen()</code> with no code or data dependencies. module-1.o is loaded using <code>dlopen()</code> with both code and data dependencies on module-0 which are resolved by RTL.</p> <p>The RTL function <code>dlclose()</code> 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 <code>module1Function1()</code> in the currently-loaded module-1.o, which accesses <code>shared_resource_0[]</code> and calls <code>module0Function0()</code>, will result in an unexpected trap on qemu or the call succeeding with the correct return value on hardware when it should not.</p> <p>The erroneous successful <code>unload()</code> 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.</p> <p>Architecture is sparc-leon3 using both the RTEMS 4.11.1 public release and rtems master @f043b9bd3bf25626fb1a311dd7fa041eacc68adc with <code>rtems-source-builder</code> @55f2d69e9b67cde23d61375fa34ef5b0f04a985d.</p> <p>Execution environments are <code>qemu-system-sparc</code> and LEON3 UT700 hardware.</p>					
#3609	21 months ago	fixed	tool/rsb	Joel Sherrill	Hesham Almatary	4 months ago
Summary	Update Spike Version in RSB (RISC-V simulator)					
Description	<p>The spike version in the RSB does not run the test executables. Per Hesham, we should be using a newer version from git.</p> <p>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.</p>					
#3612	21 months ago	fixed	lib/dl	Chris Johns	Chris Johns	21 months ago
Summary	RTL unresolved compaction does not update string indexes after removing a string					
Description	<p>The RTL unresolved compaction does not update the string indexes when compacting.</p>					
#3620	21 months ago	fixed	admin	Sebastian Huber	Amar Takhar	20 months ago
Summary	CommitTicketUpdater? does not process commits in order					


```

/**
 * @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().
 */

```

#3624	21 months ago	won't fix	build	Joel Sherrill		9 months ago
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Summary: MSYS2 builds appear to ignore tcfg file

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.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'
This operation should not be called from interrupt context.
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
@param[in] setsize The size of the processor set.
@param[in] set The target processor set.
*/
collect2.exe: error: ld returned 1 exit status
void rtems_cache_invalidate_entire_data_processor_set(
  const size_t setsize,
  const cpu_set_t *set
);
make[1]: *** [1910: fsdosfsname01.exe] Error 1

```

#3625	21 months ago	fixed	lib/dl	Kevin Gordon	Chris Johns	21 months ago
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Summary: RTL Allows Unloading a Module other Modules Depend Upon (cloned)

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.

#3626	21 months ago	fixed	posix	Joel Sherrill	Sebastian Huber	21 months ago
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Summary: sigtimedwait() needed when POSIX is disabled

Description: When POSIX is disabled, psxmsgq01 does not link. Should we enable sigtimedwait() when POSIX is disabled or disable this test?

```

/data/home/joel/rtems-work/tools/5/bin/./lib/gcc/powerpc-rtems5/7.3.0/../../../../powerpc-rtems5/bin/ld: psxmsgq01/psxmsgq01-init.o: in function 'wait_for_signal':
/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-ss555-rtems/powerpc-rtems5/c/ss555/testsuites/psxtests/../../../../rtems/c/src/../../../../testsuites/psxtests/psxmsgq01/init.c:932: undefined reference to 'sigtimedwait'

```

#3629	21 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	4 months ago
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Summary: Add RSB reporting section to the documentation.

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."

Descripti
on

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
```

#3638	21 months ago	fixed	arch/arm	Markus Bernd Moessner	Chris Johns	4 months ago
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Summary Build of rtems-tools fails with i686-w64-mingw32

Hi,
I am following

Descripti
on

<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.

#3636	21 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	20 months ago
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Summary Add rtems_scheduler_get_maximum_priority()

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
);
```

Descripti
on

#3637	21 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
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Summary Fix rtems_task_restart() argument type

Descripti
on

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.

#3649	20 months ago	fixed	admin	Joel Sherrill	Amar Takhar	18 months ago
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Summary Error with IRC announcing in examples-v2 commits.

```
remote: 1: mail vc@rtems.org
remote: 2: update github
remote: 4: IRC
remote: usage: <file with rev-list> <repo name without .git>
remote: 5: Buildbot
To ssh://joel@dispatch.rtems.org/data/git/examples-v2.git
ced6542..276a025 am -> master
```

Descripti
on

#3651	20 months ago	fixed	doc	Chris Johns		8 months ago
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Summary Sphinx 1.8 PDF (latex) on FreeBSD does not build

The build fails with `pdfindex` complaining on an *Undefined Control Sequence*:

```
! Undefined control sequence.
<argument> \spxpagem
1.88 ...ecture}, \hyperindexformat{\spxpagem}{183}
```

Descripti
on

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}
```

#3664	20 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	20 months ago
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Summary RSB config parsing slow on python3

Descripti
on

The execute support on python3 is slow and this slows the config file parsing.

#3665	20 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	8 months ago
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Summary Add low level event recording infrastructure

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 );
```

Descripti
on

function PowerPC machine code generated by GCC:

```
00000000 <rtems_record_produce>:
0: 7d 00 00 a6 mfsr 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.

#3666	20 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Add support for C++17 std::aligned_alloc					
Descripti on	<p>In C++17 there is a std::aligned_alloc(): https://en.cppreference.com/w/cpp/memory/c/aligned_alloc</p> <p>Unfortunately, it doesn't work with RTEMS currently: https://gcc.gnu.org/bugzilla/show_bug.cgi?id=85904</p> <p>Provide aligned_alloc() and memalign() (as a strong alias to aligned_alloc()) by RTEMS.</p>					
#3667	20 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Support data cache disable on ARMv7-AR					
#3668	20 months ago	fixed	admin	Christian Mauderer	Amar Takhar	4 months ago
Summary	Commit message in examples-v2 and libbsd didn't trigger a ticket update.					
Descripti on	<p>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</p> <p>Ticket: https://devel.rtems.org/ticket/3569</p> <p>The same message format worked from rtems-tools and rtems-source-builder. Did I something wrong?</p>					
#3669	20 months ago	fixed	doc	Chris Johns	Amar Takhar	18 months ago
Summary	rtems-docs.git does not build with Sphinx 1.8.2 and 1.8.3					
Descripti on	<p>The docs do not build with Sphinx 1.8. Recent posts indicate some changes to support unicode indexes via <code>xindy</code> have caused this and the solution being discussed is to use the generate <code>Makefile</code> ... https://github.com/rtfd/readthedocs.org/issues/4454</p> <p>The need to use the <code>Makefile</code> is debatable however what it contains is important as it defines what needs to happen.</p> <p>This recent issue can be seen in the Tex generated file for the User Manual (<code>user.tex</code>). It contains:</p> <pre>\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/}</pre> <p>Our current build uses <code>pdflatex</code> directly and there is an error as <code>spxpagem</code> is not defined.</p> <p>If you inspect a version 1.8 generated Makefile the command <code>latexmk</code> is used. This wraps the PDF generation so the correct number of passes are performed. Using this tool should be considered.</p> <p>The <code>Makefile</code> contains:</p> <pre>export XINDYOPTS = -L english -C utf8 -M sphinx.xdy</pre> <p>The <code>sphinx.xdy</code> contains the needed <code>spxpagem</code>. I can only conclude sphinx needs to be built with <code>xindy</code> because the reference is always generated.</p> <p>The problem for building FreeBSD is <code>xindy</code> is not an available command.</p>					
#3670	20 months ago	fixed	examples	Chris Johns	joel@...	20 months ago
Summary	examples-v2 uses deprecated or obsolete RTEMS interfaces					

Summary	Add RISC-V BSP with support for the glib					
#3682	19 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Add BSP for Xilinx Zynq UltraScale?+ MPSoC platform					
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.					
#3683	19 months ago	wontfix	admin	Sebastian Huber		8 months ago
Summary	Git clone via HTTPS does not give much interactive feedback					
	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.					
	<pre>git clone https://git.rtems.org/rtems-libbsd Cloning into 'rtems-libbsd'... Checking out files: 100% (5159/5159), done.</pre>					
	vs.					
Description	<pre>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.</pre>					
#3684	19 months ago	fixed	lib	Chris Johns	Chris Johns	18 months ago
Summary	rtems_print_buffer is broken					
	Consider this call:					
Description	<pre>#include <rtems/dumpbuf.h> rtems_print_buffer ((const unsigned char *) "\x12\x23\x56\x78", 4);</pre>					
	On <code>psim</code> you get:					
	<pre>1f 2f 5f 7f .#Vx </pre>					
#3685	19 months ago	fixed	lib/dl	Chris Johns	Chris Johns	8 months ago
Summary	Add large memory support to libdl					
Description	<p>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.</p> <p>Libdl requires generic support to parse the relocation record before the object file allocation to provide the memory to hold the trampoline calls.</p> <p>The ARM and PowerPC architectures require trampolines. This is called veneers on ARM.</p>					
#3686	19 months ago	fixed	lib/dl	Chris Johns	Chris Johns	2 months ago
Summary	Add library searching and loading to libdl					
	Provide support to search library files (archives) for symbols loading the object file that contains the symbol. The support shall:					
Description	<ol style="list-style-type: none"> 1. Parse a configuration file called <code>/etc/libdl.conf</code> for the list of archive symbols to load. Support <code>fnmatch()</code> wildcard parsing. Allow runtime updates reloading if there is a change. 2. Maintain archive symbol tables in memory to improve symbol search performance. Archives must have a <code>ranlib</code> generated symbol table. Reload an archive if it has changed. 3. Make sure separate text and data built object files is supported. Assume a duplicate symbol means that section and symbol has already been loaded. Load all sections not loaded. There is no need to be efficient at this point in time. 4. Add support to check if there are any system wide unresolved symbols. 5. Automatically unloaded archive object files that are not referenced. 6. Duplicate symbols in archives is not an error. The first archive that has the symbol in an object file is loaded. <p>The feature adds symbol based demand loading of object files to <code>libdl</code>. A user loads an object file using the <code>dlopen</code> function and unresolved symbols are loaded from the libraries hosted on the target.</p>					
#3687	19 months ago	fixed	lib/dl	Chris Johns	Chris Johns	6 months ago
Summary	Add architecture section support to libdl and support PowerPC's small data.					
	Add support for architecture specific sections. Allow architecture back end support to handle sections that are specific to an architecture.					
Description	<p>Add PowerPC <code>sdata</code> and <code>sbss</code> 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 <code>r13</code>. This register is offset from the region's base address by 32K. The linker creates the <code>.sdata</code> and <code>.sbss</code> regions and sets the <code>SDA_BASE</code> symbol which is loaded into <code>r13</code>. 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.</p> <p>RTEMS supports the PowerPC EABI and uses <code>sysv</code> small data allocations. RTEMS uses the default variable size of <code>8</code> 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.</p> <p>Note, small data is system wide which means a default size of <code>8</code> allows only 8192 8 byte variables.</p> <p>Provide an allocator to manage the available small data memory.</p>					
#3688	19 months ago	fixed	doc	Chris Johns		8 months ago
Summary	rtems-docs fails to build with python3					
Description	<p>Generating <code>generated-posix-compliance.rst</code> fails with Python3 as reported in https://github.com/sphinx-doc/sphinx/issues/6021#issuecomment-460701861</p>					
#3692	18 months ago	fixed	lib/dl	Chris Johns	Chris Johns	18 months ago
Summary	libdl does not honour write unlock/lock for sections					
Description	The allocator does no honour write unlock and lock for read-only sections as it should. This can used to write protect executable memory.					
#3693	18 months ago	fixed	lib/dl	Chris Johns	Chris Johns	4 months ago
Summary	libdl incorrectly handles MIPS16hi/lo relocs					
Description	<p>This issue was reported back is 2016 and it slipped through. I am creating a ticket here to track the issue.</p> <p>https://lists.rtems.org/pipermail/users/2016-January/029740.html</p>					

#3694	18 months ago	fixed	fs	Joel Sherrill	Gedare Bloom	17 months ago
Summary	shm_open has logically unreachable code (Coverity ID: 1399706, 1399714)					
Description	<p>Coverity ID: 1399706 and 1399714 File: shmopen.c Method: shm_open for first</p> <pre> 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 { </pre> <p>URL: https://scan5.coverity.com/reports.htm#v29811/p10069/fileInstanceId=153084281&defectInstanceId=42558012&mergedDefectId=1399706&fileStart=1&fileEnd=250</p> <p>Same issue at other place in same file:</p> <pre> 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 { </pre>					
#3696	18 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Basic Support for Trace Compass					
Description	<p>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:</p> <ul style="list-style-type: none"> • RTEMS Trace Linker • Event Recording • Capture Engine <p>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):</p> <ul style="list-style-type: none"> • kernel <ul style="list-style-type: none"> ◦ Views <ul style="list-style-type: none"> ■ CPU usage <ul style="list-style-type: none"> ■ CPU usage ■ IRQ Analysis <ul style="list-style-type: none"> ■ IRQ Statistics ■ IRQ Table ■ IRQ vs Count ■ IRQ vs Time ■ Linux Kernel <ul style="list-style-type: none"> ■ Control Flow ■ Resources <p>Example data can be obtained from the Trace Visualization Labs.</p> <p>Advanced support for Trace Compass could include dynamic memory traces, stack usage, network packet flow, etc.</p> <p>There are four main problems.</p> <ol style="list-style-type: none"> 1. Generation of sufficient trace events, currently the interrupt entry/exit events are not available for example. 2. 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). 3. The Trace Compass must be able to analyse and display the information obtained from the Event Recording. 4. The RTEMS user must be able to use this infrastructure. This requires that it is easy to use, availability of tutorials and documentation. <p>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.</p> <p>Related topics are Common Trace Format, Babeltrace, barectf, #2961 and #3028.</p> <p>Skills Needed</p> <p>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 1310720 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.</p> <p>Difficulty</p> <p>We consider this an advanced project.</p>					
#3699	18 months ago	fixed	arch/arm	Kinsey Moore	Sebastian Huber	18 months ago
Summary	Wrong system register specified for ARM virtual timer value retrieval					
Description	<p>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.</p>					
#3708	18 months ago	fixed	doc	Sebastian Huber	Sebastian Huber	2 months ago
Summary	Remove Doxygen comments from confdefs.h					
Description	<p>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:</p> <p>https://docs.rtems.org/branches/master/c-user/configuring_a_system.html</p>					
#3720	18 months ago	fixed	shell	Sebastian Huber	Sebastian Huber	18 months ago
Summary	mfill shell command uses the wrong arguments for the memset()					
#3724	17 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	17 months ago
Summary	bsp/lpc24xx: Convert SSP driver to Linux API					
#3725	17 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	15 months ago
Summary	bsp/lpc24xx: Convert I2C driver to Linux API					
#3728	17 months ago	fixed	bsps	Chris Johns	Chris Johns	17 months ago
Summary	Set small data section to max size for mme5500 and motorola_powerpc BSps					

Descripti on	These are large memory targets that can support libdl. Make the small data memory the maximum size.					
#3731	17 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 months ago
Summar y	Add rtems_scheduler_get_processor()					
Descripti on	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.					
#3732	17 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 months ago
Summar y	Add rtems_scheduler_get_processor_maximum()					
Descripti on	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().					
#3733	17 months ago	fixed	lib/debugger	Chris Johns	Chris Johns	16 months ago
Summar y	Add general reg support to libdebugger					
Testing master on a Zynq reports:						
<pre>(gdb) target remote 10.10.5.45:1122 Remote debugging using 10.10.5.45:1122 Truncated register 19 in remote 'g' packet</pre>						
It looks to me like gdb is now smart enough to know this ARM arch has a NEON and floating point registers:						
Descripti on	<pre>(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</pre>					
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.						
#3734	17 months ago	fixed	score	Sebastian Huber	Sebastian Huber	16 months ago
Summar y	Add RTEMS_CONST attribute					
Descripti on	Add RTEMS_CONST attribute to make the compiler specific <u>attribute</u> ((const)) available.					
#3735	16 months ago	fixed	config	Sebastian Huber	Sebastian Huber	8 months ago
Summar y	Remove CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE					
Descripti on	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.					
#3736	16 months ago	fixed	arch/powerpc	Chris Johns	Sebastian Huber <sebastian.huber@...>	9 months ago
Summar y	PowerPC Beatnik BSP C++ exceptions broken					

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: 5.0.0.8a8b95aald6932ba9d2acd7a785100f7d0919205-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
```

Descripti
on

#3741	16 months ago	fixed	lib/dl	default	Chris Johns	16 months ago
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Summary
libdl loading ELF objects from libbsd NFS file system ends in a deadlock

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()`

Descripti
on

`_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.

#3742	16 months ago	fixed	test	Chris Johns	joel@...	16 months ago
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Summary
T_config conflicting type qualifiers for 'config'

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'
```

Descripti
on

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
```

#3743	16 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	15 months ago
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Summary
RSB os and arch config logic is broken

	The config file processing of conditionals:					
Descripti on	<ul style="list-style-type: none"> • <code>%ifos</code> • <code>%ifnos</code> • <code>%ifarch</code> 					
	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.					
#3746	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns <chrisj@...>	15 months ago
Summar y	libld test dl05.exe failing					
Descripti on	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 <code>libdl</code> for <code>group</code> sections is a factor.					
#3747	15 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	15 months ago
Summar y	Address Cortex-M3 Errata 602117					
	While testing on a NXP LPC1788 it found that this chip is affected by the Cortex-M3 Errata 602117. NXP didn't bother to document this in their errata sheet for the chip: https://www.nxp.com/docs/en/errata/ES_LPC177X_8X.pdf					
	To avoid the issues, you have to compile everything with <code>-mfix-cortex-m3-ldrd</code> . This option is enabled by default, if you use <code>-mcpu=cortex-m3</code> .					
	I think we have to change our GCC multilibs to account for this errata. For example:					
Descripti on	<pre>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 mfpu=neon/mfpu=vfp/mfpu=vfpv3- d16/mfpu=fpv4-sp-d16/mfpu=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 mfpu=neon/mfpu=vfp/mfpu=vfpv3-d16/mfpu=fpv4-sp-d16/mfpu=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/mfpu=neon/mfloat=abi=hard MULTILIB_REQUIRED += mthumb/march=armv7-a MULTILIB_REQUIRED += mthumb/march=armv7-r/mfpu=vfpv3-d16/mfloat=abi=hard MULTILIB_REQUIRED += mthumb/march=armv7-r -MULTILIB_REQUIRED += mthumb/march=armv7-m/mfpu=fpv4-sp-d16/mfloat=abi=hard +MULTILIB_REQUIRED += mthumb/mcpu=cortex-m3 +MULTILIB_REQUIRED += mthumb/mcpu=cortex-m4 +MULTILIB_REQUIRED += mthumb/mcpu=cortex-m4/mfpu=fpv4-sp-d16/mfloat=abi=hard MULTILIB_REQUIRED += mthumb/mcpu=cortex-m7/mfpu=fpv5-d16/mfloat=abi=hard -MULTILIB_REQUIRED += mthumb/march=armv7-m MULTILIB_REQUIRED += mthumb</pre>					
#3748	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns <chrisj@...>	15 months ago
Summar y	libld uses a linear symbol search on object file symbols					
Descripti on	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 (<code>bsearch</code>). 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.					
#3751	15 months ago	fixed	doc	Joel Sherrill	Joel Sherrill <joel@...>	8 months ago
Summar y	No documentation on Region Get Information Directives					
Descripti on	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.					
#3753	15 months ago	fixed	config	Joel Sherrill	Sebastian Huber <sebastian.huber@...>	8 months ago
Summar y	Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR					
Descripti on	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?					
#3754	15 months ago	fixed	doc	Joel Sherrill	Joel Sherrill	12 months ago
Summar y	Users Guide Ubuntu Instructions Have Typo					
Descripti on	sudo should be sudo					
#3756	15 months ago	fixed	arch/sparc	Sebastian Huber	Sebastian Huber	15 months ago
Summar y	Condition codes in PSR are destroyed by lazy FP context switch					
Descripti on	https://lists.rtems.org/pipermail/devel/2019-June/026014.html					
#3760	14 months ago	fixed	arch/arm	Chris Johns	Chris Johns <chrisj@...>	12 months ago
Summar y	BBB MMU update crashes					
Descripti on	Calling <code>arm_cp15_set_translation_table_entries()</code> on a BBB (Cortex-A8) crashes in the call to <code>arm_cp15_tlb_invalidate_entry_all_asids()</code> . There is no HYP support in the BBB's A8. The <code>cp15</code> 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 should be using it on the Zynq. I have no idea why the Zync (A9) does not complain, it may be ignoring the invalidate request.					
	While looking at this code I was wondering why we do not follow ARM's recommendation of 'break-make' updates of the TLB? I do not know we could support such a process because we may be asked to invalidate the entry for the text section we are running in to update it.					
	Note, following the other path in the call works on a BBB.					
#3762	14 months ago	fixed	arch/arm	Chris Johns	Chris Johns	14 months ago
Summar y	Return the current handler from ARM cp15 set exception call					

<p>Update the cp15 call <code>arm_cp15_set_exception_handler()</code> to return the current handler. This lets code catch and return an exception handler, for example code to probe suspect hardware.</p> <p>This is need to probe the memory map debug registers for debug v7 implementations.</p>	<p>#3763 14 months ago fixed tool/rsb Chris Johns Chris Johns <chrisj@...> 13 months ago</p>
<p>Summary: RSB SIS build fails on FreeBSD</p> <p>Description: The RSB SIS build for RISCv fails on FreeBSD with:</p> <pre>+ 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 for fcntl.h usability... yes checking for fcntl.h presence... yes checking for fcntl.h... yes checking for stddef.h usability... yes checking for stddef.h presence... yes checking for stddef.h... yes checking for stdlib.h... (cached) yes checking for string.h... (cached) yes checking for sys/time.h usability... yes checking for sys/time.h presence... yes checking for sys/time.h... yes checking for unistd.h... (cached) yes checking for termios.h usability... yes checking for termios.h presence... yes checking for termios.h... yes checking for readline in -lreadline... no configure: error: the required "readline" library is missing</pre>	<p>#3768 13 months ago fixed build Chris Johns Chris Johns 13 months ago</p>
<p>Summary: Add staging support to Makefile.inc</p> <p>Description: Add support to allow staging of an RTEMS BSP build so dependent packages can be built in a single RBS buildset build.</p>	<p>#3769 13 months ago fixed tool/rsb Chris Johns Chris Johns 13 months ago</p>
<p>Summary: RSB BSP Buildsets</p> <p>Description: Add support to the RSB for BSP build sets. The support includes building 3rd party packages for a BSP.</p> <ol style="list-style-type: none"> 1. Add BSP buildset support 2. Build packages for a BSP 3. Stage buildset builds if not the outer build so dependent packages and be built before a package and used 4. Fix packages to support staged builds 	<p>#3770 13 months ago wontfix tool/rsb Chris Johns 8 months ago</p>
<p>Summary: RSB 3rd party packages failing to build</p> <p>Description: The following packages do not build or have issues and will be removed if they are not updated:</p> <ol style="list-style-type: none"> 1. ntp 2. microwindows 3. nxlib 4. lwip <p>The lwip patch used by this package needs to be updated. The <code>install</code> target for the <code>Makefile</code> does not support <code>DESTDIR</code> and cannot be staged. It is being built however a lack of <code>DESTDIR</code> is not compatible with the requirements of the RSB for staged builds. The package installs directly to the <code>prefix</code> which is not suppose to happen.</p> <p>The packages will need to be fixed or removed before 5.1. There is no point releasing the RSB with packages that are broken.</p>	<p>#3773 13 months ago fixed arch/arm Chris Johns Chris Johns 13 months ago</p>
<p>Summary: RPi fails to boot</p> <p>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].</p>	<p>#3774 13 months ago fixed arch/arm Chris Johns Sebastian Huber <sebastian.huber@...> 13 months ago</p>
<p>Summary: RPi2 SMP does not build</p>	

expected behaviour

Build without errors and without runtime errors

undesired behaviour

bsp_start_hook_0_done is undefined CPACR Register is not setup

target hardware

Hercules Safety MCU development Kit TMS570 MCU

toolchain version

Modified GCC, binutils and gdb build script to build armeb compiler build with RTEMS Source Builder master(see patches for RTEMS Soucre Builder) I need a ARM Compiler with Big Endian Support as default for TMS570.

configuration options for bsp

```
../rtems/configure '--prefix=[bsp path]/bsp/armeb-rtems5' '--host=arm-rtems5' '--target=arm-rtems5' '--enable-posix' '--enable-rtems-debug' '--disable-tests' '--disable-networking' '--enable-rtemsbsp=tms570ls3137_hdk' 'CC_FOR_TARGET=armeb-rtems5-gcc' 'CXX_FOR_TARGET=armeb-rtems5-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

#3792	11 months ago	fixed	admin	Jeff Mayes	Chris Johns	11 months ago
Summary	RSB fails to build on MSYS2					

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<NF;++i)if(match($i, ".*/python.*")) print "lib"substr($i,3)"*";}'": 1: }/python/{for(i=1;i<NF;++i)if(match($i, ".*/python.*")) print libsubstr($i,3)*;}'": -c: line 0: unexpected EOF while looking for matching `}'/python/{for(i=1;i<NF;++i)if(match($i, ".*/python.*")) print libsubstr($i,3)*;}'": -c: line 1: syntax error: unexpected end of file Build FAILED Build Set: Time 0:07:19.564000 Build FAILED
```

This happens when using Python3 and also when using Python2.

#3793	11 months ago	fixed	tool	Chris Johns		8 months ago
Summary	trace record tool does not build on Windows					

The error is:

```
../trace/record/record-main-lttng.c:32:10: fatal error: sys/queue.h: No such file or directory
#include <sys/queue.h>
```

This is with the version the RSB is using

#3794	11 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	11 months ago
Summary	Initial POSIX Signals Mask Incorrect					

RTEMS initial signal mask for the "process" does not match the behavior of Linux, FreeBSD, and Cygwin.

There are some subtle rules which need to be followed for the value of the created thread's signal mask. Because signals are part of C99 and enhanced by POSIX, both Classic API tasks and POSIX threads have to have them enabled.

1. Internal system threads should have no signals enabled. They have no business executing user signal handlers -- especially IDLE.
2. The initial signal mask for other threads needs to follow the implication of a pure C99 environment which only has the methods raise() and signal(). This implies that all signals are unmasked until the thread explicitly uses a POSIX methods to block some. This applies to both Classic tasks and POSIX threads created as initialization tasks/threads (e.g. before the system is up).
3. After the initial threads are created, the signal mask should be inherited from the creator. This can be done based on system state.

RTEMS behavior was incorrect by blocking all signals initially and for Classic API tasks.

Notes:

- The default signal mask does not matter for any application that does not use POSIX signals.
- It is assumed that Classic API tasks should provide a compliant C run-time environment. Hence the default signal mask state matters.

Impact on Applications and Tests ===== In general, an application should always explicitly block or unmask any signals that it intends to process. If there is concern about which thread may process it, then it should be blocked in all threads that are not intended to process it. The following code can be used to block all signals. This method can be used in the initialization task/thread to mimic historical behavior:

```
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
}
```

#3796	11 months ago	fixed	doc	Gedare Bloom	Joel Sherrill <joel@...>	8 months ago
Summary	docs/develenv directory structure bitrot					

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.

#3797	11 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	8 months ago
Summary	Add LLVM as a package					

Add `5/rtems-llvm` to build LLVM for supported hosts.

This can used to help resolve the dependency the recent trace changes have created by using LLVM symbol/dwarf support.

#3798	11 months ago	fixed	network/libbsd	Joel Sherrill	Sebastian Huber	8 months ago
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Summary	Add socketmark to libbsd					
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.					
#3800	11 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	3 months ago
Summary	termios - Add Capability to Generate SIGINTR and SIGQUIT					
Description	<p>Currently the RTEMS termios implementation does not examine the ISIG setting in the termios attributes and thus does not examine input for the INTR (cti-C) and QUIT (cti-\) characters. As a consequence, it cannot return -1/EINTR.</p> <p>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().</p> <pre>rtems_termios_isig_status_code rtems_termios_register_isig_handler(rtems_termios_isig_handler handler);</pre> <p>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.</p> <p>The user also can register rtems_termios_default_isig_handler() to return to the default behavior.</p> <p>The tests termios10 (polled IO) and termios11 (interrupt driven IO) are added to exercise this behavior.</p>					
#3802	10 months ago	fixed	tool/rsb	Joel Sherrill	Hesham Almatary	8 months ago
Summary	RSB Build of Spike Fails on Second Time (bug in upstream spike)					
Description	<p>See https://github.com/riscv/riscv-isa-sim/issues/348</p> <p>When this is fixed in the upstream, bump the hash in the RSB. Until then, use the attached patch.</p>					
#3803	10 months ago	invalid	tool/rsb	Joel Sherrill	Chris Johns	4 months ago
Summary	RSB ssl context error fetching qemu patches					
Description	<p>It looks like there is a bug in the code that fetches source/patches. Jiri's site is a simple https:</p> <pre>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: <urlopen error [Errno -2] Name or service not known> error: downloading https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plugin-play.patch: all paths have failed, giving up</pre> <p>This is a build with the following script:</p> <pre>version=5 # variant="-couverture" time ./source-builder/sb-set-builder \ --trace \ --log=1-qemu.txt \ --prefix=\${HOME}/rtems-work/tools/\${version} \ devel/qemu\${variant}</pre>					
#3804	10 months ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	4 months ago
Summary	sb-get-sources: Error repo_mail referenced before assignment					
Description	<p>This occurred on CentOS 7 with Python 2.7.5 and 3.6.</p> <pre>\$./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 <module> 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</pre>					
#3805	10 months ago	invalid	lib/debugger	Joel Sherrill	Chris Johns	10 months ago
Summary	libdebugger build error on atsamv					

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 -mfpv5-d16 -mfloat-abi=hard -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT libdebugger/rtems-debugger-arm.o -MD -MF $dephbase.Tpo -c -o libdebugger/rtems-debugger-arm.o /home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.c &&\n\nmv -f $dephbase.Tpo $dephbase.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 '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 '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 '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 '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 '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 '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 'EXCEPTION_ENTRY_EXC'\n    EXCEPTION_ENTRY_EXC();\n    ^~~~~~\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]\narm_debug_unlock_abort(void)
```

Descripti
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#3806	10 months ago	fixed	score	Sebastian Huber	Sebastian Huber	9 months ago
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Summary Add fatal error for heap errors

Currently, the following fatal error is generate in case of heap errors:

```
static void Heap_Protection_block_error_default(\n    Heap_Control *heap,\n    Heap_Block *block\n)\n{\n    /* FIXME */\n    _Terminate( INTERNAL_ERROR_CORE, 0xdeadbeef );\n}
```

Descripti
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Replace this with a dedicated fatal error source and a context structure (similar to assert()).

#3808	10 months ago	fixed	tool/rsb	Chris Johns	Joel Sherrill	8 months ago
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Summary Fix qemu-couverture-git RSB download file name

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\ndownload: https://github.com/AdaCore/qemu/archive/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz ->\nsources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz\nredirect: https://codelead.github.com/AdaCore/qemu/tar.gz/e9299f7591c8ecf3389922f4e7672b6bc5deae71\ndownloading: sources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz - 0.0 bytes
```

Descripti
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#3809	10 months ago	fixed	tool/rsb	Chris Johns	Joel Sherrill <joel@...>	8 months ago
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Summary Fix epiphany-rtems5-gdb-7.8 RSB download file name

<p>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 ...</p> <p>https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/</p> <p>The release build output shows the issue ...</p> <pre>download: https://github.com/adapteva/epiphany-binutils-gdb/archive/f05996c7c42e6b2781946acbab15...<see log> -> sources/f05996c7c42e6b2781946acbab153a481ce3fd0b.zip redirect: https://codeload.github.com/adapteva/epiphany-binutils-gdb/zip/f05996c7c42e6b2781946ac...<see log> downloading: sources/f05996c7c42e6b2781946acbab153a481ce3fd0b.zip - 0.0 bytes</pre>						
#3810	10 months ago	fixed	doc	Chris Johns	Chris Johns	4 months ago
Summary	Use the release details in the release build docs					
Description	The docs in a release have the hash in the version, it should be the version number with the snapshot details.					
#3811	10 months ago	fixed	admin	Chris Johns	Chris Johns <chrisj@...>	9 months ago
Summary	Release source path on ftp.rtems.org is wrong					
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					
#3812	9 months ago	fixed	admin	Chris Johns	Chris Johns	6 months ago
Summary	Released RSB has no source set for rtems-tools					
Description	Building a release RSB fails in the rtems-tools build with:					
<pre>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 -g -n \${rtems_tools_source} error: no source set: rtems-tools (source-rtems-tools)</pre>						
#3813	9 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	4 months ago
Summary	RSB does not handle --rsb-file in releases					
Description	A released RSB does not handle the set source option <code>--rsb-file</code> :					
<pre>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</pre> <p>The released source has the <code>--rsb-file</code> 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.</p>						
#3814	9 months ago	fixed	admin	Chris Johns	Chris Johns	9 months ago
Summary	Releasing creates 2 copies of the kernel and tools.					
Description	<p>The release snapshot <code>m1911</code> as found here:</p> <p>https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/</p> <p>has a kernel (<code>rtems-5.0.0-m1911.tar.xz</code>) in the top directory and another copy in the <code>sources</code> directory.</p> <p>The top level copy is the head of the branch, in this case <code>master</code> while I suspect the copy in the <code>sources</code> directory is created by the RSB when collecting the source.</p> <p>Which is correct for a release? I am not sure, the tagged version in the RSB or the release packaged version?</p> <p>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.</p>					
#3815	9 months ago	fixed	score	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Improve SMP EDF scheduler configuration					
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.					
#3817	9 months ago	fixed	arch/arm	Jeff Mayes	Chris Johns	4 months ago
Summary	RSB fails on FreeBSD 12.0 (32bit and 64bit)					

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/9a1cf9a2d940a4f79cd822f05c8f13a4c0ec3bb
FreeBSD rtbf64b 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
```

Descripti
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#3821	9 months ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	8 months ago																					
Summary	Port NVMe support from FreeBSD to libbsd																										
#3822	9 months ago	fixed	admin	Chris Johns	Chris Johns	5 months ago																					
Summary	Release created VERSION file in rtems-tools-*.tar.xz is wrong																										
Description	A build of the <code>VERSION</code> file in the release <code>rtems-tools</code> source package is reporting:																										
	<code>invalid version file: error: Invalid version file: ./VERSION: No option 'revision' in section: 'version'</code>																										
#3823	9 months ago	fixed	rtems	Jonathan Brandmeyer	Sebastian Huber <sebastian.huber@...>	9 months ago																					
Summary	Untar_ family doesn't handle nested directories																										
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.																										
#3826	9 months ago	duplicate	shell	Chris Johns		8 months ago																					
Summary	top on SMP shows invalid priorities																										
Description	Running <code>top</code> on a Zynq <code>zc706</code> gives ...																										
	<table border="1"> <thead> <tr> <th>ID</th> <th>NAME</th> <th>RPRI</th> <th>CPRI</th> <th>TIME</th> <th>TOTAL</th> <th>CURRENT</th> </tr> </thead> <tbody> <tr> <td>0x0a010008</td> <td>IRQS</td> <td>4611686018427388000</td> <td></td> <td>4611686018427388000</td> <td></td> <td>2.437559</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.000</td> <td>0.022</td> </tr> </tbody> </table>					ID	NAME	RPRI	CPRI	TIME	TOTAL	CURRENT	0x0a010008	IRQS	4611686018427388000		4611686018427388000		2.437559						0.000	0.022	
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?																										
#3830	9 months ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber	9 months ago																					
Summary	Build problems with user names which contain space characters																										
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.																										
#3831	8 months ago	fixed	doc	Joel Sherrill	Chris Johns	8 months ago																					
Summary	Duplicate description of Tiers and Rules																										

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.					
Summary	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:					
	<ul style="list-style-type: none"> 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.					
#3833	8 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Simplify RTEMS semaphore configuration					
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.					
#3834	8 months ago	fixed	dev	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Simplify clock driver					
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.					
#3835	8 months ago	fixed	score	Sebastian Huber	Sebastian Huber	5 months ago
Summary	Support statically allocated threads					
Description	<p>In some applications it is desirable to have statically allocated resources for all operating system objects.</p> <p>In addition to the thread control block, up to four memory areas are currently allocated by a thread:</p> <ol style="list-style-type: none"> stack area TLS area FP context thread queue heads <p>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 <code>_Thread_Initialize()</code>. Use a hook to get the thread queue heads which is configured depending on the unlimited objects option of the configuration.</p> <p>Statically allocate the stacks for internal threads (e.g. idle and MPCIE receive server) in a dedicated linker section (similar to the interrupt stacks). Mention this in the Classic API Guide configuration chapter.</p>					
#3836	8 months ago	fixed	config	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Specify the application configuration options					
Description	<p>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.</p> <p>The specification and the generator scripts are contained in:</p> <p>https://git.rtems.org/sebh/rtems-qual.git</p>					
#3837	8 months ago	duplicate	config	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR					
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.					
#3838	8 months ago	fixed	bsps	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Rework work area initialization					
Description	<p>The work area initialization is done by the BSP through <code>bsp_work_area_initialize()</code>. 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:</p> <ol style="list-style-type: none"> 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 <code>_Memory_Get()</code> to each BSP (basically a restructuring of the <code>bsp_work_area_initialize()</code> implementations). <p>See optimization opportunity in #3925.</p>					
#3839	8 months ago	fixed	build	Chris Johns	Chris Johns	8 months ago
Summary	RTEMS revision does not handle <code>-</code>					
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 <code>5.0.0-m1912</code> and this is not correct parsed.					
#3840	8 months ago	fixed	config	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Add CONFIGURE_IMFS_ENABLE_MKFIFO					
Description	Obsolete undocumented configuration options CONFIGURE_MAXIMUM_FIFOS and CONFIGURE_MAXIMUM_PIPES. Replace them with a new option: CONFIGURE_IMFS_ENABLE_MKFIFO.					
#3841	8 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	8 months ago
Summary	Add <code>rtems_object_get_local_node()</code>					
Description	<p>Add</p> <pre> /** * @brief Get the local MPCIE node number. * * @return The local MPCIE node number. */ uint16_t rtems_object_get_local_node(void); </pre> <p>to avoid the direct use of internal data structures.</p>					
#3842	8 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	8 months ago
Summary	RSB RTEMS version message string is fixed to the git hash					
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 <code>no-repo</code> . The RTEMS version message is embedded in the gcc version string.					
#3843	8 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summary	Add CONFIGURE_DIRTY_MEMORY					

Descri ption	Change the BSP_DIRTY_MEMORY BSP option (build-time configuration) into a CONFIGURE_DIRTY_MEMORY application configuration option (link-time configuration).					
#3844	8 months ago	fixed	config	Sebastian Huber	Sebastian Huber	8 months ago
Summar y	Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE					
Descri ption	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					
#3845	8 months ago	fixed	config	Sebastian Huber	Sebastian Huber	8 months ago
Summar y	Remove Ada-specific configuration options					
Descri ption	<p>We have currently three Ada related configuration options:</p> <ul style="list-style-type: none"> CONFIGURE_GNAT_RTEMS CONFIGURE_MAXIMUM_ADA_TASKS CONFIGURE_MAXIMUM_FAKE_ADA_TASKS <p>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</p> <pre>#define CONFIGURE_MAXIMUM_ADA_TASKS 123</pre> <p>then you get a re-definition warning and hopefully pay attention to it. This is not very user friendly from point of view.</p> <p>The CONFIGURE_MAXIMUM_ADA_TASKS just adds the configured count to CONFIGURE_MAXIMUM_POSIX_THREADS.</p> <p>The original purpose of these was to:</p> <p>CONFIGURE_GNAT_RTEMS - add in resources required by Ada run-time independent of the number of Ada tasks (e.g. POSIX threads)</p> <p>CONFIGURE_MAXIMUM_ADA_TASKS - add in POSIX threads, condition variable, and mutex required for each Ada task</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>See also: https://lists.rtems.org/pipermail/devel/2019-December/056523.html</p>					
#3848	8 months ago	fixed	network/libbsd	Chris Johns	Chris Johns	5 months ago
Summar y	Libdebugger test in libbsd should depend on libdebugger.a					
Descri ption	The test should be built based on this library being present. The PowerPC does not support libdebugger.					
#3849	8 months ago	fixed	arch/powerpc	Sebastian Huber	Joel Sherrill <joel@...>	5 months ago
Summar y	Fix PSIM memory map					
Descri ption	<p>b08278e/rtems leads to the following run-time error on PSIM:</p> <pre>BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0 BATs must not overlap; area 0x0c000000..0x0d000000 hits DBAT 0</pre> <p>The RAM overlaps with the PCI area:</p> <pre>/* * 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);</pre> <p>Increasing the RAM size to 256MiB (0x10000000) on PSIM breaks also the shared memory support:</p> <pre>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 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;</pre> <p>Proposed solution is to adjust the memory map so that 256MiB of RAM are supported. Probably needs changes in rtems-tools.</p>					
#3856	7 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	7 months ago
Summar y	posix_devctl - Add support for SOCKCLOSE					

Descripti on	The FACE Technical Standard, Edition 3.0 and later require the definition of the subcommand SOCKCLOSE in <devctl.h>.						
Summar y	Reference: https://www.opengroup.org/face						
Summar y	The SOCKCLOSE constant has previously been added to <devctl.h> in newlib.						
Summar y	#3857	7 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	6 months ago
Summar y	Use EAGAIN for POSIX mq wait in ISR error						
Descripti on	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 .						
Summar y	#3859	7 months ago	fixed	shell	Chris Johns	Chris Johns	26 hours ago
Summar y	No output from joel scripts in telnet						
Descripti on	Running a <code>joel</code> script in a telnet session results in the output being sent to the global <code>stdout</code> . For example:						
Descripti on	<pre> \$ 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 [/] # </pre>						
Descripti on	The bug is a new shell main loop task will default to the global <code>stdout</code> , <code>stdin</code> etc and has no information about the parent's <code>std</code> handles. A <code>joel</code> script runs in its own work task and does not know the telnet's <code>std</code> handles.						
Descripti on	There are a related set of issues in the handling of the <code>shell_env</code> variable, POSIX key handling and the use of the external call <code>rtems_shell_main_loop</code> .						
Descripti on	The telnet example in <code>libbsd</code> has:						
Descripti on	<pre> 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); } </pre>						
Descripti on	This is problematic as control of the <code>env</code> has been lost and this make backwards comptable changes difficult. Control of this <code>struct</code> needs to be brought back under the shell code.						
Descripti on	Currently the posix key is set in the parent task only when the run entry point is used. The run's created <code>shell_env</code> is then passed to the shell's main loop task as an argument from which it is cloned. This means an <code>env</code> is <code>malloc</code> ed in each call and again in the main loop of the shell.						
Descripti on	The current code leaks memory as repeated calls to a <code>joel</code> 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 <code>shell_env</code> allocated externally to the shell code has to be handled externally.						
Descripti on	Setting the key in the main loop task is problematic because telnet code such as the example in <code>libbsd</code> uses a local stack <code>shell_env</code> and the key has a destructor that blindly <code>free</code> 's the key's memory when a task is released.						
Descripti on	Changes:						
Descripti on	<ol style="list-style-type: none"> 1. Add <code>parent_stdout</code>, <code>parent_stdin</code>, and <code>parent_stderr</code> to the <code>shell_env</code> and set to the parent's <code>std</code> handles. 2. Add a <code>managed</code> flag to <code>shell_env</code> and only set when allocated by <code>rtems_shell_init_env</code>. Change <code>rtems_shell_env_free</code> to only <code>free</code> the <code>shell_env</code> if <code>managed</code>. 3. Remove all key sets and have only one in the shell's main loop code. 4. Change <code>rtems_shell_init_env</code> to get the current tasks key and clone that before cloning the global env. 5. Update <code>rtems_shell_dup_current_env</code> to set the parent <code>std</code> handles. 6. Have the main loop use the parent <code>std</code> handles rather than the global handles. 7. Check the <code>magic</code> 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 <code>shell.c</code>. Code such as <code>libbsd</code> will need to call <code>rtems_shell_dup_current_env</code>. 						
Summar y	#3861	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION						
Descripti on	Add a configuration option to print some information during system initialization.						
Summar y	#3862	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Canonicalize CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY						
Descripti on	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:						
Descripti on	<pre>#define CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY FALSE</pre>						
Descripti on	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.						
Summar y	#3863	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Remove support for the BSP_ZERO_WORKSPACE_AUTOMATICALLY BSP option						
Descripti on	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.						
Summar y	#3864	6 months ago	fixed	tool	Joel Sherrill	Chris Johns	5 months ago
Summar y	rtems-tester does not work with gdb simulators						
Descripti on	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.						
Summar y	#3865	6 months ago	fixed	score	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Fix linker set item declarations for small data area targets						

Descrip tion	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.					
	<ol style="list-style-type: none"> 1. We can declare items as an array of unspecified size and define items as an array with one element. The problem with this is that it breaks existing code, e.g. an item initializer would have to change. 2. We add the section to the declaration. The problem is that in this case we need a dedicated declaration macro for the ordered items. 					
	Since item declarations are rarely used, we select option 2.					
#3868	6 months ago	fixed	tool/rsb	Chris Johns	Chris Johns <chrisj@...>	6 months ago
Summar y	newlib links breaks mingw build					
Descrip tion	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 <code>-E</code> 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 <code>tools/rsb</code> 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.					
#3871	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Remove <code>rtems_configuration_get_posix_api_configuration()</code>					
Descrip tion	The corresponding data structure not longer exists. This function was not tested.					
#3873	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Remove <code>CONFIGURE_HAS_OWN_INIT_TASK_TABLE</code>					
Descrip tion	The <code>CONFIGURE_HAS_OWN_INIT_TASK_TABLE</code> and <code>CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE</code> are the last <code>*_HAS_OWN_*</code> 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 <code>CONFIGURE_HAS_OWN_INIT_TASK_TABLE</code> would have required the use of the undocumented <code>CONFIGURE_INIT_TASK_TABLE</code> and <code>CONFIGURE_INIT_TASK_TABLE_SIZE</code> configuration options.					
#3874	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summar y	Remove <code>CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE</code>					
Descrip tion	The <code>CONFIGURE_HAS_OWN_INIT_TASK_TABLE</code> and <code>CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE</code> are the last <code>*_HAS_OWN_*</code> 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 <code>CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE</code> would have required the use of the undocumented <code>CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME</code> and <code>CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE</code> configuration options.					
#3875	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	4 months ago
Summar y	Split up <code>confdefs.h</code> in component based header files					

The confdefs.h header file is large, complex, and hard to review. Split it up into component header files to make it easier to maintain and review.

The general approach is to place the default configuration of things in librtemscpu.a. The benefit is that the application configuration object file will only include data structures which have a user-defined value.

The component based header files include their dependencies explicitly. It should be possible to include component based header files separately to ease testing. For example we could use this template:

```
#ifndef _RTEMS_CONFDEFS_FOOBAR_H
#define _RTEMS_CONFDEFS_FOOBAR_H

#ifdef __CONFIGURATION_TEMPLATE_h
#error "Do not include this file directly, use <rtems/confdefs.h> 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 <rtems/confdefs.h> 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
    MPCPI 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
```

Descripti
on

#3876	6 months ago	fixed	config	Sebastian Huber	Sebastian Huber	6 months ago
Summary	Remove CONFIGURE_DISABLE_SMP_CONFIGURATION					
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.					
#3881	6 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	5 months ago
Summary	Add API functions to map a task priority to/from a POSIX thread priority					

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
);

```

Descripti
on

#3882	6 months ago	fixed	posix	Sebastian Huber	Sebastian Huber	6 months ago
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Summary Add POSIX user environment pointer to TCB

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.

#3885	6 months ago	fixed	score	Sebastian Huber	Sebastian Huber	5 months ago
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Summary Context switch extension is broken in SMP configurations

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 );
    ...
}

```

Descripti
on

In uniprocessor configurations, the context switch extensions are called for all thread switches except the very first thread switch to the initialization thread. However, in SMP configurations, the context switch may be invalidated and updated in the low-level `_Context_Switch()` routine. See:

https://docs.rtems.org/branches/master/c-user/symmetric_multiprocessing_services.html#thread-dispatch-details

In case such an update happens, a thread executes on the processor which was not visible to the context switch extensions. This can confuse for example event record consumers which use events generated by a context switch extension.

Fixing this is not straight forward. The context switch extensions call must move after the low-level context switch. The problem here is that we may end up in `_Thread_Handler()`. Adding the context switch extensions call to `_Thread_Handler()` covers now also the thread switch to the initialization thread. We also have to save the last executing thread of the processor. Registers or the stack cannot be used for this purpose. We have to add it to the per-processor information. Existing extensions may be affected, since now context switch extensions use the stack of the heir thread.

Calling the thread switch extensions in the low level context switch is difficult since at this point an intermediate stack is used which is only large enough to enable servicing of interrupts.

#3887	6 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	4 months ago
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Summary Do not report remotes in RSB build log if `--mail` is used

Do not include the remote repos in a build repo is the `--mail` option is used. This avoids posting private repo configuration data for a user. This ticket is in response to this discussion ...

<https://lists.rtems.org/pipermail/devel/2020-February/057765.html>

Description 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.

#3888	6 months ago	fixed	network/libbsd	Chris Johns	Chris Johns	4 months ago
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Summary Update rtems_waf in libbsd

Description Update master and the 5-freebsd-12 branch.

#3893	6 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	5 months ago
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Summary	RSB staging changes have broken building a 3rd party package					
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.					
	<pre>../source-builder/sb-set-builder --log=bbb-pkg.txt --prefix=/build/rtems/install/5 --host=arm-rtems5 --with-rtems-bsp=beagleboneblack 5/rtems-packages</pre>					
#3894	5 months ago	fixed	fs	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Replace the device filesystem with a specialization of the IMFS					
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					
	<pre>#define CONFIGURE_USE_DEVFS_AS_BASE_FILESYSTEM</pre>					
	configuration option. Replace the device filesystem with a specialization of the IMFS.					
#3895	5 months ago	fixed	doc	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Add a migration to RTEMS 5 chapter to User Manual					
Description	Add a chapter to the User Manual to aid the user to migrate applications from previous RTEMS versions to RTEMS 5.					
#3896	5 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	5 months ago
Summary	RSB option <code>--source-only-download</code> does not work with releases					
Description	The RSB option <code>--source-only-download</code> does not work for releases					
#3898	5 months ago	fixed	config	Sebastian Huber	Sebastian Huber	5 months ago
Summary	Remove CONFIGURE_MAXIMUM_DEVICES					
Description	This configuration option was only used by the device filesystem which will be replaced by a special configuration of the IMFS.					
#3900	5 months ago	fixed	doc	Sebastian Huber	Sebastian Huber	5 months ago
Summary	New template for boolean feature defines					
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:					
	<pre>.. 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.</pre>					
#3901	5 months ago	fixed	doc	Sebastian Huber	Sebastian Huber	5 months ago
Summary	New template for configuration options with a value					
Description	Change the documentation template for configuration options with a value to:					
	<pre>.. _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.</pre>					
	Use <code>OPTION TYPE</code> instead of <code>DATA TYPE</code> since we have to characterize the option an not just the value of an option. This is in line with #3900 .					
	Use <code>VALUE RANGE</code> instead of <code>RANGE</code> to be more specific.					
#3903	5 months ago	fixed	network/libbsd	Chris Johns	Christian Mauderer <christian.mauderer@...>	4 months ago
Summary	raspberrypi2 libbsd 5-freetsd-12 does not build					
Description	The build is failing with ...					
	<pre>/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</pre>					
	Is something on <code>master</code> that needs to be back ported to the <code>5-freetsd-12</code> branch?					
#3904	5 months ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Add methods to dump the event records in base64 encoding (optionally zlib compressed)					

<p>Descripti on</p> <p>This helps to get the event records easily via a serial line in case of a crash.</p>	#3907	5 months ago	fixed	doc	Joel Sherrill	4 months ago	
<p>Summar y</p> <p>Update Getting Started Instructions</p> <p>https://devel.rtems.org/wiki/GSoC/GettingStarted reflects how SIS was used before it was split from GDB into a separate program.</p>							
<p>Descripti on</p> <p>Ensure this information is in the Users Guide as a Getting Started. We need a Getting Started task for student programs.</p> <p>Discuss keeping the old instructions under a subheading for older versions.</p> <p>This ticket can be closed when it is determined that the wiki page content is distributed and updated/removed properly</p>	#3909	5 months ago	fixed	build	Chris Johns	Chris Johns	5 months ago
<p>Summar y</p> <p>rtems_waf with python2 needs to handle unicode strings with waf</p> <p>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:</p>							
<p>Descripti on</p> <p><code>Cannot create ///h/</code></p> <p>The waf ticket is https://gitlab.com/ita1024/waf/-/issues/2283.</p>	#3911	5 months ago	fixed	bsps	Joel Sherrill	5 months ago	
<p>Summar y</p> <p>Remove gdbarmsim</p> <p>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.</p>	#3914	5 months ago	fixed	tool	Joel Sherrill	Joel Sherrill	5 months ago
<p>Summar y</p> <p>Spike has hard-coded path to DTC</p> <p>Spike has a fully qualified hard-coded path to dtc which when built with the RSB ends up being inside the temporary tree.</p>							
<p>Descripti on</p> <p>RTEMS Discussion: https://lists.rtems.org/pipermail/devel/2020-March/058489.html</p> <p>Filed as Spike bug: https://github.com/riscv/riscv-isa-sim/issues/427</p>	#3919	5 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	5 months ago
<p>Summar y</p> <p>RSB may not download source of pkgconfig checked packages</p> <p>There are config files with the following:</p>							
<p>Descripti on</p> <pre># # The GLib build instructions. We use 2.x.x Release 1. # %ifn %{pkgconfig check glib-2.0} %include %{_configdir}/glib-2-1.cfg %endif</pre> <p>If the glib package is present the config file is not loaded and the source is not downloaded with the <code>sb-get-source</code> package. Change the config to:</p> <pre># # 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</pre>	#3921	4 months ago	fixed	bsps	Sebastian Huber	Sebastian Huber	4 months ago
<p>Summar y</p> <p>QoriQ clock tick interval is off by one hardware clock tick</p> <p>The BCR initialization in qoriq_clock_initialize() is off by one resulting in a wrong clock interval.</p>	#3927	4 months ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	4 months ago
<p>Summar y</p> <p>tlsh required to build sqlite -- makes all BSP bssets fail</p> <p>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 bssets.</p> <p>This is IMO a blocker at some level for the 5.1 release because it impacts building all bssets.</p> <pre>+ make -j 8 sqlite3.h libsqlite3.la tlsh /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: tlsh: command not found</pre>	#3936	4 months ago	fixed	arch/sparc64	Sebastian Huber	Gedare Bloom	4 months ago
<p>Summar y</p> <p>C++ thread-local storage broken on sparc64</p> <p>gmake[5]: Entering directory '/build/git-build/b-niagara/sparc64-rtems5/c/niagara/testsuites/sptests'</p> <pre>sparc64-rtems5-g++ -mcpu=niagara -g -O2 -ffunction-sections -fdata-sections -Wall -B./../lib/libbsp/sparc64/niagara -B/home/EB/sebastian_h/git-rtems-5/bsps/sparc64/niagara/start -specs bsp_specs -qrtems -L./../cpukit -L/home/EB/sebastian_h/git-rtems-5/bsps/sparc64/shared/start -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--wrap=putchar -Wl,--gc-sections -o sptls02.exe sptls02/sptls02-init.o sptls02/sptls02-var.o ./../lib/libbsp/sparc64/niagara/librtemsbsp.a ./../cpukit/librtemscpu.a ./../cpukit/librtemstest.a /build/rtems/5/lib/gcc/sparc64-rtems5/7.5.0/../../../../sparc64-rtems5/bin/ld: warning: dot moved backwards before `got' /build/rtems/5/lib/gcc/sparc64-rtems5/7.5.0/../../../../sparc64-rtems5/bin/ld: warning: dot moved backwards before `got' /build/rtems/5/lib/gcc/sparc64-rtems5/7.5.0/../../../../sparc64-rtems5/bin/ld: section .got LMA [0000000000317c0,0000000000317c7] overlaps section .data LMA [000000000031018,0000000000319d7]</pre> <p>One option is to disable this test on sparc64.</p>	#3938	4 months ago	fixed	test	Joel Sherrill	joel@...	4 months ago
<p>Summar y</p> <p>Many (~40) BSPs Fail to Link all Tests</p> <p>When configured as as show, ~40 BSPs (list below) cannot link all of the tests due to out of memory issues:</p> <pre>./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</pre> <p>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-rti22xx arm-rti22xx_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-mpc5674fevb_rsm6 sh-gensh1 sh-gensh2 sh-simsh1 sh-simsh2e sh-simsh2 sh-simsh4 sparc64-niagara sparc64-usiii</p>	#3944	4 months ago	fixed	bsps	Joel Sherrill	Sebastian Huber	4 months ago

Summary	qoriq_e500 BSP bset fails					
Description	Looks like curl isn't building for the qoriq_e500 bset. This seems like a weird outlier. Any ideas?					
Description	<pre>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</pre>					
#3945	4 months ago	fixed	doc	Cláudio Maia	Chris Johns	4 months ago
Summary	Update DTC example on rtems-docs/user/rsb/configuration.rst					
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.					
Description	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.					
#3949	4 months ago	fixed	posix	Sebastian Huber	Sebastian Huber	4 months ago
Summary	clock_settime() can lead to a failed _Assert()					
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.					
#3953	4 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	4 months ago
Summary	rtems_extensions_create() accepts a NULL pointer table					
Description	It should return RTEMS_INVALID_ADDRESS instead.					
#3956	4 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	4 months ago
Summary	RSB BSP build with tests does not keep a copy					
Description	The tests are not installed by default. Add support to the RSB to copy the tests to the installed BSP prefix.					
#3960	4 months ago	fixed	doc	Joel Sherrill	Chris Johns <chrisj@...>	4 months ago
Summary	Add to FreeBSD host setup information					
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					
#3961	4 months ago	fixed	arch/arm	Christian Mauderer	Christian Mauderer	4 months ago
Summary	bsps/arm: CPU counter based on arm generic timer doesn't work correctly					
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.					
#3966	3 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 months ago
Summary	RSB bare version number if wrong.					
Description	The <code>bare/bare-config.cfg</code> has the wrong major version number for RTEMS.					
#3967	3 months ago	fixed	release	Chris Johns	Chris Johns	3 months ago
Summary	Release source package list is out of date					
Description	The source package list needs to be reviewed and updated: https://git.rtems.org/rtems-release/tree/rtems-source-packages					
#3968	3 months ago	fixed	test	Chris Johns	Chris Johns	3 months ago
Summary	symlinks in RTEMS source tree					
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:					
Description	<pre>\$ find . -type l ./testsuites/libtests/tar01/symlink</pre>					
Description	MSYS reports:					
Description	<pre>\$ find . -type l ./testsuites/libtests/tar01/symlink</pre>					
Description	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.					
Description	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.					
#3969	3 months ago	fixed	lib/dl	Chris Johns	Chris Johns	3 months ago
Summary	dl06 fails on all libdl supported architectures					
Description	The test <code>dl06</code> fails on all <code>libdl</code> supported architectures.					
#3970	3 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Deprecate use _RTEMS_version at API level					
Description	The global variable _RTEMS_version was declared via <code><rtems.h></code> and may be used directly by application code. Applications should use <code>rtems_get_version_string()</code> instead. Mark this variable as deprecated and move it to an internal header file in RTEMS 6.					
#3971	3 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Deprecate use of RTEMS_MAXIMUM_NAME_LENGTH					
Description	This define is unused and undocumented. It is available via <code><rtems.h></code> . Deprecate its use.					
#3972	3 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Deprecate <code><rtems/system.h></code>					
Description	This header file is included by <code><rtems.h></code> and contains only deprecated or internal content. Deprecate its use at API level.					

#3973	3 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Add rtems_get_copyright_notice() and deprecate _Copyright_Notice					
Description	Deprecate the use of _Copyright_Notice at API level and instead provide a new function rtems_get_copyright_notice().					
#3974	3 months ago	fixed	arch/epiphany	Joel Sherrill		3 months ago
Summary	Deprecate ephipany port in rtems5 and remove in rtems6					
Description	<p>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.</p> <p>If this port is of interest, work to get gcc fixed and help resurrect this port.</p> <p>Deprecate for RTEMS 5.x Remove in RTEMS 6.x</p>					
#3976	3 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 months ago
Summary	Released RSB qemu4 source download fails.					
Description	<p>The RSB attempts to download:</p> <p>https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m2005-2/sources/qemu-git-42d58e7.tar.xz</p> <p>and the release process has captured:</p> <pre>qemu-4.1.0-leon3.patch qemu-couverture-03a7fbcce52e0bca7f033ccba79e7856e82bb437.tar.gz qemu-git-v4.1.0.tar.xz</pre>					
#3987	3 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	3 months ago
Summary	ARMv7-M Exception handler does not store the SP					
Description	The default exception handler on ARMv7-M does not store the SP of the exception context to the exception frame.					
#3992	3 months ago	fixed	release	Chris Johns	Chris Johns	2 months ago
Summary	Release URL path with sources is wrong					
Description	The path is wrong in the release scripts.					
#3995	2 months ago	fixed	release	Chris Johns	Chris Johns	2 months ago
Summary	Release doxygen support is broken					
Description	The doxygen support has been updated in the repository and the release scripts have not been updated.					
#4002	2 months ago	invalid	bsps	Chris Johns		2 months ago
Summary	Beaglebone and PC BSP stacks do not build					

#4010	8 weeks ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	7 weeks ago
Summary	Update mDNSResponder to Apple version v878.30.4					
Description	<p>Download</p> <ul style="list-style-type: none"> • 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 <p>from</p> <p>https://opensource.apple.com/tarballs/mDNSResponder/</p> <p>Merge each update into libbsd/mDNSResponder.</p> <p>These updates may contain security bug fixes.</p>					
#4014	7 weeks ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 days ago
Summary	RSB RTEMS 5 Post Branch Clean					
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.					
#4015	7 weeks ago	fixed	tool/rsb	Chris Johns	Chris Johns	7 weeks ago
Summary	SQLite has stopped http access					
Description	The SQLite website has stopped serving http requests. Change to https .					
#4016	7 weeks ago	fixed	posix	Kinsey Moore	Kinsey Moore <kinsey.moore@...>	3 days ago
Summary	shm_unlink uses uninitialized obj_err on successful return from _POSIX_Shm_Get_by_name					
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.					
#4017	7 weeks ago	fixed	tool/rsb	Chris Johns	Chris Johns	6 weeks ago
Summary	RSB --host and --target option trigger the bset tarball					
Description	<p>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.</p> <p>The adding the kernel and 3rd party packages means the RSB command line can have the <code>--host</code> and <code>--target</code> options and if the kernel and a package like libbsd are on a single command line the <code>--host</code> and <code>--target</code> trigger a tarball install and this breaks the build.</p> <p>Fix:</p> <ul style="list-style-type: none"> • 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. 					
#4021	6 weeks ago	fixed	network/libbsd	Chris Johns	Chris Johns <chrisj@...>	2 days ago
Summary	PowerPC for libbsd does not build					
Description	<p>Building a kernel and libbsd for the <code>--with-rtems-bsp=mvme3100</code> libbsd fails with:</p> <pre>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) ^~~~~</pre> <p>This is using 5.1.0-rc1.</p>					
#4028	4 weeks ago	fixed	arch/i386	Jan Sommer	Jan Sommer <jan.sommer@...>	4 weeks ago
Summary	i386: SMP-System hangs with non-consecutive APIC IDs					
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.					
#4030	3 weeks ago	fixed	arch/i386	Jan Sommer	Jan Sommer <jan.sommer@...>	2 weeks ago
Summary	i386: ISR can overwrite its own stack during system initialization					
Description	<p>During testing the rtems-libbsd examples, we experienced GP exceptions from within the ISR from time to time during initialization.</p> <p>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 spanned between restoring the eflags register and restoring the esp register.</p>					
#4033	2 weeks ago	fixed	lib	Sebastian Huber	Sebastian Huber	9 days ago
Summary	Add rtems_interrupt_server_create() and rtems_interrupt_server_destroy()					
Description	<p>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.</p> <p>Add rtems_interrupt_server_create() and rtems_interrupt_server_destroy() for this purpose.</p>					
#4038	11 days ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	9 days ago

Summary arm/atsam/SC16IS752: Make interrupt server configurable

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.

tags

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