RTEMS - 5.0.0-m2004-2 Release Notes

29 April 2020

RTEMS 5 Series Release Notes

These notes cover the dot releases:

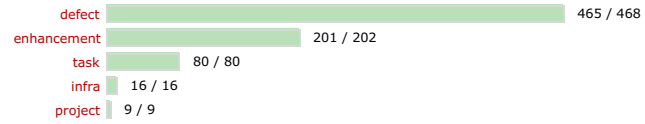
- 5.1
- 5.0

5.1 (open)

Statistics

Total	775
Fixed	705
Invalid	13
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 avrtest 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 Architectual Port
~~#2453~~ Remove h8300/h8sim BSP
~~#2454~~ Warning in threadqops.c
~~#2455~~ Warning in spsimplesched02
~~#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 enviroment 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
- ~~#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~~ Coverpage 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 confguration 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.
- ~~#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_phys(), etc.
- ~~#3374~~ rtems-test does not honor --mail-from argument
- ~~#3375~~ Remove command line pre-processor defines
- ~~#3376~~ Remove cklength 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 (tftpfs, 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~~ RISCV 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 bsps/powerpc/mpc55xxevb/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 CLooG and ISL host depencencies 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 anouncing 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
- ~~#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 seciton 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_DESCRIPTORS
- ~~#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 applciation 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 sockatmark 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 or 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_DESCRIPTORS

~~#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~~ tclsh 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~~ bsps/arm: CPU counter based on arm generic timer doesn't work correctly
#3962 Licensing Requirements for Submissions Poorly Documented

Details

Ticket	Created	Resolution	Component	Reporter	Owner	Modified
~~#1247~~	13 years ago	fixed	fs	strauman	Chris Johns	2 years ago

Summary: RTEMS does not implement locks needed by multithreaded newlib

Description:

multi-threaded newlib protects a number of internal data structures (as of newlib-1.15 these comprise:

- global list of FILE objects
- stdio FILE object initializer
- individual FILEs [since FILEs with the exception of stdin/stdout/stderr are per-process entities]
- global hash table used by telldir/seekdir
- individual DIR structures (opendir/readdir)
- atexit list
- list of environment variables
- global timezone variable

) using mutexes. It expects the OS to implement these locks but defaults to not using locking if the OS does not provide an implementation. Currently, RTEMS does *not* provide its own implementation of 'sys/lock.h' and therefore vital data structures in newlib are currently *unprotected* (with the exception of environment variables -- 'envlock.c' had been added to RTEMS a while ago but since then, newlib has introduced more locks and a general OS interface which - once implemented - will obsolete 'envlock.c').

Note that while semantics of having no protection for individual FILE objects may be tolerable, having no protection for global newlib data structures such as lists of FILEs is not acceptable.

I am currently working on an implementation which should be available shortly.

Ticket	Created	Resolution	Component	Reporter	Owner	Modified
~~#1394~~	11 years ago	fixed	tool/newlib	Daniel Hellstrom	Chris Johns	2 years ago

Summary: scandir() fails due to MAXNAMELEN is incorrect

Description	I have been trying to use scandir() however the newlib one does not work due to MAXNAMLEN and NAMLEN differ. scandir in libcsupport seems to have a fix for this, however my libcsupport_a-scandir.o is empty, I'm guessing because HAVE_SCANDIR is defined.
	
	It is used in scandir() (newlib-1.17.0/newlib/libc/posix/scandir.c:117) by the macro DIRSIZ. Where DIRSIZ uses the MAXNAMELEN define which is set incorrectly. It does not match the sizeof(struct dirent) which makes the DIRSIZ return a negative number, then malloc(DIRSIZ(d)) will try to allocate 4GB which fail.
	
	My guess is that MAXNAMELEN should be defined in newlib-1.17.0/newlib/libc/sys/rtems/sys/dirent.h or newlib-1.17.0/newlib/libc/sys/rtems/include/limits.h or in a new file.
	
	I tried to run the code below on my FAT filesystem, taken directly from the scandir(3) man page.
	
	/* print files in current directory in reverse order */ #include <dirent.h> main(){
	struct dirent **namelist; int n;
	n = scandir(".", &namelist, 0, NULL); if (n < 0)
	perror("scandir");
	else {
	while(n--) {
	printf("%s\n", namelist[n]->d_name); free(namelist[n]);
	} free(namelist);
	}
	}

~~#1662~~	10 years ago	fixed	fs	Bharath Suri	Chris Johns	2 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	2 years ago
Summary	Heap extend allows discontinuous memory regions.					
Description	The check in (cpukit/ChangeLog) states: 2010-06-07 Sebastian Huber <sebastian.huber@…> • score/src/heapextend.c: Implemented support for scattered heap areas. The heap cannot support scattered blocks because the _Heap_Is_block_in_heap assumes the region is continuous between the first and last blocks of the heap. Making the gaps in the regions passed to the heap extend call used is questionable and makes the _Heap_Is_block_in_heap test not really perform the task it's name states. This is an issue because it is this check that determines if a heap free of NULL should proceed. This issue is covered in another PR. I also wonder about a heap free call to an address that maps to one of the "in-use" gap regions. The previous heap code knew if an address was in the heap and therefore it was kind of safe to probe for a valid block. This assumption is now not valid. The former heap extend code: http://www.rtems.org/viewvc/rtems/cpukit/score/src/heapextend.c?revision=1.7&view=markup clearly states the type of memory that can be added to an existing heap. The current code has no restrictions. The user manual is not great in this area. It would also be useful if comments are added to the heap extend code. The heap extend code is used by the rtems_region_extend call and this call clearly states in the manual that the memory region must be continuous. If this has changed we should discuss the API change and make better note of it. I also suspect the testsuite will need additions to test any API changes.					
~~#1971~~	8 years ago	fixed	fs	nopscmn	Chris Johns	2 years ago
Summary	Memory leak in tmpfile()					
Description	Hello, I use tmpfile() in my RTEMS application, and found that it has memory leak. I wrote small test application (see attachment), that output memory usage: Memory usage before: Number of used blocks: 12 Largest used block: 1288 Total bytes used: 3628 Memory used after: Number of used blocks: 1013 Largest used block: 1288 Total bytes used: 112064 By 1000 iteration, each call tmpfile() cause memory leak about 108 bytes.					
~~#2132~~	7 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	<rtems/score/basedefs.h> superfluously includes <limits.h>					
Description	In older RTEMS versions <rtems.h> provided <limits.h> indirectly. The include of <limits.h> was added to not break application source files that relied on this accidentally. We may remove this include in the future.					
~~#2133~~	7 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	<rtems/score/basedefs.h> superfluously includes <string.h>					
Description	In older RTEMS versions <rtems.h> provided <string.h> indirectly. The include of <string.h> was added to not break application source files that relied on this accidentally. We may remove this include in the future.					
~~#2135~~	7 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 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.					
~~#2173~~	6 years ago	fixed	score	Sebastian Huber	Joel Sherrill	2 years ago
Summary	Potential integer overflow problem in EDF scheduler					

Description

On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43 AM, Sebastian Huber <sebastian.huber@…> wrote:

[...]

> I have another question regarding the EDF scheduler. Does this work in case _Watchdog_Ticks_since_boot overflows?

No. For this, I think we need to use "deadline folding" which is just modulo arithmetic.

```
void _Scheduler_EDF_Release_job(
        Thread_Control *the_thread, uint32_t deadline
) {
        Priority_Control new_priority;
        if (deadline) {
                /* Initializing or shifting deadline. */ new_priority = (_Watchdog_Ticks_since_boot + deadline)
                        & ~SCHEDULER_EDF_PRIO_MSB;
        } else {
                /* Switch back to background priority. */ new_priority = the_thread->Start.initial_priority;
        }
        the_thread->real_priority = new_priority; _Thread_Change_priority(the_thread, new_priority, true);
}
```

_Watchdog_Ticks_since_boot us uint32_t and overflows after 49 days with a one millisecond clock tick.

~~#2176~~	6 years ago	wontfix	score	Jeffrey Hill	Joel Sherrill	2 years ago

Summary: fishy behavior in termios tx task mode

Description

I have a look around in the drivers in the various BSPs and I notice that none of the termios drivers appear to transmit characters at task level even if they are running in termios task mode. Maybe all (most) of them send characters in the ISR. If there was a large frame of characters to send then this could lock out task activity for too long.

FWIW, I had a closer look at this today, and maybe something is fishy in the termios code when the TX part of termios runs in task driven mode. It seems that in task mode if the UART can accept characters immediately in the write routine then we wouldnt need to turn on any interrupts at all. The write routine would need to somehow tell termios how many characters it sent; presumably this would occur by calling rtems_termios_dequeue_characters in the driver's write function. I see in the code that this tries to work, rtems_termios_dequeue_characters posts the semaphore of termios tx and increases the characters sent count of termios. However after the write routine returns it goes badly.

If the transmitter runs in termios TASK mode and the driver's write routine does not immediately enable an interrupt, then it returns to the code below in rtems_termios_puts and it sets the transmitter to rob_busy. After that the termios tx daemon proceeds to step through all of the characters remaining (I think that I see this in the debugger) and discards them because the transmitter stays in rob_busy state.

It's also probably odd that termios calls the write function with interrupts disabled when it is in task driven mode; we could loop outputting a large frame of characters in the write routine at task level with interrupts globally disabled.

```
if (tty->rawOutBufState == rob_idle) {
        /* check, whether XOFF has been received */ if (!(tty->flow_ctrl & FL_ORCVXOF)) {
                (*tty->device.write)(tty->minor,
                        (char *)&tty->rawOutBuf.theBuf[tty->rawOutBuf.Tail],1);
        } else {
                /* remember that output has been stopped due to flow ctrl*/ tty->flow_ctrl |= FL_OSTOP;
        } tty->rawOutBufState = rob_busy;
}
```

[debug]#0 rtems_termios_puts (_buf=0x9ca60, len=1, tty=0x11509c) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/termios.c:677 [debug]~~#1~~ 0x00015c68 in oproc (c=99 'c', tty=0x11509c) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/termios.c:748 [debug]~~#2~~ 0x00015d9c in rtems_termios_write (arg=0x9cad8) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/termios.c:770 [debug]~~#3~~ 0x00002ef0 in console_write (major=0, minor=0, arg=0x9cad8) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/lib/libbsp/nios2/altera-sys-config/./console/console.c:171 [debug]~~#4~~ 0x0006c328 in rtems_io_write (major=0, minor=0, argument=0x9cad8) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/sapi/src/iowrite.c:47 [debug]#5 0x00068044 in device_write (iop=0x114988, buffer=0x3366d4, count=44) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libfs/src/imfs/deviceio.c:160 [debug]~~#6~~ 0x00017ef4 in write (fd=1, buffer=0x3366d4, count=44) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/write.c:51 [debug]~~#7~~ 0x0007f078 in _write_r (ptr=0x9d638, fd=1, buf=0x3366d4, nbytes=44) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/write_r.c:38 [debug]~~#8~~ 0x0006d488 in _fflush_r (ptr=0x9d638, fp=0x9d98c) at ../../../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/fflush.c:214 [debug]~~#9~~ 0x000754e8 in sfvwrite_r (ptr=0x9d638, fp=0x9d98c, uio=0x9cbe0) at ../../../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/fvwrite.c:257 [debug]~~#10~~ 0x0007830c in sprint_r (ptr=0x9d638, fp=0x20, uio=0x9cbe0) at ../../../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/vfprintf.c:322 [debug]~~#11~~ 0x00072fc8 in _vfprintf_r (data=0x9d638, fp=0x9d98c, fmt0=<value optimized out>, ap=0x0) at ../../../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/vfprintf.c:1501 [debug]~~#12~~ 0x0006dce8 in printf (fmt=0x1 "") at ../../../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/printf.c:52 [debug]~~#13~~ 0x00057de0 in bootpc_init (update_files=false, forever=true) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libnetworking/nfs/bootp_subr.c:997 [debug]~~#14~~ 0x0002960c in rtems_bsdnet_do_bootp () at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libnetworking/rtems/rtems_bootp.c:23 [debug]~~#15~~ 0x0002b218 in rtems_bsdnet_initialize_network () at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libnetworking/rtems/rtems_glue.c:980 [debug]~~#16~~ 0x00001528 in Init (ignored=565432) at init.c:47 [debug]~~#17~~ 0x0006ccb0 in _Thread_Handler () at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/score/src/threadhandler.c:145 [debug]~~#18~~ 0x0006cc28 in _Thread_Is_heir (the_thread=0x6cc28) at ../../cpukit/../../../altera-sys-config/lib/include/rtems/score/thread.inl:82 [debug]Backtrace stopped: frame did not save the PC

~~#2198~~	5 years ago	fixed	doc	Gedare Bloom	Chris Johns	23 months ago

Summary: Automate doxygen build

Description: The doxygen builds are no longer being generated nightly.

~~#2207~~	5 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 years ago

Summary: RTEMS tar does not overwrite.

Description

A host tar by default will overwrite the contents of a directory. A sort of refresh. The RTEMS tar requires you remove the existing files rather than overwrite. This is dangerous because you have to remove files yet you do not know if the tar will be successful and moving and saving files assumes you know the contents of the tar file before hand.

Tar should be changed to overwrite and so allow files to be refreshed.

Consistence of files should be managed outside of tar via hashes or checksums.

~~#2213~~	5 years ago	fixed	tool/gcc	daniel.cederman	Daniel Hellstrom	2 years ago

Summary: Decreased performance for whetstone benchmark using GCC >=4.5

Description

Moving from GCC 4.4.2 to 4.9.2 increases the execution time of the whetstone benchmark on both SPARC and x86. The cause seems to be a single commit. I have submitted a bug report to the GCC bugzilla:

https://gcc.gnu.org/bugzilla/show_bug.cgi?id=64193

~~#2261~~	5 years ago	fixed	unspecified	Joel Sherrill		2 years ago

Summary: Add coverage report generation support to rtems-tools

Description	This ticket is to capture the current state of the project started by Krzysztof Mięsowicz <krzysztof.miesowicz@...>. The goals of the project were to: • replace the existing shell scripts in rtems-testing with Python code integrated into rtems-tools • add the capability to generate a report per directory. This is important because a large body of code with low coverage negatively impacts the overall coverage area and makes reports harder to read. Breaking the reports down by functional area lets us do coverage reporting on more code even when some of the areas are in need of testing improvement. The remaining effort in conjunction with other activity related to coverage such as inclusion of gcov generated reports is a good "summer of code" type project. This is an important capability to add to the rtems-tools. The attached tar file krzy-patches.tar.bz2 contains the current code. There may be other issues to resolve but writing from memory, the following are the highest priority ones: • no default setting for coverage enable/disable • configuration file has hard coded paths. This should be able to be a template which is adjusted by the tools at run-time. • variable naming and coding style does not match that used in other Python code in rtems-tools Krzysztof wrote some in his blog about this (http://kmiesowicz.blogspot.com/p/esa-socis-2014.html). Ensure that your base RTEMS tools are built with the RTEMS Source Builder and check on the development list if it builds a qemu with coverage support. This may have changed since he blogged.

~~#2266~~	5 years ago	invalid	unspecified	Joel Sherrill		2 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. $ grep -rl bsp_pretasking_hook . ./sparc/shared/bsppretaskinghook.c ./powerpc/score603e/startup/bspstart.c ./powerpc/beatnik/startup/bspstart.c ./powerpc/virtex5/startup/bspstart.c ./powerpc/virtex5/start/start.S ./powerpc/shared/startup/pretaskinghook.c ./powerpc/virtex4/startup/bspstart.c ./powerpc/virtex4/start/start.S ./powerpc/ep1a/startup/bspstart.c ./arm/lpc176x/startup/bspstart.c ./arm/lpc24xx/startup/bspstart.c ./bfin/bf537Stamp/startup/bspstart.c ./bfin/TLL6527M/startup/bspstart.c ./bfin/eZKit533/startup/bspstart.c ./shared/include/bootcard.h ./shared/bsppretaskinghook.c ./shared/bootcard.c					
~~#2284~~	5 years ago	wontfix	unspecified	Joel Sherrill	Chris Johns	2 years ago
Summary	h8300 gets error linking dl0* tests					
Description	rtems-syms -e -c "-mh -mint32 -O2 -g -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs" -o dl-sym.o dl01.pre h8300-rtems4.11-gcc -B../../../../../h8sim/lib/ -specs bsp_specs -qrtems -mh -mint32 -O2 -g -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -mh -mint32 \ -o dl01.exe init.o dl-load.o dl-tar.o dl-sym.o dl-sym.o: In function `rtems_rtl_base_global_syms_init': rld--gTgaaa.c:(.text+0xa): undefined reference to `rtemsrtl_base_globals_size' rld--gTgaaa.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	2 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		2 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 spnotepad02. It is primarily ensuring that two threads can exchange values through notepads. The remaining use of notepads in sp07 can probably just be a count down on the priority. I am starting to move code to spnotepad02 from sp07 that is not related to the tasks counting down. Hopefully I can resolve this without much feedback.					
~~#2306~~	5 years ago	fixed	arch/powerpc	Joel Sherrill		2 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		2 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	2 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	2 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		2 years ago
Summary	One watchdog ticks header per scheduler instance					

Description

Currently there is one watchdog header for all ticks based watchdogs. This is not scalable. For example on the Freescale T4240 platform with 24-processors we observe in the smptests/smpwakeafter01 test a maximum thread dispatch disabled time of 3.8ms on processor 0 and 1.7ms on the other processors.

```
<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>
```

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		2 years ago

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	2 years ago

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		2 years ago

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 sptests/spcontext01.

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

~~#2366~~	5 years ago	wontfix	score	Joel Sherrill		2 years ago

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@...>	2 years ago

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		2 years ago

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	2 years ago

Summary: Warning from commit "bsps/arm: Do not use ARM_ARCH_7A"

Description:

This change https://git.rtems.org/rtems/commit/?h=4.11&id=d0733bb8 generate a warning in user code. The warning is:

```
.../arm-errata.h:45:1: warning: 'in line' is not at beginning of declaration [-Wold-style-declaration]
 static bool inline arm_errata_is_applicable_processor_errata_764369(void)
 ^
```

~~#2407~~	5 years ago	fixed	build	Sebastian Huber	Joel Sherrill	2 years ago

Summary: Enable function and data sections

Description

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

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	3 months ago

Summary

Linker set based initialization

Description

Linker sets are used for example in Linux, FreeBSD (they are used in the RTEMS port of the FreeBSD network stack, e.g. libbsd), eCos and for global C++ constructors. They provide a space efficient and flexible means to initialize modules. A linker set consists of

- dedicated input sections for the linker (e.g. `.ctors` and `.ctors.*` in the case of global constructors),
- a begin marker (e.g. provided by `crtbegin.o`, and
- an end marker (e.g. provided by `ctrend.o`).

A module may place a certain data item into the dedicated input section. The linker will collect all such data items in this section and creates a begin and end marker. The initialization code can then use the begin and end markers to find all the collected data items (e.g. function pointers).

Lets look how this works using a simple example. For this we need three files `myset.h`,

```
#ifndef MYSET_H
#define MYSET_H

/* The linker set items */
typedef struct {
  void (*func)(void);
} item;

/*
 * Macro to create a linker set item.  The first parameter is
 * the designator of the item.  It must be unique within the
 * module scope.  The second parameter is the desired function.
 */
#define MYSET_ITEM(i, f) \
    __attribute__((used)) \
    __attribute__((section(".rtemsroset.myset.content"))) \
    static item i = { f }

#endif /* MYSET_H */
```

`module.c`

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

/*
 * Some global function that needs a module specific
 * intialization 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(".rtemsroset.myset.begin")))
static volatile const item begin[0];

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

int main(void)
{
        size_t n = &end[0] - &begin[0];
        size_t i;

        /* Call all functions of the linker set */
        for (i = 0; i < n; ++i) {
                (*begin[i].func)();
        }

        /*
         * This will pull in the module.c and register its item in the
         * linker set "myset".  So g() can rely on f() being called first.
         */
        g();

        return (0);
}
```

In the linker command file of the GNU linker we need the following statement.

```
.rtemsroset : {
 KEEP (*(SORT(.rtemsroset.*)))
```

The `KEEP()` ensures that a garbage collection by the linker will not discard the content of this section. This would be normally the case since the linker set items are not referenced

directly. The `SORT()` directive sorts the input sections lexicographically. Please note the lexicographical order of the `.begin`, `.content` and `.end` section name parts in the previous example which ensures that the position of the begin and end markers are right. The interesting part of linker map file of the previous example may look like this.

```
.rtemsroset     0x0000000001001990        0x4 load address 0x000000000002268c
 *(SORT(.rtemsroset.*))
 .rtemsroset.myset.begin
                0x0000000001001990        0x0 init.o
 .rtemsroset.myset.content
                0x0000000001001990        0x4 module.o
 .rtemsroset.myset.end
                0x0000000001001994        0x0 init.o
```

So what is the benefit of using linker sets to initialize modules? Currently in RTEMS all available managers (semaphore, message queue, barrier, etc.) are initialized since the initialization code doesn't know what is actually used by the application. With the linker set approach we need to initialize only those managers that are used by the application. In case an application uses message queues, then it must call `rtems_message_queue_create()`. In the module implementing this function we can place a linker set item and register the message queue handler constructor. Otherwise, in case the application doesn't use message queues, then there will be no reference to the `rtems_message_queue_create()` function and the constructor is not registered, thus nothing of the message queue handler will be in the final executable.

~~#2412~~	5 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Improved priority inheritance implementation

Description:

Problem

The RTEMS mutexes implement only a very simple approximation of the priority inheritance protocol. The real priority of a thread is only restored once it releases its last mutex. Lets consider this scenario. We have a file system instance protected by one mutex (e.g. JFFS2) and a dynamic memory allocator protected by another mutex. A low priority thread performs writes some log data into a file, thus it acquires the file system instance mutex. The file system allocates dynamic memory. Now a high priority thread interrupts and tries to allocate dynamic memory. The allocator mutex is already owned, so the priority of the low priority thread is raised to the priority of the high priority thread. The memory allocation completes and the allocator mutex is released, since the low priority thread still owns the file system instance mutex it continues to execute with the high priority (the high priority thread is not scheduled). It may now perform complex and long file system operations (e.g. garbage collection, polled flash erase and write functions) with a high priority.

Functional requirements

- The mutex shall use the priority inheritance protocol to prevent priority inversion. On SMP configurations OMIP shall be used.
- The mutex shall allow vertical nesting (a thread owns multiple mutexes).
- The mutex shall allow horizontal nesting (a thread waits for ownership of a mutex those owner waits for ownership of a mutex, and so on).
- Threads from one scheduler instance shall wait in priority order. The highest priority thread shall be dequeued first.
- The highest priority waiting thread of each scheduler instance shall wait in FIFO order.
- The mutex shall provide an acquire operation with timeout.
- In case a mutex is released, then the previous owner shall no longer use the priorities inherited by this mutex.
- In case a mutex acquire operation timeout occurs, then the current owner of the mutex shall no longer use the priorities inherited by the acquiring thread.
- The order of the mutex release operations may differ from the order of the mutex acquire operations.
- Priority changes not originating due to the priority inheritance protocol shall take place immediately.
- Deadlock shall be detected. In case a deadlock would occur an error status shall be returned or a fatal error shall be generated.
- Deadlocks at application level shall not lead to a deadlock at operating system level.

Performance requirements

- The mutex acquire operation shall use only object-specific locks in case the mutex is not owned currently.
- The mutex release operation shall use only object-specific locks in case no threads wait for ownership of this mutex.

Invariants

- A mutex shall be owned by at most one thread.
- A thread shall wait for ownership of at most one mutex.

Possible implementation

Use a recursive data structure to determine the highest priority available to a thread for each scheduler instance, e.g.

```
typedef struct Thread_Priority_node {
  Priority_Control current_priority;
  Priority_Control real_priority;
  struct Thread_Priority_node *owner;
  RBTree_Node Node;
  RBTree_Control Inherited_priorities;
} Thread_Priority_node;

typedef struct {
  ...
  Thread_Priority_node *priority_nodes; /* One per scheduler instances */
  ...
} Thread_Control;
```

Initially a thread has a priority node reflecting its real priority. The Thread_Priority_node::owner is NULL. The Thread_Priority_node::current_priority is set to the real priority. The Thread_Priority_node::Inherited_priorities is empty.

In case the thread must wait for ownership of a mutex, then it enqueues its priority node in Thread_Priority_node::Inherited_priorities of the mutex owner.

In case the thread is dequeued from the wait queue of a mutex, then it dequeues its priority node in Thread_Priority_node::Inherited_priorities of the previous mutex owner (ownership transfer) or the current mutex owner (acquire timeout).

In case the minimum of Thread_Priority_node::real_priority and Thread_Priority_node::Inherited_priorities changes, then Thread_Priority_node::current_priority is updated. In case the Thread_Priority_node::owner 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 Viketoft	Chris Johns	5 months ago

Summary	RSB %source file fails
Description	It seems that the method for accessing an existing file repository both isn't covered much in the "manual", but it also fails to find it. Looking at the python code in download.py, it requires the format file:// to identify the local file protocol, but then tries to access the actual file/directory using that the entire url (including file://). This unfortunately fails and I'm not familiar enough with Python to correct this, although it appears that the "file://" part should be cut from the URL before calling the "return path.isdir(url)" in the _file_downloader function.

~~#2423~~	5 years ago	fixed	unspecified	Jeffrey Hill		2 years ago
Summary	rtems_iterate_over_all_threads lacks user callback private pointer pass through					
Description	Typically when designing an API that calls a user callback there is a user private "void *" pointer transparently passed through to the user callback so that the user can access his private state inside of his callback without being forced to employ a global variable. A global variable doesnt work very well if there are multiple objects instances created each of them using the same method with rtems_iterate_over_all_threads. This type of "void *" private pointer is of course a standard approach allowing the users callback to behave much the same way as a virtual method in C++, but nevertheless retaining a compatible C based API. An enhanced version of the API might look like this. void rtems_iterate_over_all_threads_xxx(rtems_per_thread_routine routine, void * const pUserPrivatePassThrogh); typedef void (*rtems_per_thread_routine_xxx)(Thread_Control *the_thread, void * const pUserPrivatePassThrogh); The pUserPrivatePassThrogh is not used by the library; it is retained for the duration of the rtems_iterate_over_all_threads_xxx function only so that it can be passed through to the user's callback. thanks for your consideration of this matter					
~~#2428~~	5 years ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	2 years ago
Summary	Add 4.12 Tool Target Configurations to RSB					
Description	Even though so far the 4.11 and master tools don't need to be different, 4.12 configurations need to be added. This gives us space to: + (DONE) remove obsolete targets (avr, h8300, m32r) + (DONE) update versions + complete submission of patches and bump gdb + ...					
~~#2441~~	4 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago
Summary	lpc1768 variants fail to build with error in gpio.c					
Description	arm-lpc1768_mbed_ahb_ram_eth arm-lpc1768_mbed_ahb_ram arm-lpc1768_mbed In file included from ../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:25:0: ../../../../../../../lpc1768_mbed_ahb_ram_eth/lib/include/bsp/gpio.h:28:4: error: #error "BSP_GPIO_PIN_COUNT or BSP_GPIO_PINS_PER_BANK is not defined." #error "BSP_GPIO_PIN_COUNT or BSP_GPIO_PINS_PER_BANK is not defined." ../../../../../../../lpc1768_mbed_ahb_ram_eth/lib/include/bsp/gpio.h:32:4: error: #error "Invalid BSP_GPIO_PIN_COUNT or BSP_GPIO_PINS_PER_BANK." #error "Invalid BSP_GPIO_PIN_COUNT or BSP_GPIO_PINS_PER_BANK." ../../../../../../../lpc1768_mbed_ahb_ram_eth/lib/include/bsp/gpio.h:41:5: error: division by zero in #if #if GPIO_LAST_BANK_PINS > 0 ../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:29:8: error: unknown type name 'lpc176x_registered_interrupt_function' static lpc176x_registered_interrupt_function function_vector[../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:30:3: error: 'LPC176X_RESERVED_ISR_FUNCT_SIZE' undeclared here (not in a function) LPC176X_RESERVED_ISR_FUNCT_SIZE]; ../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:35:9: error: unknown type name 'lpc176x_gpio_direction' const lpc176x_gpio_direction dir					

~~#2442~~	4 years ago	fixed	bsps	Joel Sherrill	joel.sherrill@...	2 years ago
Summary	Remove avrtest BSP					
Description	Remove the avr/avrtest BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP					
~~#2443~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill <joel@...>	2 years ago
Summary	Remove AVR Architectural Port					
Description	Remove the AVR port per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_Port. All BSPa must be removed before the architectural port can be removed. These are tracked by the following tickets: - ~~#2442~~ - avrtest Rationale: The AVR port is incomplete and the largest AVR CPU models are just barely large enough to run RTEMS. This by itself is not enough to drop the port. However, the state of GCC for this target is poor. It is marginally maintained. Atmel maintains their own patch set independent of GCC. Plus they use their own small (and unique) C Library. This makes avr-rtems the only user of AVR+newlib. The target size is a challenge but that was why the port was initially interesting. It provided a real goal. But the tool state is painful for a port which is incomplete and has neither users nor anyone interested in actively maintaining it for GCC or RTEMS.					
~~#2444~~	4 years ago	fixed	arch/m68k	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove m68k/mvme136 BSP					
Description	Remove the m68k/mvme136 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: Although it is sad to see the BSP for the board that RTEMS was developed for be removed, this board was current in 1988-9. It has only 1MB RAM, 2 UARTS, and no NIC. It is unlikely to be available and without a NIC, isn't that useful.					
~~#2445~~	4 years ago	fixed	arch/m68k	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove m68k/sim68000 BSP					
Description	Remove the m68k/sim68000 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: This is a BSP for a simulator named BSVC (http://www4.ncsu.edu/~bwmott/bsvc/) that was never under a truly free license and has not been updated in a decade. Although a decent tool, it was extremely slow.					
~~#2446~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Remove M32R Architectural Port					
Description	Remove the M32R port per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_Port. All BSPa must be removed before the architectural port can be removed. These are tracked by the following tickets: ~~#2447~~ - m32rsim Rationale: The M32R port is incomplete, appears to have no users, and the CPU architecture is end-of-lifed.					
~~#2447~~	4 years ago	fixed	bsps	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove m32r/m32rsim					
Description	Remove the m32r/m32rsim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP					

~~#2448~~	4 years ago	fixed	arch/mips	Joel Sherrill		2 years ago
Summary	Remove mips/mongoose BSP					
Description	Remove the m32r/m32rsim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: This is a radiation hardened MIPS R3000 CPU that has only been used by a few missions. After discussions with various NASA and commercial engineers, we have learned that it is no longer considered an option for new missions and has not an option for a considerable length of time. The missions still underway (including New Horizons) are locked down on very old versions of their development infrastructure including hosts.					
~~#2449~~	4 years ago	fixed	arch/arm	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove arm/gba BSP					
Description	Remove the arm/gba BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: This BSP is for very old Nintendo hardware and required the use of either a simulator or hard to obtain programmable game cartridge. Nintendo was aggressive in shutting down resellers of those cartridges. There is no real console input and it is hard to automate testing. This was a useful BSP when there were few ARM BSPs but with the Pi, Beagle, etc. these days are long past.					
~~#2450~~	4 years ago	fixed	arch/arm	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove arm/nds					
Description	Remove the arm/nds BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: This BSP is for very old Nintendo hardware and required the use of either a simulator or hard to obtain programmable game cartridge. Nintendo was aggressive in shutting down resellers of those cartridges. There is no real console input and it is hard to automate testing. This was a useful BSP when there were few ARM BSPs but with the Pi, Beagle, etc. these days are long past.					
~~#2451~~	4 years ago	fixed	arch/arm	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove arm/gp32 BSP					
Description	Remove the arm/gp32 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: This BSP is for an open source alternative to the Gameboy Advance introduced in 2001. Wikipedia notes that 30K units were sold but it has been unavailable since 2007. This was a useful BSP when there were few ARM BSPs and the openness was interesting but with the Pi, Beagle, etc. these days are long past.					
~~#2452~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	18 months ago
Summary	Remove H8300 Architectual Port					
Description	Remove the H8300 port per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_Port. All BSPa must be removed before the architectural port can be removed. These are tracked by the following tickets: ~~#2453~~ - h8sim Rationale: The h8 has been end of lifed. There do not appear to be any users based up questions and tickets filed. The architecture itself has issues which lead to breakages in gcc (which do get fixed though often slowly) and those same issues force us to disable some features like iconv in newlib. With no users, end of life, and tool issues, it is time to remove it.					
~~#2453~~	4 years ago	fixed	bsps	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove h8300/h8sim BSP					
Description	Remove the h8300/h8sim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP					
~~#2454~~	4 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago
Summary	Warning in threadqops.c					
Description	This may apply to the 4.11 branch as well. I am not sure. ../../../../../../rtems/c/src/../../cpukit/score/src/threadqops.c:202:29: warning: passing argument 1 of '_RBTree_Initialize_empty' from incompatible pointer type This happens building many/all BSPs.					
~~#2455~~	4 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago
Summary	Warning in spsimplesched02					
Description	This may apply to the 4.11 branch as well. I am not sure. ../../../../../../rtems/c/src/../../testsuites/sptests/spsimplesched02/init.c:84:5: warning: passing argument 1 of '_Objects_Name_to_id_u32' from incompatible pointer type This happens building many/all BSPs.					
~~#2457~~	4 years ago	fixed	arch/powerpc	Joel Sherrill	Aun-Ali Zaidi <admin@...>	2 years ago
Summary	Remove powerpc/ep1a BSP					
Description	Remove the powerpc/ep1a BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: AFAIK this BSP was only used on a program supported by OAR. That program is no longer in active development and is completely frozen. If that situation changes, the BSP can be resurrected. It was introduced 10 years ago and has not has a modification other than general maintenance in the last four years.					
~~#2458~~	4 years ago	fixed	arch/powerpc	Joel Sherrill	Ralph Holmes <ralph@...>	2 years ago
Summary	Remove powerpc/score603e BSP					
Description	Remove the powerpc/score603e BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP Rationale: AFAIK this BSP was only used on a program supported by OAR. That program is no longer in active development and is completely frozen. If that situation changes, the BSP can be resurrected. It was introduced in 1999 and has not has a modification other than general maintenance in the last six years.					
~~#2459~~	4 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add rtems_chain_get_first_unprotected() to chain API					
~~#2464~~	4 years ago	wontfix	tool	Sebastian Huber		2 years ago
Summary	RSB: Tool patches use the RTEMS version					
Description	In rtems/conifg/rtems-urls.bset the tool patches are set to an RTEMS version dependent directory. This makes re-use of the general purpose files quite difficult.					
~~#2468~~	4 years ago	fixed	arch/i386	Joel Sherrill	Sebastian Huber	2 years ago
Summary	Add Thread Local Storage (TLS) support on x86					
Description	The x86 is one of the architectures which does not support Thread Local Storage. Each architecture requires target architecture specific support to provide this standard language feature. Details on the implementation by the compiler may be found at http://wiki.osdev.org/Thread_Local_Storage. Based on this information, I think a segment register needs to be added to the thread context and some hooks to the TLS implemented. Architecture information on TLS implementation should be added to the CPU Supplement document as this is part of the ABI and context switch. As part of effort, the documentation for the general procedure of adding target specific TLS support should be added to the porting guide or reviewed.					
~~#2477~~	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	2 years ago

Summary	Remove <rtems/debug.h>

Description	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/sptests/spregion_err01/init.c:  puts( "TA1 - rtems_debug_disable - RTEMS_DEBUG_REGION" );`
	`testsuites/sptests/spregion_err01/init.c:  rtems_debug_disable( RTEMS_DEBUG_REGION );`
	`testsuites/sptests/spregion_err01/init.c:  puts( "TA1 - rtems_debug_enable - RTEMS_DEBUG_REGION" );`
	`testsuites/sptests/spregion_err01/init.c:  rtems_debug_enable( RTEMS_DEBUG_REGION );`
	`testsuites/sptests/sp10/init.c:  puts( "Init - rtems_debug_is_enabled - is 0x1 set? No" );`
	`testsuites/sptests/sp10/init.c:  is_set = rtems_debug_is_enabled( 0x1 );`
	`testsuites/sptests/sp10/init.c:  puts( "Init - rtems_debug_enable - set 0x1" );`
	`testsuites/sptests/sp10/init.c:  rtems_debug_enable(0x1);`
	`testsuites/sptests/sp10/init.c:  puts( "Init - rtems_debug_is_enabled - is 0x1 set? Yes" );`
	`testsuites/sptests/sp10/init.c:  is_set = rtems_debug_is_enabled( 0x1 );`
	`testsuites/sptests/sp10/init.c:  puts( "Init - rtems_debug_disable - clear 0x1" );`
	`testsuites/sptests/sp10/init.c:  rtems_debug_disable(0x1);`
	`testsuites/sptests/sp10/init.c:  puts( "Init - rtems_debug_is_enabled - is 0x1 set? No" );`
	`testsuites/sptests/sp10/init.c:  is_set = rtems_debug_is_enabled( 0x1 );`
	
	The only user is the Classic Region and it is only active in case RTEMS_DEBUG is defined. Due to the heap protection support which is also available in case RTEMS_DEBUG is defined, the expensive heap walks are superfluous.
	
	We should remove this API entirely to simplify the code base.

~~#2487~~	4 years ago	fixed	tool/website	Joel Sherrill	Chris Johns	2 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~~	4 years ago	fixed	unspecified	Joel Sherrill	Ben Gras	2 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?					
~~#2490~~	4 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~~	4 years ago	fixed	unspecified	Sebastian Huber	Joel Sherrill <joel.sherrill@...>	2 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~~	4 years ago	fixed	unspecified	Sebastian Huber		2 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~~	4 years ago	fixed	arch/powerpc	Aun-Ali Zaidi	joel.sherrill@...	2 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~~	4 years ago	fixed	tool/website	Santosh Vattam	Joel Sherrill	2 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~~	4 years ago	fixed	arch/m68k	Joel Sherrill		2 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~~	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	18 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 ~~#2408~~.					
~~#2515~~	4 years ago	fixed	unspecified	Gedare Bloom	Gedare Bloom	2 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~~	4 years ago	wontfix	tool	Joel Sherrill	Chris Johns	2 years ago
Summary	Move pc386/tools/bin2boot to rtems-tools					

Description	Per discussion with Chris. Begin to eliminate BSP specific tools.					
~~#2529~~	4 years ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	2 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~~	4 years ago	fixed	tool/rsb	Sebastian Huber	Chris Johns <chrisj@…>	2 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~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	2 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~~	4 years ago	fixed	bsps	Joel Sherrill	joel.sherrill@…	2 years ago
Summary	Review cxx_iostream size change per function-section changes					
Description	It looks like some BSPs with their own linkcmds may have shrunk too much. Norm appears to be 50% while some went to 75-80%. A second look after catching the pattern indicates that the KEEP() section requirements in the linker scripts were not correct and it was missed. Rather than reverting a bunch of patches, this ticket is to review all function-section patches from this one back in time for cxx_iostream shrinking too much. commit 6d21c13e5094d490280a941cf0e8333f91f85715 Author: Ralph Holmes <ralph@…> Date: Sat Jan 23 21:15:40 2016 +0000 powerpc/gen5200: Add per-section compilation and linking support. For the brs5l BSP variant:					
~~#2543~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Obsolete gen68302 BSP					
Description	Delete the gen68302 BSP after 4.11 and before 4.12.					
~~#2544~~	4 years ago	duplicate	unspecified	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Osolete m68k/ods68302					
Description	Obsolete and remove the ods68302 BSP before 4.12.					
~~#2545~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Obsolete mbx8xx BSP					
Description	Obsolete and remove.					
~~#2546~~	4 years ago	fixed	arch/m68k	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Obsolete idp BSP					
Description	Obsolete and remove the m68k/idp BSP before the 4.12 release.					
~~#2553~~	4 years ago	fixed	arch/powerpc	Nick Withers	Sebastian Huber	2 years ago
Summary	[mvme3100] boot_card() broken by 37030e38					

Description

Backtrace with 37030e38* (with a fatal exception handler installed):

```
#0  fatal_extension (the_source=INTERNAL_ERROR_CORE, is_internal=true, the_error=23) at init.c:425
#1  0x000a6d18 in _User_extensions_Iterate (arg=arg@entry=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
../../cpukit/../../../mvme3100/lib/include/rtems/score/userextimpl.h:254
#3  _Terminate (the_source=the_source@entry=INTERNAL_ERROR_CORE, is_internal=is_internal@entry=true, the_error=the_error@entry=23) at
../../../../../../../rtems/c/src/../../cpukit/score/src/interr.c:44
#4  0x0007ad40 in RTEMS_Malloc_Initialize (areas=areas@entry=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  0x0005cec4 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
```

If I reverse the changes to c/src/lib/libbsp/shared/bootcard.c it works again.

* With RSB e3b9fb68 and the following RTEMS patches:

- https://git.rtems.org/rtems/patch/?id=af418e8f6b76a14a1d543d79fc79aa469f06b47d
- https://git.rtems.org/rtems/patch/?id=7a0c4854c6abe8665b7e50a3bafebce84e7872a4
- https://git.rtems.org/rtems/patch/?id=4202a31f91ca3d19ca18f08730a4be52fb71cc04

~~#2554~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	New watchdog handler implementation					

Description

Background

The watchdog handler uses delta chains. The insert operation has a O(n) worst-case time complexity with n being the count of watchdogs in the delta chain. In each step of the insert operation, the SMP lock of the corresponding watchdog header is acquired and released. The profiling data obtain by test program `smptests/smpwakeafter01` showed that the current implementation leads to unacceptable latencies, thus it should be replaced by something else.

The use cases for the watchdog handler fall roughly into two categories.

- Timeouts - used to detect if some operations needs more time than expected. Since the unexpected happens hopefully rarely, timeout timers are usually removed before they expire. The critical operations are insert and removal. They are important for the performance of a network stack.
- Timers - used to carry out some work in the future. They usually expire and need a high resolution. An example user is a time driven scheduler, e.g. rate-monotonic or EDF.

One approach is to use a red-black tree with the expiration time as the key. This leads to O(log(n)) worst-case insert and removal operations. For each operation it is sufficient to acquire and release the lock only once. The drawback is that a 64-bit integer type must be used for the intervals to avoid a potential overflow of the key values. With a system tick interval of 1ns the system could run more than 500 years before an overflow happens. The EDF scheduler would also profit from a 64-bit interval representation, see ~~#2173~~.

An alternative is the use of a timer wheel based algorithm which is used in Linux and FreeBSD for example. A timer wheel based algorithm offers O(1) worst-case time complexity for insert and removal operations. The drawback is that the run-time of the watchdog tick procedure is somewhat unpredictable due to the use of a hash table or cascading.

Which approach should we choose? Since the watchdog serves the timeout and timer services in RTEMS we have to make some trade-offs. We recommend to use the red-black tree approach which offers a more predictable run-time behaviour and sacrifice the constant insert and removal operations offered by the timer wheel algorithms, see also https://www.kernel.org/doc/ols/2006/ols2006v1-pages-333-346.pdf. We can reuse the red-black tree support already used for the thread priority queues.

The new watchdog handler implementation is a prerequisite to eliminate the Giant lock in the Classic Timer manager.

Implementation

Change the `_Watchdog_Ticks_since_boot` to a 64-bit integer type. Keep the `Watchdog_Interval` at 32-bit for backward compatibility. Replace the delta chains with a red-black tree. Use the ticks for timers with a relative expiration time. Use `struct timespec` or `struct bintime` for timers with an absolute expiration time. This has the benefit that we do not have to adjust the data structures in case the absolute time changes, e.g. due to NTP. It simplifies the POSIX timer services, since no conversion to ticks is necessary.

~~#2555~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Eliminate the Giant lock

Description

Background

The standard approach to turn a uni-processor operating system into an SMP-capable operating system is to encapsulate virtually the complete operating system state and protect it by one global recursive lock - the Giant lock. Thus, at most one processor can modify the operating system state at a time. Under Giant lock protection interrupt disable/enable critical sections still work. This approach is easy to realize and leads to something that runs on SMP with a minimal effort. Unfortunately, such an operating system does not scale with the processor count and offers very poor performance. It is quite useless for real applications.

The first steps to get rid of the Giant lock are tackled with the introduction of fine grained locking for the scheduler, watchdog handler, timestamps, thread queues, events, semaphores and message queues. The Giant lock is still used in a couple of places, e.g. all other objects using thread queues, thread life cycle changes (termination, restart) and scheduler changes. It is a straight forward task to eliminate it entirely, but it is also somewhat labour intensive since a lot of code must be changed.

Implementation

Eliminate all remaining code areas that use

- `_ISR_Disable()`,
- `_ISR_Enable()`, and
- `_ISR_Flash()`.

Direct users of these macros are

- `_Chain_Append()`,
- `_Chain_Extract()`,
- `_Chain_Get()`,
- `_Chain_Insert()`, and
- `_Chain_Prepend()`.

Each spot must be dealt with individually. Once this is done, delete these macros since they are now superfluous. Rename `_ISR_Disable_without_giant()` into `_ISR_Locale_disable()`. Rename `_ISR_Enable_without_giant()` into `_ISR_Locale_enable()`.

Eliminate all remaining code areas that use

- `_Thread_Disable_dispatch()` and
- `_Thread_Enable_dispatch()`.

A prominent user of this functions is `_Objects_Get()`. The following components are affected by these functions

- Classic barrier handler,
- Classic dual-ported memory handler,
- Classic message queue handler,
- Classic partition handler,
- Classic rate-monotonic handler,
- Classic region handler,
- Classic semaphore handler,
- Classic timer handler,
- extension handler,
- IO manager,
- multi-processing management,
- objects management,
- POSIX barrier handler,
- POSIX condition handler,
- POSIX key handler,
- POSIX message queue handler,
- POSIX mutex handler,
- POSIX rwlock handler,
- POSIX semaphore handler,
- POSIX spinlock handler,
- POSIX timer handler,
- signals,
- thread cancellation,
- thread life-cycle changes, and
- thread scheduler changes.

Once this is done, delete `_Thread_Disable_dispatch()` and `_Thread_Enable_dispatch()`. As a side-effect the Giant lock will be removed.

~~#2556~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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 Imple- mentation 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 unblocked which pre-empts an owner of a shared resource, then the pre-empted thread is returned. Once a thread in need of help is returned, the ask for help operation of the scheduler is executed. An alternative to this return value based approach is the introduction of a pre-emption intervention during thread dispatching. Threads taking part in the scheduler helping protocol indicate this with a positive resource count value. In case a thread dispatch occurs and pre-empts an owner of a shared resource, the scheduler ask for help operation is invoked. So, the work is carried out on behalf of the thread which takes part in the scheduler helping protocol.

To overcome the first issue, an improved resource dependency tracking is required. One approach is to use a recursive red-black tree based data structure, see ~~#2412~~.

Implementation

There are several steps necessary to implement OMIP.

- Introduce per-scheduler locks.
- Enable context switches with interrupts enabled.
- Add a pre-emption intervention to the thread dispatch.
- Add a table for priority nodes to the thread control block. For each scheduler instance there is one priority node.
- Update the table in case the thread blocks on a resource, a timeout while waiting for a resource occurs, or ownership of a resource is transferred to the thread.
- Use this table in the pre-emption intervention.
- Update the MrsP implementation to the new infrastructure.

Currently, only one scheduler lock for all scheduler instances is used. This simplified the MrsP implementation and due to the presence of a Giant lock, this was not an issue. With the elimination of the Giant lock, however, we need one scheduler lock per scheduler instance to really profit from a decoupled system due to clustered scheduling.

The current implementation of thread dispatching has some implications with respect to the interrupt latency. It is crucial to preserve the system invariant that a thread can execute on at most one processor in the system at a time. This is accomplished with a boolean indicator in the thread context. The processor architecture specific context switch code will mark that a thread context is no longer executing and waits that the heir context stopped execution before it restores the heir context and resumes execution of the heir thread (the boolean indicator is basically a TTAS lock). So, there is one point in time in which a processor is without a thread. This is essential to avoid cyclic dependencies in case multiple threads migrate at once. Otherwise some supervising entity is necessary to prevent deadlocks. Such a global supervisor would lead to scalability problems so this approach is not used. Currently the context switch is performed with interrupts disabled. Thus in case the heir thread is currently executing on another processor, the time of disabled interrupts is prolonged since one processor has to wait for another processor to make progress.

If we add pre-emption intervention to the thread dispatch sequence, then there is an even greater need to avoid this issue with the interrupt latency. Interrupts normally store the context of the interrupted thread on its stack. In case a thread is marked as not executing, we must not use its thread stack to store such an interrupt context. We cannot use the heir stack before it stopped execution on another processor. If we enable interrupts during this transition, then we have to provide an alternative thread independent stack for interrupts in this time frame.

Description

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` 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.

Use the thread lock to protect the priority nodes.

~~#2557~~	4 years ago	fixed	doc	Amar Takhar	Amar Takhar	2 years ago
Summary	Add word splitting to print output					
~~#2559~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Delete the EXTERN pattern					

Change the following pattern: some.h:

```
#ifndef SOME_XYZ_EXTERN
#define SOME_XYZ_EXTERN extern
#endif
SOME_XYZ_EXTERN type xyz;
```

some_xyz.c:

```
#define SOME_XYZ_EXTERN
#include <some.h>
```

Description

into: some.h:

```
extern type xyz;
```

some_xyz.c:

```
#include <some.h>
type xyz;
```

See discussion:

https://lists.rtems.org/pipermail/devel/2016-January/013506.html

Update Developer/Coding/Conventions accordingly.

~~#2560~~	4 years ago	fixed	arch/arm	Sebastian Huber		2 years ago

Summary: smdk2410 is broken due to gp32 removal

Description: The smdk2410 BSPs use files of the removed gp32 BSP.

[f2a228b2cb5ce376c56ae8d767084b92f2822af0/rtems]

~~#2562~~	4 years ago	fixed	tool/rsb	Gedare Bloom	Gedare Bloom	4 weeks 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~~	4 years ago	fixed	arch/arm	Joel Sherrill	Joel Sherrill <joel@…>	20 months 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	2 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	2 years ago

Summary: POSIX Condition Variables Clock Attribute Support

Description: I am beginning to add support for the clock attribute to POSIX condition variables.

http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_condattr_getclock.html

Since the clock can't be a CPU time clock, that leaves CLOCK_MONOTONIC and CLOCK_REALTIME. The thread queue is based on CLOCK_MONOTONIC and does not have an option to use CLOCK_REALTIME. Threads and timers waiting on CLOCK_REALTIME should be impacted by time of day changes.

https://docs.google.com/document/d/1GsGer0t84p-nUfZFim4Ty0LTDYNhgKBvIwip_gLQjTY/edit?usp=sharing is a Google doc with my notes so far in it on POSIX clocks. I will move it to the Wiki as it turns into something more concrete than notes and reflects plans/code.

So the first issue is how best to alter the thread queue to support using either clock source? And what does that do to the current ticks based API since you proposed different time representations for the ticks (relative/monotonic) and seconds (absolute/realtime) structures?

~~#2617~~	4 years ago	fixed	score	Joel Sherrill	Sebastian Huber	2 years ago

Summary: rtems_heap_allocate_aligned_with_boundary() body and prototype inconsistent

Description: The first parameter is size_t in the .h and uintptr_t in the body. This resulted in a compiler error on the m32c. But it is an inconsistency which should be fixed even if no architecture complained.

The malloc.h header file has this:

void *rtems_heap_allocate_aligned_with_boundary(

size_t size, uintptr_t alignment, uintptr_t boundary

);

malloc_deferred.c has this:

void *rtems_heap_allocate_aligned_with_boundary(

uintptr_t size, uintptr_t alignment, uintptr_t boundary

)

~~#2624~~	4 years ago	fixed	tool/newlib	Sebastian Huber	Needs Funding	20 months ago

Summary: Fix the year 2038 problem

Description	RTEMS uses currently a signed 32-bit integer for time_t on Newlib. Thus, it is affected by the year 2038 problem. There are only 22 years left and this time span is within the realistic time frame of some RTEMS applications that are developed now.
	
	The time_t should be changed to int64_t in Newlib. To make sure that all integer operations are carried out properly I suggest to temporarily do this
	
	{{{#include <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	2 years ago
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	2 years ago
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	2 years ago
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	2 years ago
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	2 years ago
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	2 years ago
Summary	rtems-tester failure					
Description	CentOS 7 on master $ ../rtems-tools/tester/rtems-test --rtems-tools=/home/joel/rtems-4.11-work/tools/4.12 --rtems-bsp=sis `find . -name "*hello.exe"` RTEMS Testing - Tester, 4.12 (a5d243d3f8e2) Command Line: ../rtems-tools/tester/rtems-test --rtems-tools=/home/joel/rtems-4.11-work/tools/4.12 --rtems-bsp=sis ./sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe Python: 2.7.5 (default, Nov 20 2015, 02:00:19) [GCC 4.8.5 20150623 (Red Hat 4.8.5-4)] [1/1] p:0 f:0 t:0 i:0 | sparc/sis: hello.exe Traceback (most recent call last): File "../rtems-tools/tester/rtems-test", line 40, in <module> rt.test.run() File "/data/home/joel/rtems-4.11-work/rtems-tools/tester/rt/test.py", line 287, in run tst.reraise() File "/data/home/joel/rtems-4.11-work/rtems-tools/tester/rt/test.py", line 123, in reraise raise (self.result[0], self.result[1], self.result[2]) TypeError?: init() takes exactly 2 arguments (1 given)					
~~#2633~~	4 years ago	fixed	network/legacy	joguin	Sebastian Huber	2 years ago
Summary	waf build failed for rtems-libbsd					

Description	The rtems-libbsd failed when building with waf. Here is the output: [488/845] Compiling freebsd/sys/kern/subr_taskqueue.c In file included from /home/josh/development/rtems/bsps/4.12/i386-rtems4.12/pc386/lib/include/rtems/score/threadimpl.h:36:0, from ../../freebsd/sys/kern/subr_sleepqueue.c:91: /home/josh/development/rtems/bsps/4.12/i386-rtems4.12/pc386/lib/include/rtems/score/watchdogimpl.h: In function '_Watchdog_Per_CPU_insert_relative': /home/josh/development/rtems/bsps/4.12/i386-rtems4.12/pc386/lib/include/rtems/score/watchdogimpl.h:356:18: error: 'struct <anonymous>' has no member named '_bsd_ticks'; did you mean 'ticks'? cpu->Watchdog.ticks + ticks In file included from ../../freebsd/sys/kern/subr_sleepqueue.c:62:0: ../../freebsd/sys/kern/subr_sleepqueue.c: In function 'sleepq_set_timeout': ../../freebsd/sys/kern/subr_sleepqueue.c:424:29: error: 'Thread_Timer_information {aka struct <anonymous>}' has no member named 'state' BSD_ASSERT(executing->Timer.state == WATCHDOG_INACTIVE); ../../freebsd/sys/kern/subr_sleepqueue.c:424:2: note: in expansion of macro 'BSD_ASSERT' BSD_ASSERT(executing->Timer.state == WATCHDOG_INACTIVE); ~ ../../freebsd/sys/kern/subr_sleepqueue.c:425:2: error: too many arguments to function '_Watchdog_Initialize' _Watchdog_Initialize(&executing->Timer, sleepq_timeout, ^ In file included from /home/josh/development/rtems/bsps/4.12/i386-rtems4.12/pc386/lib/include/rtems/score/threadimpl.h:36:0, from ../../freebsd/sys/kern/subr_sleepqueue.c:91: /home/josh/development/rtems/bsps/4.12/i386-rtems4.12/pc386/lib/include/rtems/score/watchdogimpl.h:178:27: note: declared here RTEMS_INLINE_ROUTINE void _Watchdog_Initialize(^ Waf: Leaving directory `/home/josh/development/rtems/rtems-libbsd/build/i386-rtems4.12-pc386' Build failed

~~#2634~~	4 years ago	fixed	arch/i386	Joel Sherrill	Pavel Pisa <ppisa@…>	2 years ago
Summary	New warning in pc386 VESA driver					
Description	Pavel.. can you look into this? ./../../../../../../../rtems/c/src/lib/libbsp/i386/pc386/console/fb_vesa_rm.c: In function 'find_mode_using_EDID': ../../../../../../../../rtems/c/src/lib/libbsp/i386/pc386/console/fb_vesa_rm.c:502:13: warning: dereferencing type-punned pointer will break strict-aliasing rules [-Wstrict-aliasing] if (*(uint16_t*)&edid.STI[index] == EDID_STI_DescriptorUnused) ~					
~~#2638~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill <joel@…>	2 years ago
Summary	pc386: ld -r issue with per function sections					
Description	The pc386 BSP has an issue with "ld -r" when function-sections is enabled which does not seem to occur on any other BSP. The same lines were added to the custom .cfg file as on other BSPs. It is unknown at this point whether this is an x86 specific "ld -r" issue or a pc386 build configuration issue. Per-function-section linking is disabled until this is addressed. i386-rtems4.12-gcc --pipe -B../../../../../../../lib/ -B../../../../../../../pc386/lib/ -specs bsp_specs -qrtems -mtune=i386 -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -qnolinkcmds -nostdlib -r -Wl,--gc-sections -Wl,-Ttext,0x00100000 -o ne2000.rel ne2000_rel-ne2000.o /data/home/joel/rtems-4.11-work/tools/4.12/bin/../lib/gcc/i386-rtems4.12/6.0.0/../../../../i386-rtems4.12/bin/ld: gc-sections requires either an entry or an undefined symbol collect2: error: ld returned 1 exit status					
~~#2641~~	4 years ago	fixed	build	aurelio	Chris Johns	2 years ago
Summary	configure: enable-rtemsbsp doesn't warn if bsp does not exist					
Description	When running configure with an incorrect bsp name the script does not cause an error. You can ever run make without getting any warning message. The script should check the name of the bsp and continue only if it is a valid bsp. On the other hand if the bsp name given by the user is invalid the script should prompt a message.					
~~#2644~~	4 years ago	fixed	tool/rsb	Joel Sherrill		2 years ago
Summary	sis does not run on gdb 7.11 but does on gdb 7.9					
Description	I know we reported this on the gdb list but we should have a ticket. Neither gdb nor run works for sis on gdb 4.11. Checked against RTEMS 4.11 tools (gdb 4.9) and it will run sis. Not sure about other simulators.					
~~#2649~~	4 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
Summary	RSB remove 4.11, 4.10 and 4.9 from the master branch.					
Description	Having 4.11 on master is confusing users as they build 4.11 tool on master and there may be issues in 4.11 configurations fixed on the 4.11 branch. Leave 4.9 and 4.10 until they are branched off master. We will make these branches once 4.12 is stable again.					
~~#2663~~	4 years ago	wontfix	arch/i386	Joel Sherrill	Sebastian Huber	2 years ago
Summary	pc386 BSP has complex dependencies					
Description	In 4.11, the minimum executable did not include open() and close() because the methods rtems_libio_post_driver() and rtems_libio_exit() were not included in the executable. On the master, these two methods are showing up in minimum and pulling in these methods. The dependency chain used to be if the console driver was installed, we needed to open and close stdin, stdout, and stderr. Now even without the console configured these are included. FWIW the minimum size looks pretty good on the master for sis. Fixing this would likely drop it at least another 5%.					
~~#2664~~	4 years ago	duplicate	score	Joel Sherrill	Sebastian Huber	2 years ago
Summary	spclock_err02					

Description	New test failure on sis but likely all targets. *** BEGIN OF TEST SPCLOCK_ERR 2** * TA1 - rtems_io_close - RTEMS_INVALID_NUMBER TA1 - rtems_io_control - RTEMS_INVALID_NUMBER TA1 - rtems_io_initialize - RTEMS_INVALID_NUMBER TA1 - rtems_io_open - RTEMS_INVALID_NUMBER TA1 - rtems_io_read - RTEMS_INVALID_NUMBER TA1 - rtems_io_write - RTEMS_INVALID_NUMBER TA1 - rtems_clock_set - 23:59:59 12/31/2000 - RTEMS_SUCCESSFUL TA1 - rtems_clock_get_tod - 00:00:00 01/01/2001 - RTEMS_SUCCESSFUL TA1 - rtems_clock_set - 23:59:59 12/31/1999 - RTEMS_SUCCESSFUL TA1 - rtems_clock_get_tod - 00:00:00 01/01/2000 - RTEMS_SUCCESSFUL assertion "ticks < 0x400000000" failed: file "../../cpukit/../../../sis/lib/include/rtems/score/watchdogimpl.h", line 316, function: _Watchdog_Ticks_from_timespec Breakpoint 1, _Terminate (the_source=the_source@entry=RTEMS_FATAL_SOURCE_ASSERT, is_internal=is_internal@entry=false, the_error=the_error@entry=33694096) at ../../../../../../rtems/c/src/../../cpukit/score/src/interr.c:36 36 { (gdb) bt #0 _Terminate (the_source=the_source@entry=RTEMS_FATAL_SOURCE_ASSERT, is_internal=is_internal@entry=false, the_error=the_error@entry=33694096) at ../../../../../../rtems/c/src/../../cpukit/score/src/interr.c:36 ~~#1~~ 0x0200aed4 in rtems_fatal (source=source@entry=RTEMS_FATAL_SOURCE_ASSERT, error=error@entry=33694096) at ../../../../../../rtems/c/src/../../cpukit/sapi/src/fatal2.c:34 ~~#2~~ 0x02004a9c in assert_func (file=file@entry=0x201a650 "../../cpukit/../../../sis/lib/include/rtems/score/watchdogimpl.h", line=line@entry=316, func=func@entry=0x201a6d0 <func.3277> "_Watchdog_Ticks_from_timespec", failedexpr=failedexpr@entry=0x201a638 "ticks < 0x400000000") at ../../../../../../rtems/c/src/../../cpukit/libcsupport/src/assert.c:52 ~~#3~~ 0x0200bbf8 in _Watchdog_Ticks_from_timespec (ts=0x2022210) at ../../cpukit/../../../sis/lib/include/rtems/score/watchdogimpl.h:316 ~~#4~~ _TOD_Set_with_timestamp (tod_as_timestamp=tod_as_timestamp@entry=0x2022280) at ../../../../../../rtems/c/src/../../cpukit/score/src/coretodset.c:40 #5 0x02009880 in rtems_clock_set (tod=tod@entry=0x2022304) at ../../../../../../rtems/c/src/../../cpukit/rtems/src/clockset.c:42 ~~#6~~ 0x02001818 in Init (argument=<optimized out>) at ../../../../../../../rtems/c/src/../../testsuites/sptests/spclock_err02/init.c:93 ~~#7~~ 0x0200fcbc in _Thread_Entry_adaptor_numeric (executing=0x201fb90) at ../../../../../../rtems/c/src/../../cpukit/score/src/threadentryadaptornumeric---Type <return> to continue, or q <return> to quit--- .c:25 ~~#8~~ 0x02012e0c in _Thread_Handler () at ../../../../../../rtems/c/src/../../cpukit/score/src/threadhandler.c:93 ~~#9~~ 0x02012d60 in _Thread_Handler () at ../../../../../../rtems/c/src/../../cpukit/score/src/threadhandler.c:29 (gdb) l init.c:93 88 status = rtems_clock_get_tod(&time); 89 directive_failed(status, "rtems_clock_get_tod"); 90 print_time("TA1 - rtems_clock_get_tod - ", &time, " - RTEMS_SUCCESSFUL\n"); 91 92 build_time(&time, 12, 31, 2100, 23, 59, 59, 0); 93 status = rtems_clock_set(&time); 94 directive_failed(status, "rtems_clock_set"); 95 print_time("TA1 - rtems_clock_set - ", &time, " - RTEMS_SUCCESSFUL\n"); 96 status = rtems_task_wake_after(rtems_clock_get_ticks_per_second()); 97 status = rtems_clock_get_tod(&time); (gdb)						
~~#2669~~	4 years ago	fixed	tool/rsb	Stefan Wallentowitz		2 years ago
Summary	Update OpenRISC toolchain in 4.12					
Description	Bump the OpenRISC toolchain to newer versions: • 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@...>	2 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	2 years ago
Summary	CORE spinlock implementation is next to be useless					
Description	Lets assume we have two tasks A and B. Task A acquires a CORE spinlock. Now B somehow executes and tries to acquire the same CORE spinlock, then no progress can be made. Alternative implementation: Disable thread dispatching and interrupts while owning the spinlock. Forbid blocking calls while owning the spinlock. Drawback: The test cases of the Linux Test Project would fail: https://github.com/linux-test-project/ltp/blob/master/testcases/open_posix_testsuite/conformance/interfaces/pthread_spin_lock/1-2.c Optimization: User provided storage space for pthread_spin_t. In line with POSIX: "Only the object referenced by lock may be used for performing synchronization." http://pubs.opengroup.org/onlinepubs/009695399/functions/pthread_spin_destroy.html					
~~#2676~~	4 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill <joel@...>	2 years ago
Summary	Obsolete clock_get() directive					
Description	This is deprecated on the 4.11 branch and its use has been isolated in the source tree. • Remove clock_get() • Should allow deletion of rtems_clock_get_options $ grep -rl "clock_get(" . ./doc/user/clock.t ./testsuites/tmtests/tmoverhd/testtask.c ./testsuites/tmtests/tmoverhd/dumrtems.h ./testsuites/sptests/spclockget/init.c ./testsuites/sptests/spclockget/spclockget.doc ./cpukit/rtems/include/rtems/rtems/clock.h ./cpukit/rtems/src/clockget.c					
~~#2680~~	4 years ago	fixed	doc	Joel Sherrill	Chris Johns	2 years ago
Summary	Add pthread_setconcurrency() and pthread_getconcurrency()					
Description	*** Code merged. Ticket changed to documentation to remind us to add documentation when master documentation reopens in new format.** We only require the simple implementation documented here: http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_getconcurrency.html This is required for FACE Conformance.					
~~#2683~~	4 years ago	invalid	score	Chris Johns	Sebastian Huber	4 weeks ago
Summary	Configuration table's smp_enabled conditional on RTEMS_SMP					

Description

The `rtems_configuration_table` has:

```
#ifdef RTEMS_SMP
  bool                          smp_enabled;
#endif
```

I would like the `smp_enabled` variable to always be defined for 4.12 and always set to `false` when RTEMS_SMP is not defined. It is impossible to parse the configuration table with external auditing tools with out this field always being present unless you examine the DWARF debug info.

I wonder if `User_multiprocessing_table` is the same so this means the members of the configuration table must always be defined.

Chris

~~#2684~~	4 years ago	fixed	arch/sparc	David Binderman	Sebastian Huber	2 years ago

Summary: rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122: duplicate if

Description

rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122]: (style) Expression is always false because 'else if' condition matches previous condition at line 116.

Source code is

```
} else if (state == 1) {
    unsigned int ks = 1U << 5;
    state = 0;
    irqmp_ts->control = ks | s1_s2 | (unsigned int) clkirq;
} else if (state == 1) {
```

~~#2685~~	4 years ago	fixed	arch/arm	David Binderman	Sebastian Huber	2 years ago

Summary: c/src/lib/libbsp/arm/atsam/network/if_atsam.c:409: possible bad if statement

Description

rtems/c/src/lib/libbsp/arm/atsam/network/if_atsam.c:409]: (style) Redundant condition: If 'phy <= 0', the comparison 'phy <= 31' is always true.

Source code is

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

- invalid phy number */

Maybe better code

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

- invalid phy number */

~~#2689~~	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago

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	2 years ago

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	2 weeks ago

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	worksforme	network/legacy	Joel Sherrill	Sebastian Huber	2 years ago

Summary: linking issue for htonl, etc when using -std=c99

Description

When -std=c99 is on the compile line, there is a linking error for undefined references to htonl, htons, ntohl, and ntohs. This test case is just for htonl but others should be similar.

This likely impacts the 4.11 branch of rtems-libbsd as well but I was testing on master.

Test case ========== #include <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.

========== 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	2 years ago

Summary: Add libatomic for RTEMS

~~#2696~~	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Unpredictable errno value returned by sem_wait() in case of semaphore deletion

Description	_POSIX_Semaphore_Delete() used -1 for the thread queue flush status which in turn resulted in an invalid memory access in _POSIX_Semaphore_Translate_core_semaphore_return_code().

~~#2698~~	4 years ago	fixed	tool/gcc	Sebastian Huber		2 years ago
Summary	GCC 6.1 is broken for microblaze					
Description	The enabled libatomic reveals a bug in the microblaze RTEMS configuration: configure:3566: checking for C compiler default output file name configure:3588: /scratch/git-rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/build/./gcc/xgcc -B/scratch/git-rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/build/./gcc/ -nostdinc -B/scratch/git-rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/build/microblaze-rtems4.12/newlib/ -isystem /scratch/git-rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/build/microblaze-rtems4.12/newlib/targ-include -isystem /scratch/git-rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/gcc-6.0.1-RC-20160415/newlib/libc/include -B/build/rtems-4.12/microblaze-rtems4.12/bin/ -B/build/rtems-4.12/microblaze-rtems4.12/lib/ -isystem /build/rtems-4.12/microblaze-rtems4.12/include -isystem /build/rtems-4.12/microblaze-rtems4.12/sys-include -g -O2 conftest.c >&5 /build/rtems-4.12/microblaze-rtems4.12/bin/ld: cannot open linker script file xilinx.ld: No such file or directory collect2: error: ld returned 1 exit status Reason: gcc/config/microblaze/microblaze.h: %{!T*: -dT xilinx.ld%s}" This should be somehow fixed in the RTEMS GCC configuration for microblaze.					

~~#2700~~	4 years ago	fixed	unspecified	David Binderman	Sebastian Huber <sebastian.huber@…>	2 years ago
Summary	cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition					

Description	cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition (assignment + comparison); Clarify expression with parentheses.
	
	Source code is
	
	if ((len = getgroups(NGROUPS, gids) < 0)) {
	
	maybe better code
	
	if ((len = getgroups(NGROUPS, gids)) < 0) {					

~~#2701~~	4 years ago	fixed	build	printk	Amar Takhar	2 years ago
Summary	Rename asm file with .S(upper case) ext. name					
Description	The are some asm file with .s ext. name, .s and .S is different for gnu as, the pre processed produce .s file from .S. In a word, .S can use #define .s can not. KBuild clean .s files when make clean. I have submit a patch to devel, but blocked. Too big patch.					

~~#2702~~	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove descriptor objects for POSIX message queues					
Description	The mq_open() function returns a descriptor to a POSIX message queue object identified by a name. This is similar to sem_open(). In contrast to the POSIX semaphore the POSIX message queues use a separate object for the descriptor. This extra object is superfluous, since the object identifier can be used directly for this purpose, just like for the semaphores.					

~~#2706~~	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber <sebastian.huber@…>	2 years ago
Summary	Buffer allocation of capture engine is broken on SMP configurations					
Description	The capture engine uses function static variables.					

~~#2707~~	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber <sebastian.huber@…>	2 years ago
Summary	Unsafe use of current processor index in capture engine					
Description	The current processor index is used outside a thread dispatch disabled section.					

~~#2714~~	4 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago
Summary	A pthread_detach() does not lead to a resource reclamation					
Description	According to POSIX a pthread_detach() should lead to a resource reclamation if the thread is already cancelled.					

~~#2718~~	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Blocking _CORE_message_queue_Submit() may lead to unpredictable results					
Description	The thread wait return code is not properly initialized before the thread queue enqueue.					

~~#2722~~	4 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	2 years ago
Summary	SEM_VALUE_MAX is unusually small on RTEMS					
Description	RTEMS defines SEM_VALUE_MAX to 32767 in Newlib newlib/libc/sys/rtems/include/limits.h Other systems use INT_MAX or 2147483647.					

~~#2723~~	4 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
Summary	CPUINFO command to report per-processor information					

Add a CPUINFO command to report per-processor information, e.g. processor index, online state and scheduler assignment.

Description

```
[/] # 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
```

~~#2725~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Classic binary semaphores without a locking protocol can be released by everyone

Description

The Classic binary semaphores without a locking protocol can be released by everyone, e.g. in contrast to the POSIX mutexes (all variants) or the Classic binary semphores with priority inheritance or ceiling, there is no owner check in the release path.

This behaviour is a bit unexpected and not documented.

The following test case fails in case an owner check is added:

```
*** 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	2 years ago

Summary: grascs.c: Questionable use of binary semaphore

Description

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

```
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-  /* Create semaphores for blocking ASCS_TC/TM functions */
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-  if(rtems_semaphore_create(rtems_build_name('A','S','C','0'),1,
c/src/lib/libbsp/sparc/shared/ascs/grascs.c:                          (RTEMS_FIFO|RTEMS_BINARY_SEMAPHORE|
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-                           RTEMS_NO_INHERIT_PRIORITY|RTEMS_LOCAL|
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-                           RTEMS_NO_PRIORITY_CEILING), 0,
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-                          &cfg->tcsem1) != RTEMS_SUCCESSFUL) {
```

```
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-    goto init_error2;
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-  }
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-  if(rtems_semaphore_create(rtems_build_name('A','S','C','2'),0,
c/src/lib/libbsp/sparc/shared/ascs/grascs.c:                          (RTEMS_FIFO|RTEMS_BINARY_SEMAPHORE|
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-                           RTEMS_NO_INHERIT_PRIORITY|RTEMS_LOCAL|
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-                           RTEMS_NO_PRIORITY_CEILING), 0,
c/src/lib/libbsp/sparc/shared/ascs/grascs.c-                          &cfg->tcsem2) != RTEMS_SUCCESSFUL) {
```

~~#2727~~	4 years ago	fixed	fs/fat	Sebastian Huber	Sebastian Huber	2 years ago

Summary: FAT file systems use wrong semaphore for mutual exclusion

Description

```
cpukit/libfs/src/dosfs/msdos_initsupp.c-
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	2 years ago

Summary: Pipes use wrong semaphore for mutual exclusion

Description

```
cpukit/libfs/src/pipe/fifo.c-      sc = rtems_semaphore_create(
cpukit/libfs/src/pipe/fifo.c-        rtems_build_name('P', 'I', 'P', 'E'),
cpukit/libfs/src/pipe/fifo.c-        1,
cpukit/libfs/src/pipe/fifo.c:        RTEMS_BINARY_SEMAPHORE | RTEMS_INHERIT_PRIORITY | RTEMS_PRIORITY,
cpukit/libfs/src/pipe/fifo.c-        RTEMS_NO_PRIORITY,
cpukit/libfs/src/pipe/fifo.c-        &pipe_semaphore
cpukit/libfs/src/pipe/fifo.c-      );
```

Should use a binary semaphore with inherit priority instead.

~~#2729~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: TFTP client uses wrong semaphore for mutual exclusion

Description

```
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	2 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@…>	2 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	2 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	2 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	2 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	2 years ago
Summary	Suboptimal type for Timestamp_Control					
Description	Currently we have `typedef struct bintime Timestamp_Control;` this type offers more precision than needed. Maybe use sbintime_t (also known as int64_t) instead to simplify computations.					
~~#2741~~	4 years ago	fixed	bsps	Joel Sherrill	Chris Johns	2 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 return _Thread_Executing ? (PrintF) printf : printk;					
~~#2742~~	4 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 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] MPCI_Shm_extensions.fatal = MPCI_Fatal; PowerPC/psim with multiprocessing enabled.					
~~#2745~~	4 years ago	fixed	posix	Gedare Bloom	Gedare Bloom	2 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@…>	2 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	2 years ago
Summary	rtems_task_set_scheduler() has insufficient parameters					

Description

Task priorities are only valid within a scheduler instance. The rtems_task_set_scheduler() directive moves a task from one scheduler instance to another using the current priority of the thread. However, the current task priority of the source scheduler instance is undefined in the target scheduler instance. Add a third parameter to specify the priority.

```
/**
 * @brief Sets the scheduler instance of a task.
 *
 * Initially, the scheduler instance of a task is set to the scheduler instance
 * of the task that created it.  This directive allows to move a task from its
 * current scheduler instance to another specified by the scheduler identifier.
 *
 * @param[in] task_id Identifier of the task.  Use @ref RTEMS_SELF to select
 *   the executing task.
 * @param[in] scheduler_id Identifier of the scheduler instance.
 * @param[in] priority The task priority with respect to the new scheduler
 *   instance.  The real and initial priority of the task is set to this value.
 *   The initial priority is used by rtems_task_restart() for example.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote tasks.
 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
 * @retval RTEMS_INVALID_PRIORITY Invalid priority.
 * @retval RTEMS_RESOURCE_IN_USE The task owns resources which deny a scheduler
 *   change.
 *
 * @see rtems_scheduler_ident().
 */
rtems_status_code rtems_task_set_scheduler(
  rtems_id            task_id,
  rtems_id            scheduler_id,
  rtems_task_priority priority
);
```

~~#2750~~	4 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago

Summary: Compile Error When Multiprocessing Enabled

Description:

This should impact every BSP with multiprocessing enabled but I saw it on the sparc/leon3 and powerpc/psim

../../cpukit/../../../psim/lib/include/rtems/score/basedefs.h:229:5: error: static assertion failed: "Message_queue_MP_Packet"

```
_Static_assert(cond, # msg)
```

../../../../../../rtems/c/src/../../cpukit/rtems/src/msgmp.c:28:1: note: in expansion of macro 'RTEMS_STATIC_ASSERT'

```
RTEMS_STATIC_ASSERT(
```

~~#2751~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	22 months ago

Summary: Thread dispatch via interrupt is broken at least on ARM and PowerPC

Description:

The ARM and PowerPC interrupt epilogues call _Thread_Dispatch() with interrupts disabled (counter example: SPARC).

On SMP configurations, since inter-processor interrupts set the thread dispatch necessary indicator this prevents a thread dispatch notification in post-switch handlers (which all run with interrupts disabled).

On all configurations, this is a serious issue for the interrupt latency.

~~#2752~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Relax execution enviroment for thread begin extensions

Description:

Currently, the thread begin extensions are invoked with thread dispatching disabled. There is an explanation for this in the code

```
  /*
   * Take care that 'begin' extensions get to complete before
   * 'switch' extensions can run.  This means must keep dispatch
   * disabled until all 'begin' extensions complete.
   */
  _User_extensions_Thread_begin( executing );
```

However, the switch extension is always invoked before the thread begin extension for all threads except the initialization thread. A thread dispatch disabled contexts drastically limits the work which can be carried out in the thread begin extensions. It is for example not possible to call malloc(), create POSIX keys or access C++ thread local storage.

The thread begin extension should execute in a normal thread context. Thread begin extensions that are disturbed by a thread dispatch should deal with this locally.

With the availability of C++ thread local storage in RTEMS being able to pre-initialize such objects in the thread begin extension would be quite handy.

~~#2754~~	4 years ago	fixed	lib/dl	Patrick Gauvin	Chris Johns	2 years ago

Summary: no .strtab section

Description:

`dlopen` on the object generated by libfoo.cpp in the attached test case fails and results in the error `no .strtab section`. readelf shows that the section is present, though:

```
readelf -S libfoo.o | grep strtab
(standard input):97:  [92] .shstrtab         STRTAB          00000000 001fb0 00040c 00      0   0  1
(standard input):99:  [94] .strtab           STRTAB          00000000 0018b0 00019e 00      0   0  1
```

Steps to Reproduce (you may have to edit `BSP_DIR` in the Makefile):

```
make clean all
qemu-system-arm -m 256M -M xilinx-zynq-a9 -serial null -serial mon:stdio \
    -nographic -no-reboot -kernel libdl-strtab-test.exe
```

Expected Output:

```
TEST BEGIN
dlopen: no .strtab section
assertion "handle != NULL" failed: file "libdl-strtab-test.c", line 46, function: POSIX_Init
```

Development Environment:

- **RTEMS Version**: 4.11 (Branch "4.11", commit 3f72dda6ee518d3ea04341ad4df079ecb1895ef7) with the dlerror patches from ~~#2747~~, and the attached ARM PREL31 support patch (I will be making a separate ticket for this with test code soon).
- **System Type**: ARM Cortex-A9, xilinx_zynq_a9_qemu BSP
- **GCC Version**:

  arm-rtems4.11-gcc (GCC) 4.9.3 20150626 (RTEMS 4.11, RSB 1675a733536d1aec2020011e5e522497a442561a (HEAD, origin/4.11, 4.11), Newlib 2.2.0.20150423)

- **RTEMS Configure Options**:

  --target=arm-rtems4.11 --enable-rtemsbsp="xilinx_zynq_a9_qemu xilinx_zynq_zedboard xilinx_zynq_csp_cots xilinx_zynq_csp_hybrid" --enable-tests=samples --enable-posix --prefix=$HOME/development/rtems/4.11 --disable-networking

~~#2765~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Application level deadlocks may lead to SMP lock level deadlocks

Description: Due to a missing deadlock detection application level deadlocks may lead to SMP lock level deadlocks.

#2768	4 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 years ago

Summary: untar does not keep permissions correctly.

Description:

On disk I have 'x' with:

```
$ ls -las x
4 -rwxr-xr-x  1 chris  caeng  48 Jul 14 11:46 x
```

the tar file shows:

```
$ tar tvf rootfs.tar
-rwxr-xr-x  0 chris  caeng      48 Jul 14 11:46 x
```

and in the IMFS it shows:

```
[/] # ls -las x
0 -rw-r--r--  1 root  root  48 Jan  1 00:00 x
```

The makes adding 'joel' scripts difficult.

#2769	4 years ago	invalid	unspecified	Chris Johns	Chris Johns	2 years ago

Summary: rtems-syms does not clean up temp files.

Description:

I am seeing temps files such as:

```
$ ls -las /tmp/rld-*
 0 -rw-------  1 chris  wheel      0 Jul 27 18:16 /tmp/rld--04lbaa.rldxx
 0 -rw-------  1 chris  wheel      0 Jul 27 18:42 /tmp/rld--0niaaa.rldxx
 0 -rw-------  1 chris  wheel      0 Jul 27 18:39 /tmp/rld--0viaaa.rldxx
 0 -rw-------  1 chris  wheel      0 Jul 27 18:38 /tmp/rld--1Hhaaa.rldxx
88 -rw-------  1 chris  wheel  87426 Jul 27 18:30 /tmp/rld--1ibaaa.c
 0 -rw-------  1 chris  wheel      0 Jul 27 18:24 /tmp/rld--2EZaaa.rldxx
 0 -rw-------  1 chris  wheel      0 Jul 29 17:11 /tmp/rld--2rwaaa.rldxx
 0 -rw-------  1 chris  wheel      0 Jul 29 18:14 /tmp/rld--2sBaaa.rldxx
88 -rw-------  1 chris  wheel  88148 Jul 29 17:40 /tmp/rld--2umaaa.c
88 -rw-------  1 chris  wheel  87426 Jul 27 18:25 /tmp/rld--3baaaa.c
88 -rw-------  1 chris  wheel  87426 Jul 27 18:27 /tmp/rld--4Jaaaa.c
 0 -rw-------  1 chris  wheel      0 Jul 27 18:52 /tmp/rld--4Wiaaa.rldxx
 0 -rw-------  1 chris  wheel      0 Jul 27 18:38 /tmp/rld--4bfaaa.rldxx
```

left in /tmp. They look like symbols and so I suspect rtems-syms when building the testsuite with 4.12 (master). This is on FreeBSD.

#2770	4 years ago	fixed	doc	Christian Mauderer	Sebastian Huber	2 years ago

Summary: Missing documentation for RTEMS_LINKER_ROSET_CONTENT and RTEMS_LINKER_RWSET_CONTENT

Description:

Currently the two macros

RTEMS_LINKER_ROSET_CONTENT RTEMS_LINKER_RWSET_CONTENT

are not documented. This should be added as soon as the doc repo is ready for it.

The macros have been introduced in this commit:

https://git.rtems.org/rtems/commit/?id=5fe6d07ad5690e3d9c6445ca3a465a700a5a5015

#2771	4 years ago	wontfix	score	Chris Johns		2 years ago

Summary: Empty C++ file with just <rtems.h> does not compile with HEAD.

Description:

I have an application that does not build.

The following C++ file:

```
$ cat t1.cpp
#include <rtems.h>
```

does not compile with git head 5fe6d07ad5690e3d9c6445ca3a465a700a5a5015 on Zynq ARM. Build with:

```
$ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ \
  -B/opt/work/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \
  -B/opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \
  -specs bsp_specs -qrtems \
  -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a9 \
  -g -O2 -DNDEBUG -std=c++11 \
  -Werror -Wall -Wextra \
  -o t1.o \
  -c t1.cpp
```

Some (too much to post) of the output is:

```
In file included from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/thread.h:36:0,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/heap.h:22,
                 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/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;
               ^~~~~~
```

If '-std=c++11' is removed or replaced with '-std=gnu++11' the error becomes:

```
arm-rtems4.12-g++: fatal error: /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/bsp_specs: attempt to rename spec 'endfile' to
already defined spec 'old_endfile'
```

#2775	4 years ago	fixed	arch/arm	Chris Johns	Chris Johns <chrisj@...>	2 years ago

Summary: ARM CP15 arm_cp15_set_translation_table_entries fails if TTB in read-only memory

Description	If the TTB is held in the text section and the section is set to read-only, and cached when booting no section change happen at run time because the table cannot be written too to change. The table cannot be changed unless the MMU is disabled. I suggest the MMU be disabled, the table updated and then the MMU enabled. Note, the issue only shows up on real hardware, qemu does not complain.

~~#2776~~	4 years ago	fixed	score	Alexander Krutwig	Sebastian Huber	2 years ago
Summary	SPI Framework					
Description	Development of a SPI framework which shall be used for further SPI bus and device drivers. The framework shall be developed using the i2c framework as a template. It shall export the Linux Userspace SPI API.					
~~#2777~~	4 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 years ago
Summary	Remove librtems++					
Description	This is old and there are better design patterns for threading and C++. We recommend you use the new C++ standards based support.					
~~#2784~~	4 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add function to get the current priority of a task by scheduler instance					

Description

```
/**
 * @brief Gets the current priority of the specified task with respect to the
 * specified scheduler instance.
 *
 * The current priority reflects temporary priority adjustments due to locking
 * protocols, the rate-monotonic objects on some schedulers and other
 * mechnisms.
 *
 * @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
);
```

~~#2788~~	4 years ago	wontfix	score	Chris Johns	Chris Johns	2 years ago
Summary	RTEMS I2C API only defines Standard-mode (Sm) speed as a default.					
Description	The RTEMS I2C API as defined in cpukit/dev/include/dev/i2c/i2c.h only defines the bus speed as Standard-mode (Sm) as defined by the I2C standard. This is set as I2C_BUS_CLOCK_DEFAULT. The default speed is defined by the hardware, ie the devices connected, and not this API. The API should define the speeds as defined in the I2C standard and there should be no default. Drivers like the Cadence driver for the Zynq should be modified to require the bus speed be provided and all future drivers need to provide the speed.					
~~#2790~~	4 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Linker sets broken with GCC 7					
Description	See also: https://gcc.gnu.org/ml/gcc/2016-09/msg00114.html The #define MAKEGCCNOTKNOWTHEADDRESS(ptr) asm(""":"+r"(ptr)) is probably the best option. It works probably also with link-time optimization.					
~~#2795~~	4 years ago	fixed	score	Kuan	Gedare Bloom <gedare@...>	2 years ago
Summary	Overrun Handling for general real-time models					
Description	In the current implementation, if a task period is time out, the next call of rtems_rate_monotonic_period() will only release one following job and manipulate the task period with the calling moment + the next length of period. With the assumption that implicit/constraint deadline and hard real-time model, the above mechanism is okay. However, it may not be applicable for general task models, e.g., soft real-time task, arbitrary deadline, mixed-criticality system [1-4]. It is usually assumed that multiple task jobs of a task are executed in a first-come-first-serve manner. Thus, it is sufficient to release the second task job at the moment the first task job finishes according to a strictly periodic release pattern. The current design in fact shifts the release pattern of periodic/sporadic tasks. Since there maybe more than one postponed jobs due to the preemption, these postponed jobs that should be released are never released to the system. Although there is no standard requirement in reality for deadline misses, with this enhancement, the postponed jobs will be released with the correct number without periodic release shifting. This way of handling is already widely considered in academia from 90s [2] until now [3] or even on multicores as well [4]. I refine the following four files and handle this requirement individually. The overhead seems to me negligible. cpukit/rtems/include/rtems/rtems/ratemon.h cpukit/rtems/include/rtems/rtems/ratemonimpl.h cpukit/rtems/src/ratemontimeout.c cpukit/rtems/src/ratemonperiod.c I have tested the enhancement on Qemu and Raspberry Pi Model B+ with corresponding BSPs. I believe this patch as a basis is required for further use for more general real-time task models. This enhancement only affect those timeout cases without changing any behaviour in normal cases. This enhancement is accepted in workshop mixed-criticality (WMC 2016) along with RTSS'16 this year [5]. To demonstrate the differences, a heuristic example is prepared in testsuites/sptests/sprmsched01 to show the benefit of the enhancement: Given two tasks with implicit deadline that task deadline is equal to its period. Task 1 period is 10000 ticks, whereas task 2 is 2000 ticks. Task 1 has the execution time 6000 ticks, and task 2 has 1000 ticks. Assume Task 1 has a higher priority than task 2. Task 1 only executes 2 times. In the expected result, we can observe that the postponed jobs are continuously released till there is no postponed job left, and the task period will still keep as it is. (Job 3-7 in task 2 are postponed jobs) [1] Buttazzo et al., Soft Real-Time Systems: Predictability vs. Efficiency, Springer 2005, http://www.springer.com/gp/book/9780387237015 [2] Lehoczky et al., Fixed priority scheduling of periodic task sets with arbitrary deadlines, RTSS 1990, http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=128748 [3] Georg von der Brüggen et al., Systems with Dynamic Real-Time Guarantees in Uncertain and Faulty Execution Environments, RTSS'16, accepted. [4] Huang et al., Response time bounds for sporadic arbitrary-deadline tasks under global fixed-priority scheduling on multiprocessors, RTNS 2015, http://dl.acm.org/citation.cfm?doid=2597457.2597459 [5] Chen et al., Overrun Handling for Mixed-Criticality Support in RTEMS, WMC 2016, accepted.					
~~#2797~~	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add ability to add/remove processors to/from a scheduler instance					

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.

Description

```
/**
 * @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~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Fix POSIX timer interval

Description

See also:

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

```
Just back to RTEMS after a long time. I've build the last version (Git)
with last compiler (4.12) and looks like a simple POSIX timer  doen't
work anymore... It should display "Signal 14" every second but period is
veryyyy short...and display very fast :(

Any idea? any change in the way to use POSIX with RTEMS?

See my program attached (it works fine with Linux).

I have tested with Raspberry Pi and QEMU/i386.

thx by advance
```

~~#2800~~	3 years ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber	2 years ago

Summary: qoriq variants failing to build

Description

The following qoriq variants fail to build:

powerpc-qoriq_core_0 powerpc-qoriq_core_1 powerpc-qoriq_p1020rdb

All fail with this error:

```
../../../../../../../qoriq_core_0/lib/include/bsp/qoriq.h:407:3: error: conflicting types for 'qoriq_gpio'
 } qoriq_gpio;
   ^~~~~~~~~
../../../../../../../qoriq_core_0/lib/include/bsp/qoriq.h:184:3: note: previous declaration of 'qoriq_gpio' was here
 } qoriq_gpio;
   ^~~~~~~~~
```

Found during full build sweep based on this commit:

```
commit bb9f09f34c9bdcf4d2631a1fd317bcefd8426efb
Author: Sebastian Huber <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~~	3 years ago	fixed	lib/dl	Sebastian Huber	Chris Johns	2 years ago

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

Description

On GR740 I get:

```
rtl: RELOC_32 0x60ae8 @ 0x86edc in /dl-o5.o
rtl: relocation: .rela.eh_frame, syms:.symtab
rtl: rela: sym:__gxx_personality_v0(20)=00001dec type:3  off:00000013 addend:0

CPU 0:  IU in error mode (tt = 0x07, mem address not aligned)
        0x0001fa9c: c4040000  ld  [%l0], %g2  <rtems_rtl_elf_relocate_rela+204>
CPU 1:  Power down mode
CPU 2:  Power down mode
CPU 3:  Power down mode
```

On GR712RC I get:

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

Target resets now.

~~#2803~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	doc	Joel Sherrill	Sebastian Huber	4 weeks ago
Summary	Undocumented confdefs.h Configure Options					

Description

The following constants in confdefs.h that are available for users to use are not defined in the Sphinx documentation.

- CONFIGURE_APPLICATION_NEEDS_ATA_DRIVER - internal and CONFIGURE_APPLICATION_NEEDS_IDE_DRIVER turns into this. Should we recognize both?
- CONFIGURE_ATA_DRIVER_TASK_PRIORITY - Document this. Looks like CONFIGURE_APPLICATION_NEEDS_ATA_DRIVER should replace CONFIGURE_APPLICATION_NEEDS_IDE_DRIVER based on this name. There is no "IDE task priority" configure option.
- CONFIGURE_CBS_MAXIMUM_SERVERS - document this.
- CONFIGURE_EXECUTIVE_RAM_SIZE - do we want users to define this anymore?
- CONFIGURE_EXTRA_MPCI_RECEIVE_SERVER_STACK
- CONFIGURE_MAXIMUM_POSIX_KEY_VALUE_PAIRS - document this.
- CONFIGURE_MAXIMUM_PTYS - document this. Used by telnetd. Is this the same on old and new TCP/IP stacks?
- CONFIGURE_MAXIMUM_TASK_VARIABLES - document for 4.11, not master
- CONFIGURE_TIMER_FOR_SHARED_MEMORY_DRIVER - internal only, do not document

~~#2807~~	3 years ago	fixed	admin	Sebastian Huber	Amar Takhar	2 years ago
Summary	rtems-docs repository is not known to trac					
~~#2808~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Reduce interrupt latency on SMP configurations during thread dispatch					

Description

Currently we have this situation:

https://docs.rtems.org/doc-current/share/rtems/html/c_user/Symmetric-Multiprocessing-Services-Thread-Dispatch-Details.html#Symmetric-Multiprocessing-Services-Thread-Dispatch-Details

"On SMP systems, scheduling decisions on one processor must be propagated to other processors through inter-processor interrupts. So, a thread dispatch which must be carried out on another processor happens not instantaneous. Thus several thread dispatch requests might be in the air and it is possible that some of them may be out of date before the corresponding processor has time to deal with them. The thread dispatch mechanism uses three per-processor variables,

- the executing thread,
- the heir thread, and
- an boolean flag indicating if a thread dispatch is necessary or not.

Updates of the heir thread and the thread dispatch necessary indicator are synchronized via explicit memory barriers without the use of locks. A thread can be an heir thread on at most one processor in the system. The thread context is protected by a TTAS lock embedded in the context to ensure that it is used on at most one processor at a time. The thread post-switch actions use a per-processor lock. This implementation turned out to be quite efficient and no lock contention was observed in the test suite.

The current implementation of thread dispatching has some implications with respect to the interrupt latency. It is crucial to preserve the system invariant that a thread can execute on at most one processor in the system at a time. This is accomplished with a boolean indicator in the thread context. The processor architecture specific context switch code will mark that a thread context is no longer executing and waits that the heir context stopped execution before it restores the heir context and resumes execution of the heir thread (the boolean indicator is basically a TTAS lock). So, there is one point in time in which a processor is without a thread. This is essential to avoid cyclic dependencies in case multiple threads migrate at once. Otherwise some supervising entity is necessary to prevent deadlocks. Such a global supervisor would lead to scalability problems so this approach is not used. Currently the context switch is performed with interrupts disabled. Thus in case the heir thread is currently executing on another processor, the time of disabled interrupts is prolonged since one processor has to wait for another processor to make progress.

It is difficult to avoid this issue with the interrupt latency since interrupts normally store the context of the interrupted thread on its stack. In case a thread is marked as not executing, we must not use its thread stack to store such an interrupt context. We cannot use the heir stack before it stopped execution on another processor. If we enable interrupts during this transition, then we have to provide an alternative thread independent stack for interrupts in this time frame. This issue needs further investigation.

The problematic situation occurs in case we have a thread which executes with thread dispatching disabled and should execute on another processor (e.g. it is an heir thread on another processor). In this case the interrupts on this other processor are disabled until the thread enables thread dispatching and starts the thread dispatch sequence. The scheduler (an exception is the scheduler with thread processor affinity support) tries to avoid such a situation and checks if a new scheduled thread already executes on a processor. In case the assigned processor differs from the processor on which the thread already executes and this processor is a member of the processor set managed by this scheduler instance, it will reassign the processors to keep the already executing thread in place. Therefore normal scheduler requests will not lead to such a situation. Explicit thread migration requests, however, can lead to this situation. Explicit thread migrations may occur due to the scheduler helping protocol or explicit scheduler instance changes. The situation can also be provoked by interrupts which suspend and resume threads multiple times and produce stale asynchronous thread dispatch requests in the system."

Add an interrupt frame to the per-CPU control which can be used during context switches on SMP configurations.

~~#2810~~	3 years ago	fixed	arch/sparc	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Remove sparc/sis BSP variant					

Description

As discussed in the following thread, the sparc/sis BSP variant is no longer necessary and can be removed.

https://lists.rtems.org/pipermail/devel/2016-November/016383.html

This ticket is to track that removal.

~~#2811~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: More robust thread dispatching on SMP and ARM Cortex-M

Description:

On SMP configurations, it is a fatal error to call blocking operating system with interrupts disabled, since this prevents delivery of inter-processor interrupts. This could lead to executing threads which are not allowed to execute resulting in undefined behaviour.

The ARM Cortex-M port has a similar problem, since the interrupt state is not a part of the thread context.

Add a new CPU port function:

```
/**
 * @brief Returns true if interrupts are enabled in the specified ISR level,
 * otherwise returns false.
 *
 * @param[in] level The ISR level.
 *
 * @retval true Interrupts are enabled in the ISR level.
 * @retval false Otherwise.
 */
RTEMS_INLINE_ROUTINE bool _CPU_ISR_Is_enabled( uint32_t level )
{
  return false;
}
```

Use this function to ensure that _Thread_Do_dispatch() is called with an interrupt level with enabled interrupts, otherwise call _Terminate().

~~#2816~~	3 years ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	2 years ago

Summary: Many ARM BSPs have Static Assert

Description:

Hi

With the recent commits, many BSPs on the master do not build. They error out with this static assert:

In file included from ../../../../cpukit/../../../gumstix/lib/include/rtems/score/types.h:23:0,

from ../../../../cpukit/../../../gumstix/lib/include/rtems/score/cpu.h:32, from ../../../../cpukit/../../../gumstix/lib/include/rtems/system.h:23, from ../../../../../../../../rtems/c/src/../../cpukit/score/cpu/arm/cpu.c:29:

../../../../cpukit/../../../gumstix/lib/include/rtems/score/basedefs.h:241:5: error: static assertion failed: "ARM_CONTEXT_CONTROL_ISR_DISPATCH_DISABLE"

_Static_assert(cond, # msg)

../../../../../../../../rtems/c/src/../../cpukit/score/cpu/arm/cpu.c:54:3: note: in expansion of macro 'RTEMS_STATIC_ASSERT'

RTEMS_STATIC_ASSERT(

The list of BSPs is:

arm1136jfs arm1136js arm7tdmi arm920 csb336 csb337 csb637 edb7312 gumstix kit637_v6 lpc2362 lpc23xx_tli800 lpc24xx_ea lpc24xx_ncs_ram lpc24xx_ncs_rom_ext lpc24xx_ncs_rom_int lpc24xx_plx800_ram lpc24xx_plx800_rom_int lpc32xx_mzx lpc32xx_mzx_stage_1 lpc32xx_mzx_stage_2 lpc32xx_phycore raspberrypi rtl22xx rtl22xx_t smdk2410

~~#2817~~	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago

Summary: All Blackfin BSPs do not Compile on Master

Description:

Recent changes to master resulted in this:

bfin-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -I../../.. -I../../../../cpukit/../../../bf537Stamp/lib/include -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT libscorecpu_a-cpu.o -MD -MP -MF .deps/libscorecpu_a-cpu.Tpo -c -o libscorecpu_a-cpu.o `test -f 'cpu.c' || echo '../../../../../../../../rtems/c/src/../../cpukit/score/cpu/bfin/'`cpu.c bfin-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -I../../.. -I../../../../cpukit/../../../bf537Stamp/lib/include -DASM -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT libscorecpu_a-cpu_asm.o -MD -MP -MF .deps/libscorecpu_a-cpu_asm.Tpo -c -o libscorecpu_a-cpu_asm.o `test -f 'cpu_asm.S' || echo '../../../../../../../../rtems/c/src/../../cpukit/score/cpu/bfin/'`cpu_asm.S ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h: Assembler messages: ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:670: Error: syntax error. Input text was static. ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:670: Error: ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:671: Error: syntax error. Input text was {. ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:671: Error: ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:672: Error: syntax error. Input text was return. ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:672: Error: ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:673: Error: syntax error. Input text was }. ../../../../cpukit/../../../bf537Stamp/lib/include/rtems/score/cpu.h:673: Error: gmake[7]: **** [libscorecpu_a-cpu_asm.o] Error 1**

~~#2818~~	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago

Summary: NIOS2 Does Not Compile on Master

Description:

../../../../../../../../rtems/c/src/../../cpukit/score/cpu/nios2/nios2-isr-get-level.c: In function '_CPU_ISR_Is_enabled':
../../../../../../../../rtems/c/src/../../cpukit/score/cpu/nios2/nios2-isr-get-level.c:26:16: error: 'status' undeclared (first use in this function)

return ((status & NIOS2_STATUS_IL_MASK) >> NIOS2_STATUS_IL_OFFSET) == 0;

~

../../../../../../../../rtems/c/src/../../cpukit/score/cpu/nios2/nios2-isr-get-level.c:26:16: note: each undeclared identifier is reported only once for each function it appears in
../../../../../../../../rtems/c/src/../../cpukit/score/cpu/nios2/nios2-isr-get-level.c:32:1: warning: control reaches end of non-void function [-Wreturn-type]

}

~~#2819~~	3 years ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber	2 years ago

Summary: powerpc-ss555 does not compile on master

Description:

Recent changes broke this configuration:

gmake[6]: Entering directory `/data/home/joel/rtems-4.11-work/rtems-testing/rtems/build-powerpc-ss555-rtems/powerpc-rtems4.12/c/ss555/testsuites/samples/hello' powerpc-rtems4.12-gcc -B../../../../../ss555/lib/ -specs bsp_specs -qrtems -DHAVE_CONFIG_H -I. -I../../../../../../../rtems/c/src/../../testsuites/samples/hello -I.. -mcpu=505 -Dmpc555 -O2 -g -fno-keep-inline-functions -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT init.o -MD -MP -MF .deps/init.Tpo -c -o init.o ../../../../../../../../rtems/c/src/../../testsuites/samples/hello/init.c In file included from ../../../../../ss555/lib/include/rtems/score/percpu.h:22:0,

from ../../../../../ss555/lib/include/rtems/confdefs.h:32, from ../../../../../../../../rtems/c/src/../../testsuites/samples/hello/init.c:51:

../../../../../ss555/lib/include/rtems/score/cpuimpl.h:196:3: error: conflicting types for 'CPU_Interrupt_frame'

} CPU_Interrupt_frame;

In file included from ../../../../../ss555/lib/include/bsp/irq.h:28:0,

from ../../../../../ss555/lib/include/bsp.h:31, from ../../../../../../../../rtems/c/src/../../testsuites/samples/hello/init.c:17:

../../../../../ss555/lib/include/libcpu/irq.h:193:3: note: previous declaration of 'CPU_Interrupt_frame' was here

} CPU_Interrupt_frame;

gmake[6]: **** [init.o] Error 1 gmake[6]: Target `all' not remade because of errors.**

~~#2820~~	3 years ago	fixed	arch/sparc	Joel Sherrill	Sebastian Huber	2 years ago

Summary: All SPARC64 BSPs do not Build on master

Description

Recent changes broke all builds:

sparc64-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -I../../.. -I../../../../cpukit/../../../usiii/lib/include -mcpu=ultrasparc3 -DUS3 -DSUN4U -g -O2 -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT libscorecpu_a-sparc64-exception-frame-print.o -MD -MP -MF .deps/libscorecpu_a-sparc64-exception-frame-print.Tpo -c -o libscorecpu_a-sparc64-exception-frame-print.o `test -f 'sparc64-exception-frame-print.c' || echo '../../../../../../../../rtems/c/src/../../cpukit/score/cpu/sparc64/'`sparc64-exception-frame-print.c sparc64-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -I../../.. -I../../../../cpukit/../../../usiii/lib/include -mcpu=ultrasparc3 -DUS3 -DSUN4U -g -O2 -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT ../no_cpu/libscorecpu_a-cpucounterread.o -MD -MP -MF ../no_cpu/.deps/libscorecpu_a-cpucounterread.Tpo -c -o ../no_cpu/libscorecpu_a-cpucounterread.o `test -f '../no_cpu/cpucounterread.c' || echo '../../../../../../../../rtems/c/src/../../cpukit/score/cpu/sparc64/'`../no_cpu/cpucounterread.c In file included from ../../../../../../../../rtems/c/src/../../cpukit/score/cpu/sparc64/../no_cpu/cpucounterread.c:15:0: ../../../../cpukit/../../../usiii/lib/include/rtems/score/cpu.h: In function '_CPU_ISR_Is_enabled': ../../../../cpukit/../../../usiii/lib/include/rtems/score/cpu.h:759:12: error: 'psr' undeclared (first use in this function)

return (psr & SPARC_PSTATE_IE_MASK) != 0;

../../../../cpukit/../../../usiii/lib/include/rtems/score/cpu.h:759:12: note: each undeclared identifier is reported only once for each function it appears in gmake[7]: ***no_cpu/libscorecpu_a-cpucounterread.o Error 1 mv -f .deps/libscorecpu_a-context.Tpo .deps/libscorecpu_a-context.Po In file included from ../../../../cpukit/../../../usiii/lib/include/rtems/system.h:23:0,**

#2821	3 years ago	invalid	unspecified	Joel Sherrill	Sebastian Huber	2 years ago

Summary

No BSPs Build on Master

Description

I have the latest tools.

All BSPs appear to fail like this:

powerpc-rtems4.11-gcc --pipe -DHAVE_CONFIG_H -I.. -I../../cpukit/../../../psim/lib/include -meabi -mcpu=603e -msdata=sysv -fno-common -Dppc603e -O2 -g -fno-keep-inline-functions -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-smpbarrierwait.o -MD -MP -MF src/.deps/libscore_a-smpbarrierwait.Tpo -c -o src/libscore_a-smpbarrierwait.o `test -f 'src/smpbarrierwait.c' || echo '../../../../../../rtems/c/src/../../cpukit/score/'`src/smpbarrierwait.c powerpc-rtems4.11-gcc --pipe -DHAVE_CONFIG_H -I.. -I../../cpukit/../../../psim/lib/include -meabi -mcpu=603e -msdata=sysv -fno-common -Dppc603e -O2 -g -fno-keep-inline-functions -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-kern_tc.o -MD -MP -MF src/.deps/libscore_a-kern_tc.Tpo -c -o src/libscore_a-kern_tc.o `test -f 'src/kern_tc.c' || echo '../../../../../../rtems/c/src/../../cpukit/score/'`src/kern_tc.c powerpc-rtems4.11-gcc --pipe -DHAVE_CONFIG_H -I.. -I../../cpukit/../../../psim/lib/include -meabi -mcpu=603e -msdata=sysv -fno-common -Dppc603e -O2 -g -fno-keep-inline-functions -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-libatomic.o -MD -MP -MF src/.deps/libscore_a-libatomic.Tpo -c -o src/libscore_a-libatomic.o `test -f 'src/libatomic.c' || echo '../../../../../../rtems/c/src/../../cpukit/score/'`src/libatomic.c mv -f src/.deps/libscore_a-semaphore.Tpo src/.deps/libscore_a-semaphore.Po mv -f src/.deps/libscore_a-once.Tpo src/.deps/libscore_a-once.Po ../../../../../../rtems/c/src/../../cpukit/score/src/libatomic.c:19:32: fatal error: machine/_libatomic.h: No such file or directory

#include <machine/_libatomic.h>

compilation terminated. gmake[6]: ***[src/libscore_a-libatomic.o] Error 1 In file included from /data/home/joel/rtems-4.11-work/tools/4.11/powerpc-rtems4.11/include/sys/param.h:89:0,***

from ../../../../../../rtems/c/src/../../cpukit/score/src/kern_tc.c:48:

../../cpukit/../../../psim/lib/include/sys/uio.h:41:9: error: unknown type name 'ssize_t'

typedef ssize_t ssize_t;

../../cpukit/../../../psim/lib/include/sys/uio.h:46:9: error: unknown type name 'off_t'

typedef off_t off_t;

../../cpukit/../../../psim/lib/include/sys/uio.h:46:17: error: conflicting types for 'off_t'

typedef off_t off_t;

#2822	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago

Summary

m32csim does not build on master

Description

In file included from ../../cpukit/../../../m32csim/lib/include/rtems/score/types.h:22:0,

from ../../cpukit/../../../m32csim/lib/include/rtems/score/cpu.h:40, from ../../../../../../rtems/c/src/../../cpukit/score/src/percpuasm.c:19:

../../cpukit/../../../m32csim/lib/include/rtems/score/basedefs.h:244:17: error: size of array 'rtems_static_assert_PER_CPU_OFFSET_EXECUTING' is negative

typedef int rtems_static_assert_ ## msg [(cond) ? 1 : -1]

../../../../../../rtems/c/src/../../cpukit/score/src/percpuasm.c:98:1: note: in expansion of macro 'RTEMS_STATIC_ASSERT'

RTEMS_STATIC_ASSERT(

../../cpukit/../../../m32csim/lib/include/rtems/score/basedefs.h:244:17: error: size of array 'rtems_static_assert_PER_CPU_OFFSET_HEIR' is negative

typedef int rtems_static_assert_ ## msg [(cond) ? 1 : -1]

../../../../../../rtems/c/src/../../cpukit/score/src/percpuasm.c:103:1: note: in expansion of macro 'RTEMS_STATIC_ASSERT'

RTEMS_STATIC_ASSERT(

#2823	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago

Summary

Nearly all m68k BSPs do not Build on Master

Description

av5282 is the first

In file included from ../../cpukit/../../../av5282/lib/include/rtems/score/types.h:22:0,

from ../../cpukit/../../../av5282/lib/include/rtems/score/cpu.h:26, from ../../../../../../rtems/c/src/../../cpukit/score/src/percpuasm.c:19:

../../cpukit/../../../av5282/lib/include/rtems/score/basedefs.h:241:5: error: static assertion failed: "PER_CPU_OFFSET_EXECUTING"

_Static_assert(cond, # msg)

../../../../../../rtems/c/src/../../cpukit/score/src/percpuasm.c:98:1: note: in expansion of macro 'RTEMS_STATIC_ASSERT'

RTEMS_STATIC_ASSERT(

../../cpukit/../../../av5282/lib/include/rtems/score/basedefs.h:241:5: error: static assertion failed: "PER_CPU_OFFSET_HEIR"

_Static_assert(cond, # msg)

../../../../../../rtems/c/src/../../cpukit/score/src/percpuasm.c:103:1: note: in expansion of macro 'RTEMS_STATIC_ASSERT'

RTEMS_STATIC_ASSERT(

#2824	3 years ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	2 years ago

Summary

arm/lpc23xx_tli800 no longer links tar01

Description

Normally I would add the test to those skipped but I thought this deserved a second look. Should this BSP be able to run this test? I thought it was a fairly beefy board.

arm-rtems4.12-gcc -B../../../../../lpc23xx_tli800/lib/ -specs bsp_specs -qrtems -mcpu=arm7tdmi-s -mthumb -Os -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -Wl,--gc-sections -mcpu=arm7tdmi-s -mthumb -DHAVE_XZ=1 -o tar01.exe init.o test_cat.o initial_filesystem_tar.o initial_filesystem_tar_gz.o initial_filesystem_tar_xz.o -lrtemscpu -lz /data/home/joel/rtems-4.11-work/tools/4.12/bin/../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**

#2825	3 years ago	fixed	doc	Sebastian Huber		2 years ago

Ticket	Created	Resolution	Component	Owner	Reporter	Modified

Summary: Improve the fatal error handling chapter of the user manual

Description: At least replace the "Document me" markers with something useful.

~~#2826~~	3 years ago	fixed	arch/arm	Chris Johns		2 years ago

Summary: arm_cp15_get_translation_table_base_control_register warning.

Description:

arm_cp15_get_translation_table_base_control_register in c/src/lib/libcpu/arm/shared/include/arm-cp15.h returns a pointer however ttb_cr is not a pointer"

```
../../cpukit/../../../xilinx_zynq_zedboard/lib/include/libcpu/arm-cp15.h: In function 'arm_cp15_get_translation_table_base_control_register':
../../cpukit/../../../xilinx_zynq_zedboard/lib/include/libcpu/arm-cp15.h:401:10: warning: return makes pointer from integer without a cast [-Wint-conversion]
   return ttb_cr;
          ^~~~~~
```

~~#2829~~	3 years ago	fixed	unspecified	Joel Sherrill	Chris Johns	2 years ago

Summary: xz git URL in README is broken

Description: Use http://git.tukaani.org/?

~~#2835~~	3 years ago	duplicate	tool/gcc	Sebastian Huber	Needs Funding	2 years ago

Summary: Ada support is broken on SMP configurations

Description: The Ada support is the last user of a task variable: rtems_ada_self. This doesn't work on SMP configurations. The Ada support in GCC should be changed to use a function call or C11 thread-local storage.

~~#2836~~	3 years ago	fixed	score	Joel Sherrill	Joel Sherrill	2 years ago

Summary: Add posix_devctl()

Description:

The posix_devctl() method is defined in POSIX 1003.26 and required by the FACE POSIX profiles. The only use case that needs to be supported is FIONBIO on sockets per the FACE Technical Standard.

ioctl() is not a standardized method per POSIX and is not included in the FACE Profiles.

Making operations non-blocking can also be done with fcntl() but due to RTOS qualification concerns, fcntl() is not included in the more stringent FACE profiles. Specifically, it is not in the Safety Base profile which matches the RTEMS POSIX capabilities.

This requires adding the <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.

~~#2838~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Termios task driven mode should use mutex for device operations

Description: Termios has a task driven mode (TERMIOS_TASK_DRIVEN). This mode aims to avoid long sections with disabled interrupts. This is only partly implemented since the device level state is still protected by disabled interrupts. Use a mutex to protect the device level state in task driven mode to fix this issue.

~~#2839~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Add new interrupt server driven Termios mode

Description: Add a new new interrupt server driven Termios mode (TERMIOS_IRQ_DRIVEN). This mode is identical to the interrupt driven mode except that a mutex is used for device level locking. The intended use case for this mode are device drivers that use the interrupt server, e.g. SPI or I2C connected devices.

~~#2840~~	3 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Use self-contained mutexes for Termios framework

Description:

Use C11 mutexes instead of Classic semaphores as a performance optimization and to simplify the application configuration.

A performance of Classic semaphores vs. C11 mutexes was measured on the arm/atsam BSP. A NXP SC16IS752 was connected via SPI. The RTEMS application used one task to read from the device and write it immediately back (look back via task). A development system constantly transmitted data at 115200 bits per second.

CPU usage by function with Classic semaphores:

```
name______________________________________|ratio___|1%_____2%________5%_____10%_____20%_______50%___100|
CPU_Thread_Idle_body                      | 22.454%|=================================                 |
atsam_spi_setup_transfer                  |  6.767%|====================                              |
Objects_Get                               |  5.859%|===================                               |
atsam_spi_interrupt                       |  4.483%|================                                  |
Event_Seize                               |  3.867%|==============                                    |
rtems_termios_enqueue_raw_characters      |  3.804%|==============                                    |
Timecounter_Binuptime                     |  3.715%|==============                                    |
Scheduler_priority_Block                  |  3.104%|============                                      |
rtems_semaphore_release                   |  3.018%|============                                      |
Scheduler_priority_Unblock                |  2.901%|===========                                       |
rtems_termios_read_tty                    |  2.777%|===========                                       |
ARMV7M_NVIC_Interrupt_dispatch            |  2.750%|===========                                       |
rtems_semaphore_obtain                    |  2.627%|==========                                        |
Thread_Do_dispatch                        |  2.351%|=========                                         |
ARMV7M_Interrupt_service_leave            |  2.086%|========                                          |
iproc                                     |  1.919%|=======                                           |
CPU_Context_switch                        |
```

CPU usage by function with C11 mutexes:

```
name______________________________________|ratio___|1%_____2%________5%_____10%_____20%_______50%___100|
CPU_Thread_Idle_body                      | 33.395%|======================================            |
atsam_spi_setup_transfer                  |  6.061%|===================                               |
atsam_spi_interrupt                       |  4.690%|================                                  |
Mutex_recursive_Release                   |  3.011%|============                                      |
Event_Seize                               |  2.955%|===========                                       |
ARMV7M_NVIC_Interrupt_dispatch            |  2.885%|===========                                       |
rtems_termios_enqueue_raw_characters      |  2.771%|===========                                       |
rtems_termios_read_tty                    |  2.722%|===========                                       |
Timecounter_Binuptime                     |  2.653%|==========                                        |
Thread_Do_dispatch                        |  2.240%|========                                          |
Scheduler_priority_Block                  |  2.112%|========                                          |
ARMV7M_Interrupt_service_leave            |  2.100%|========                                          |
Scheduler_priority_Unblock                |  1.919%|=======                                           |
Mutex_recursive_Acquire                   |  1.876%|======                                            |
iproc                                     |  1.773%|======                                            |
CPU_Context_switch                        |
```

The change resulted in 10% more total idle time on the system.

~~#2841~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Add NXP SC16IS752 serial device driver

Description: Add Termios device driver for NXP SC16IS752 (RS232/RS485 over SPI or I2C).

~~#2843~~	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago

Summary	Use self-contained objects instead of Classic API for drivers and support libraries
Description	The Classic API has some weaknesses: • Dynamic memory (the workspace) is used to allocate object pools. This requires a complex configuration with heavy use of the C pre-processor. • Objects are created via function calls which return an object identifier. The object operations use this identifier and map it internally to an object representation. • The objects reside in a table, e.g. they are suspect to false sharing of cache lines. • The object operations use a rich set of options and attributes. For each object operation these parameters must be evaluated and validated at run-time to figure out what to do exactly for this operation. The overhead for Classic API mutexes used for example in Termios and the SPI framework is significant, see discussion: https://lists.rtems.org/pipermail/devel/2016-December/016543.html There are some API options available: 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~~	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	2 years ago
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~~	3 years ago	fixed	doc	Sebastian Huber		2 years ago
Summary	Add I2C framework documentation					
Description	The new I2C framework lacks documentation.					
~~#2849~~	3 years ago	fixed	doc	Sebastian Huber		2 years ago
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. Update the documentation accordingly.					
~~#2850~~	3 years ago	fixed	doc	Sebastian Huber		2 years ago
Summary	Driver manual covers non-existent Analog Driver					
Description	Remove this chapter from the documentation.					
~~#2851~~	3 years ago	fixed	doc	Sebastian Huber		2 years ago
Summary	Driver manual covers non-existent Discrete Driver					
Description	Remove this chapter from the documentation.					
~~#2853~~	3 years ago	fixed	doc	Sebastian Huber		2 years ago
Summary	Driver manual covers non-existent Non-Volatile Memory Driver					
Description	Remove this chapter from the documentation.					
~~#2858~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	posix	Gedare Bloom	Gedare Bloom	2 years ago
Summary	Implement POSIX Shared Memory Objects					
Description	POSIX Shared Memory is a widely used API for inter-process communication. The functions in the API include: • shm_open • ftruncate • mmap • munmap • shm_unlink • close • fstat • fchown • fchmod					
~~#2862~~	3 years ago	fixed	doc	Chris Johns	Chris Johns	2 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~~	3 years ago	duplicate	doc	Joel Sherrill	Joel Sherrill	2 years ago
Summary	Update POSIX 1003.1 Compliance Guide for ReST					
Description	The POSIX 1003.1 Compliance Guide should be auto-generated from a spreadsheet into the ReST format. My vague recollection is that we used shell scripts to do this for texinfo output. I will have to decipher what we used to do and define a new procedure. This impacts 4.11 and newer. One issue is having correct information for what methods are present on a branch. The FACE Conformance Test Suite can be used for ~800 of the methods.					
~~#2864~~	3 years ago	fixed	doc	Chris Johns		2 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~~	3 years ago	fixed	doc	Chris Johns	Chris Johns	2 years ago

Summary	Coverpage installed when building the docs repeats catalogue.xml entries
Description	The catalogue repeats entries.

~~#2867~~	3 years ago	fixed	tool	Stavros Passas	Chris Johns	2 years ago

Summary	Fix exclude rule in rtems-test-check
Description	rtems-test-check is responsible of checking the testsuite configuration of a given BSP and adapt it based on a given "command". Currently for the "exclude" command, we never exclude anything, the output of the script is always the whole list of the input tests. This happens because the script always starts with output = $tests and appends on the list the tests that are not excluded, so the output is always all the tests.

~~#2868~~	3 years ago	fixed	arch/arm	David Binderman	Gedare Bloom <gedare@…>	2 years ago

Summary	src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c: 3 * pointless local variables ?

Description	[src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c:235]: (style) Variable 'cnt1' is modified but its new value is never used. [src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c:243]: (style) Variable 'cnt2' is modified but its new value is never used. [src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c:246]: (style) Variable 'cnt3' is modified but its new value is never used.
	
	$ egrep "cnt1|cnt2|cnt3" src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c
	
	uint32_t pblock, i, j, lblock, zone, count, cnt1, cnt2, cnt3; cnt1 = 0; cnt2 = 0; cnt3 = 0;
	
	cnt1++;
	
	cnt2++; cnt3++;
	
	$
	
	Maybe someone left some debug code in ?

~~#2873~~	3 years ago	fixed	arch/arm	David Binderman	Gedare Bloom <gedare@…>	2 years ago

Summary	src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320: defective error checking ?

Description	src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320]: (style) Checking if unsigned variable 'rv' is less than zero.
	
	Source code is
	
	rv = rpi_i2c_setup_transfer(bus);
	
	if (rv < 0) {
	
	but
	
	uint32_t rv = 0;
	
	and
	
	static int rpi_i2c_setup_transfer(rpi_i2c_bus *bus)
	
	Suggest put return value into an int local variable, then sanity check it, then assign it to rv.

~~#2874~~	3 years ago	fixed	arch/powerpc	David Binderman	Sebastian Huber <sebastian.huber@…>	2 years ago

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~~	3 years ago	fixed	score	Stavros Passas	joel.sherrill@…	2 years ago

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~~	3 years ago	fixed	arch/sparc	David Binderman	Daniel Hellstrom	2 years ago

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~~	3 years ago	fixed	score	David Binderman	Chris Johns	2 years ago

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;
```

Description

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~~	3 years ago	wontfix	unspecified	David Binderman		2 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

```
if (tn->fn->ofs < offset)
        next = tn->rb.rb_right;
else if (tn->fn->ofs >= offset)
        next = tn->rb.rb_left;
else
        break;
```

Maybe better code

```
if (tn->fn->ofs < offset)
        next = tn->rb.rb_right;
else if (tn->fn->ofs > offset)
        next = tn->rb.rb_left;
else
        break;
```

~~#2883~~	3 years ago	fixed	arch/arm	David Binderman	Pavel Pisa	2 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

```
uint32_t flr_tx_ready = TMS570_SCI_FLR_TX_EMPTY | TMS570_SCI_FLR_TX_EMPTY;
```

~~#2885~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	score	Stavros Passas	Stavros Passas <stavros.passas@…>	2 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~~	3 years ago	fixed	score	Stavros Passas	Sebastian Huber <sebastian.huber@…>	2 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 RTENS_DEBUG is not set.

~~#2893~~	3 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 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~~	3 years ago	wontfix	tool/rsb	Joel Sherrill	Chris Johns	2 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~~	3 years ago	fixed	score	Kevin Kirspel	Needs Funding	2 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_cflags (not using the cfgetispeed, cfgetospeed, cfsetispeed, cfsetospeed functions).					
~~#2905~~	3 years ago	fixed	arch/sparc	Tanu Hari Dixit	Daniel Hellstrom	2 years ago
Summary	Merge LEON					
Description	**Merge LEON** **Students:** Past, Present, and Potential Students **Status:** Some work may be done. **Introduction:** Merge Leon RTEMS and mainstream RTEMS merge the Leon DriverManager, samples, and LEON-RTEMS into mainstream RTEMS. **Goal:** Concise statement of the overall goal of the project. Refine this initial statement to include: project deliverables (code, docs, testing), required/suggested methodology, standards of quality, possible goal extensions beyond the main objective. **Requirements:** List the requirements and level of expertise you estimate are required by the developer tackling this project will have to have: Required level of programming language(s), specific areas of RTEMS or tools, level of familiarity with RTEMS, cross-development, GNU/Linux, etx., development/documentation/testing tools, mathematical/algorithmic background, other desirable skills. **Resources:** Current RTEMS developers, papers, etc that may help you in this project. **Acknowledgements** • who helped and did work **Miscellaneous Sections** As the project progresses, you will need to add build instructions, etc and this page will evolve from a project description into a HOWTO. **References** • TBD **Other sections:** If you have more to say about the project that doesn't fit in the proposed sections of this template, feel free to add other sections at will.					
~~#2906~~	3 years ago	fixed	doc	Chris Johns		2 years ago
Summary	rtems-doc waf configure does not detect sphinxcontrib.bibtex status					
Description	The rtems-docs requires the Sphinx contribution extension for bibtex to build. A configure check should be added to see if the extension is installed and an error raised or the documentation conditionally built. It is not clear to me if bibtex needs Tex Alive. Requiring Tex on all hosts to build the documentation is a regression so the extension will need to be removed or a fall back position taken where degraded quality documentation in HTML is created.					
~~#2909~~	3 years ago	fixed	score	Sebastian Huber	Chris Johns	2 years ago
Summary	xz: Support for 64-bit CRC is build although XZ_USE_CRC64 is not defined					
Description	This leads to: ../../../../../../rtems/c/src/../../cpukit/libmisc/xz/xz_crc64.c:21:16: warning: no previous prototype for 'xz_crc64_init' [-Wmissing-prototypes] ../../../../../../rtems/c/src/../../cpukit/libmisc/xz/xz_crc64.c:40:20: warning: no previous prototype for 'xz_crc64' [-Wmissing-prototypes] We should enable the 64-bit CRC or remove this file from the build.					
~~#2912~~	3 years ago	fixed	score	Sebastian Huber	Chris Johns	2 years ago
Summary	libdebugger: control reaches end of non-void function					
Description	../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:393:1: warning: control reaches end of non-void function [-Wreturn-type] ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:405:1: warning: control reaches end of non-void function [-Wreturn-type]					
~~#2916~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	termios: Change receive callback invocation to enable select() and poll() support					
Description	Call the receive callback in case a read will succeed without to block. This enables the use of the receive callback for a poll() and select() support. Increase raw input buffer size to allow buffering of one line.					
~~#2917~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	termios: Make write POSIX compatible					
Description	Currently only blocking read/write operations are implemented. A blocking write must transfer at least one character. It should not wait for the device for the second character and so on.					
~~#2922~~	3 years ago	fixed	lib/dl	Chris Johns	Chris Johns	17 months ago
Summary	libdl unresolved externals that use more than one block or multiple entries corrupts.					
Description	If there are lots of unresolved externals the unresolved block structure get confused and the can lock up looking for a new slot to add an unresolved external.					
~~#2923~~	3 years ago	wontfix	score	Joel Sherrill	Sebastian Huber	2 years ago

Summary	Questionable Code in resource_snapshot.c					
Description	Coverity URL: https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=108958257&defectInstanceId=30877219&mergedDefectId=1399703 Coverity Scan doesn't like taking the address of a single uint32_t and then treating it as an array pointer. I think the code is likely doing what is intended but there is an implicit linkable between the order of the fields in the structure here and the class numbers used in the object IDs. Is there a way to improve this code and reduce the linkage? 141 1. address_of: Taking address with &snapshot->active_posix_keys yields a singleton pointer. 2. assign: Assigning: active = &snapshot->active_posix_keys. 142 active = &snapshot->active_posix_keys; 143 3. Condition i < 19U /* sizeof (objects_info_table) / sizeof (objects_info_table[0]) */, taking true branch. 144 for (i = 0; i < RTEMS_ARRAY_SIZE(objects_info_table); ++i) { 145 const Objects_Information *information; 146 147 information = _Objects_Get_information(148 objects_info_table[i].api, 149 objects_info_table[i].cls 150); 151 4. Condition information != NULL, taking true branch. 152 if (information != NULL) { CID 1399703 (~~#1~~ of 1): Out-of-bounds access (ARRAY_VS_SINGLETON) 5. ptr_arith: Using active as an array. This might corrupt or misinterpret adjacent memory locations. 153 active[i] = _Objects_Active_count(information);					
~~#2924~~	3 years ago	fixed	arch/sparc	Joel Sherrill	Daniel Hellstrom	2 years ago
Summary	Warnings in SPARC BSPs					
Description	As of today, the following warnings exist for SPARC BSPs. log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/console/debugputs.c:43:5: warning: this 'while' clause does not guard... [-Wmisleading-indentation] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/amba/ahbstat.c:156:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/amba/ahbstat.c:156:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/drvmgr/ambapp_bus.c:647:4: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/drvmgr/ambapp_bus.c:647:4: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/drvmgr/leon2_amba_bus.c:168:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/drvmgr/leon2_amba_bus.c:168:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/irq/genirq.c:244:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/irq/genirq.c:244:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/spw/grspw_router.c:213:4: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/spw/grspw_router.c:213:4: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon2.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../sparc/shared/uart/apbuart.c:574:21: warning: format '%x' expects argument of type 'unsigned int', but argument 2 has type 'apbuart_priv * {aka struct <anonymous> *}' [-Wformat=] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/amba/ahbstat.c:156:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/amba/ahbstat.c:156:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/amba/ahbstat.c:156:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/amba/ahbstat.c:156:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/drvmgr/ambapp_bus.c:647:4: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/drvmgr/ambapp_bus.c:647:4: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/drvmgr/ambapp_bus.c:647:4: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/drvmgr/ambapp_bus.c:647:4: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/irq/genirq.c:244:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/irq/genirq.c:244:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/irq/genirq.c:244:3: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/irq/genirq.c:244:3: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/spw/grspw_router.c:213:4: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/spw/grspw_router.c:213:4: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/spw/grspw_router.c:213:4: warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/spw/grspw_router.c:213:4: warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-leon3.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/uart/apbuart.c:574:21: warning: format '%x' expects argument of type 'unsigned int', but argument 2 has type 'apbuart_priv * {aka struct <anonymous> *}' [-Wformat=] log/sparc-ngmp.log:../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../sparc/shared/uart/apbuart.c:574:21: warning: format '%x' expects argument of type 'unsigned int', but argument 2 has type 'apbuart_priv * {aka struct <anonymous> *}' [-Wformat=]					
~~#2925~~	3 years ago	fixed	score	Joel Sherrill	Chris Johns	19 months ago
Summary	Warnings in rtl-obj-cache.c on some targets					
Description	These warnings are on m68k but not sparc, mips powerpc, or arm. Looks like inttypes.h should be used. ../../../../../rtems/c/src/../../cpukit/libdl/rtl-obj-cache.c:175:47: warning: format '%d' expects argument of type 'int', but argument 3 has type 'long unsigned int' [-Wformat=] ../../../../../rtems/c/src/../../cpukit/libdl/rtl-obj-cache.c:175:85: warning: format '%d' expects argument of type 'int', but argument 7 has type 'long unsigned int' [-Wformat=] ../../../../../rtems/c/src/../../cpukit/libdl/rtl-obj-cache.c:81:67: warning: format '%d' expects argument of type 'int', but argument 7 has type 'long unsigned int' [-Wformat=] ../../../../../rtems/c/src/../../cpukit/libdl/rtl-obj-cache.c:81:81: warning: format '%d' expects argument of type 'int', but argument 9 has type 'long unsigned int' [-Wformat=] ~					
~~#2930~~	3 years ago	fixed	score	Joel Sherrill	Daniel Hellstrom	2 years ago
Summary	Coverity Reports Out of Bounds Read in drvmgr_print.c					
Description	https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109359850&defectInstanceId=30967449&mergedDefectId=1399730 354 printf(" DRIVER ID: 0x%llx\n", drv->drv_id); 1. Condition drv->name, taking true branch. 355 printf(" NAME: %s\n", drv->name ? drv->name : "NO_NAME"); 356 printf(" BUS TYPE: %d\n", drv->bus_type); 357 printf(" OPERATIONS:\n"); 2. alias: Assigning: ppfunc = &drv->ops->init[0]. ppfunc now points to element 0 of drv->ops->init (which consists of 4 4-byte elements). 3. Condition i < 6U /* sizeof (struct drvmgr_drv_ops) / sizeof (void (*)(void)) */, taking true branch. 4. Condition i < 6U /* sizeof (struct drvmgr_drv_ops) / sizeof (void (*)(void)) */, taking true branch. 5. cond_at_most: Checking i < 6U implies that i may be up to 5 on the true branch. 358 for (i = 0, ppfunc = (fun_ptr *)&drv->ops->init[0]; 359 i < DRVMGR_OPS_NUM(struct drvmgr_drv_ops); i++) 4. Jumping back to the beginning of the loop. CID 1399730 (~~#1~~ of 1): Out-of-bounds read (OVERRUN) 7. overrun-local: Overrunning array of 4 4-byte elements at element index 5 (byte offset 20) by dereferencing pointer ppfunc + i. 360 printf(" %s %p\n", drv_ops_names[i], ppfunc[i]); 361 printf(" NO. DEVICES: %d\n", drv->dev_cnt); 362					
~~#2933~~	3 years ago	fixed	unspecified	Amar Takhar	Amar Takhar	19 months ago
Summary	Flexibleassignto is broken on new ticket page.					

Description	The plugin needs to be fixed for new trac template changes. I usually don't have to modify this often but we made a huge version jump. Right now all we see is assign to <default> There should be a list of developers.

~~#2935~~	3 years ago	wontfix	score	Martin Aberg	joel.sherrill@...	2 years ago

Summary	Termios task driven mode not compatible with SMP
Description	When the Termios task driven functioning mode is used, rtems_termios_open_tty() calls rtems_task_create() with RTEMS_NO_PREEMPT in the initial task mode parameter. RTEMS_NO_PREEMPT is not supported on SMP. rtems_task_create() returns RTEMS_UNSATISFIED in this SMP scenario and Termios ends up in rtems_fatal_error_occurred(). Termios starts the RX and TX tasks successfully on SMP if RTEMS_NO_PREEMPT is removed from the initial task modes of these tasks. However, I suspect there may be assumptions on the NO_PREEMPT mode for the RX and TX tasks in other parts of Termios.

~~#2941~~	3 years ago	invalid	tool/rsb	DHANPAL SINGH		2 years ago

Summary	building rsb freezes
Description	dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ mkdir -p development/rtems/rsb dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd development/rtems/rsb dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/rsb$ git clone git://git.rtems.org/rtems-source-builder.git fatal: destination path 'rtems-source-builder' already exists and is not an empty directory. dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/rsb$ cd rtems-source-builder dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/rsb/rtems-source-builder$ cd rtems dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/rsb/rtems-source-builder/rtems$ ../source-builder/sb-set-builder --prefix=$HOME/development/rtems/4.12 4.12/rtems-sparc RTEMS Source Builder - Set Builder, 4.12 (10d9e2dfacf7) 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 - 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~~#2942~~	3 years ago	invalid	unspecified	DHANPAL SINGH		2 years ago

Summary	rtems building error

Description

dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ export PATH=$HOME/development/rtems/4.12/bin:$PATH dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd development/rtems dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems$ mkdir kernel dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems$ cd kernel dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel$ git clone git://git.rtems.org/rtems.git rtems Cloning into 'rtems'... remote: Counting objects: 504955, done. remote: Compressing objects: 100% (90780/90780), done. remote: Total 504955 (delta 407126), reused 499936 (delta 403143) Receiving objects: 100% (504955/504955), 73.12 MiB | 113 KiB/s, done. Resolving deltas: 100% (407126/407126), done. dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel$ cd rtems dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel/rtems$ ./bootstrap -c && ./bootstrap -p && \

$HOME/development/rtems/rsb/source-builder/sb-bootstrap

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~~#2943~~	3 years ago	wontfix	unspecified	DHANPAL SINGH		2 years ago

Summary: rtems building error

Description	i am attaching the screenshot of file system

~~#2945~~	3 years ago	worksforme	unspecified	Joel Sherrill	Daniel Hellstrom	2 years ago

Summary	Many failures on LEON3 with SMP disabled
Description	There are approximately ~100 failures, timeouts, etc on the LEON3 BSP. See this thread for some discussion where Jiri notes it is broken on his checkout from December: https://lists.rtems.org/pipermail/devel/2017-March/017277.html Passed: 458 Failed: 20 Timeouts: 73 Invalid: 3 Total: 554 Failures: cdtest.exe spintrcritical20.exe dl05.exe spintrcritical01.exe spintrcritical04.exe spintrcritical10.exe spintrcritical22.exe sp69.exe spintrcritical21.exe sp11.exe spintrcritical16.exe spintrcritical23.exe psxfile01.exe spintrcritical05.exe spintrcritical02.exe spintrcritical08.exe psxgetrusage01.exe spcpucounter01.exe spintrcritical03.exe psxtimes01.exe Timeouts: nsecs.exe sptask_err02.exe spprivenv01.exe psxkey03.exe psxsignal01.exe psx06.exe psx10.exe sp04.exe mrfs_fstime.exe ticker.exe psxmsgq03.exe psxkey09.exe psx07.exe sptimerserver01.exe psxusleep.exe psxstack02.exe psxkey07.exe psxkey10.exe stackchk.exe sp01.exe fileio.exe spsimplesched01.exe sp03.exe psxcond01.exe sp65.exe sp62.exe psx11.exe psx12.exe psx02.exe imfs_fstime.exe crypt01.exe psxstack01.exe spcbsscheduler01.exe termios.exe mimfs_fstime.exe psxsignal02.exe psx08.exe top.exe psxrwlock01.exe sp22.exe psxsignal04.exe psxkey04.exe mouse01.exe sp24.exe psx04.exe spedfsched01.exe uid01.exe mdosfs_fstime.exe psx16.exe psxaio03.exe sp19.exe psxtime.exe psx09.exe psxkey06.exe psxclock.exe cpuuse.exe psx05.exe sp66.exe psxsignal03.exe capture.exe sp30.exe psxcleanup.exe psxcancel.exe jffs2_fstime.exe psxsignal06.exe spstdthreads01.exe psxbarrier01.exe sp31.exe sp73.exe psxualarm.exe spfifo03.exe psxtimer01.exe monitor.exe Invalid: cxx_iostream.exe spinternalerror01.exe sptimecounter01.exe

~~#2946~~	3 years ago	fixed	unspecified	Chris Johns	joel.sherrill@...	2 years ago

Summary	Add a top level global testsuite configuration file (.tcfg) and a 'user-input' test state.
Description	Adding a top level testsuite configuration file lets us specify tests that have a common test state across all BSPs. Adding the test state 'user-input' clearly tags the test as needing user input and test result tools can correctly determine the test result. The current practice of passing a test needing user input is actually hiding the real result of the test.

~~#2949~~	3 years ago	wontfix	tool/rsb	Sebastian Huber		2 years ago

Summary	Questionable patch organization in RTEMS tools and RSB
Description	Patches for RTEMS tools are available via the RTEMS tools repository: https://git.rtems.org/rtems-tools/tree/tools They are organized using subdirectories. The RSB uses these patches. It removes the subdirectories and collects everything in a "patches" directory, e.g. download: https://git.rtems.org/rtems-tools/plain/tools/4.11/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff -> patches/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff This works only in case the patch file names are unique. So, the use of subdirectories in the RTEMS tools is questionable.

~~#2951~~	3 years ago	fixed	build	alexgerbor	chrisj@...	2 years ago

Summary	Error path in rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg
Description	newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff in path https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/ not found In rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg there error: %patch add newlib %{rtems_newlib_patches}/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff Log from execute /source-builder/sb-set-builder: download: (full) https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff -> patches/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff download: https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff -> patches/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff download: no ssl context download: https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff: error: HTTP Error 404: Not found error: downloading https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff: all paths have failed, giving up

~~#2954~~	3 years ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	2 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	2 years ago

Summary	Shared memory support internal locking is broken

Description	The top level lock is an ISR lock (interrupt disable/enable or SMP lock) and the low level lock is potentially a mutex. The problem is exposed by test psxshm02:
	
	`#0 _Terminate (the_source=INTERNAL_ERROR_CORE, the_error=31) at ../../../../../../rtems/c/src/../../cpukit/score/src/interr.c:35`
	`#1 0x00111654 in _Internal_error (core_error=INTERNAL_ERROR_BAD_THREAD_DISPATCH_ENVIRONMENT) at`
	`../../../../../../rtems/c/src/../../cpukit/score/src/interr.c:52`
	`#2 0x00117010 in _Thread_Do_dispatch (cpu_self=0x2035c0 <_Per_CPU_Information>, level=1611071955) at`
	`../../../../../../rtems/c/src/../../cpukit/score/src/threaddispatch.c:190`
	`#3 0x0011a568 in _Thread_Dispatch_enable (cpu_self=0x2035c0 <_Per_CPU_Information>) at`
	`../../cpukit/../../../realview_pbx_a9_qemu/lib/include/rtems/score/threaddispatch.h:227`
	`#4 0x0011b6c4 in _Thread_Change_life (clear=THREAD_LIFE_PROTECTED, set=THREAD_LIFE_PROTECTED, ignore=(unknown: 0)) at`
	`../../../../../../rtems/c/src/../../cpukit/score/src/threadrestart.c:684`
	`#5 0x0011b6ea in _Thread_Set_life_protection (state=THREAD_LIFE_PROTECTED) at`
	`../../../../../../rtems/c/src/../../cpukit/score/src/threadrestart.c:691`
	`#6 0x0010f3dc in _API_Mutex_Lock (the_mutex=0x2037d8) at ../../../../../../rtems/c/src/../../cpukit/score/src/apimutexlock.c:31`
	`#7 0x001050a0 in _RTEMS_Lock_allocator () at ../../cpukit/../../../realview_pbx_a9_qemu/lib/include/rtems/score/apimutex.h:120`
	`#8 0x00105442 in rtems_heap_allocate_aligned_with_boundary (size=10004, alignment=0, boundary=0) at`
	`../../../../../../rtems/c/src/../../cpukit/libcsupport/src/malloc_deferred.c:89`
	`#9 0x001055a6 in malloc (size=10004) at ../../../../../../rtems/c/src/../../cpukit/libcsupport/src/malloc.c:39`
	`#10 0x0011e820 in realloc (ptr=0x0, size=10004) at ../../../../../../rtems/c/src/../../cpukit/libcsupport/src/realloc.c:62`
	`#11 0x0010b1a2 in _POSIX_Shm_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`

~~#2958~~	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago

Summary	Add some popular benchmark programs to the testsuite

Description	Add dhrystone, whetstone and linpack benchmark programs to the testsuite. This may help to evaluate compiler settings, compiler versions and processors.					
~~#2959~~	3 years ago	fixed	lib/dl	Chris Johns	Chris Johns	2 years ago
Summary	arm/libdl: C++ exception index tables may not be ordered correctly					
Description	The ARM EXIDX sections have the SHF_LINK_ORDER flag set and this is not honored by libdl which means the section order in the ELF file needs to be the correct order of the functions in the address map. Add support to libdl to follow the link-to order.					
~~#2963~~	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 years ago
Summary	Add a testsuite top level confguration file that is common to all tests.					
Description	Add the file `testsuites/rtems.tcfg` to hold test states common to all BSPs. This lets us globally set a test state. For example `fileio` is `user-input`. Note, `user-input` will be added a test state to test this file.					
~~#2965~~	3 years ago	fixed	unspecified	Gedare Bloom	Gedare Bloom <gedare@…>	2 years ago
Summary	bootstrap sort inconsistent with sb-bootstrap for acinclude					
Description	The output of bootstrap does not use a consistent sort order with sb-bootstrap. The difference appears to be in the default behavior of the sort command versus Python's sorted. By forcing the locale to C, sort should have a consistent behavior.					
~~#2967~~	3 years ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	ARM: Change ABI to not use short enums					
Description	Whether enums are short or not is left open in the ARM EABI. On Linux and FreeBSD no short enums are used. Otherwise short enums are enabled by default. Short enums may cause hard to find issues with 3rd party software, since the are quite unusual in general, e.g. https://git.rtems.org/rtems-libbsd/commit/freebsd/include/rpc?id=9880635f2e642380b69b85e00271649b3a2fc2de The data and structure layout may suddenly change in case enumeration values are added/removed. The benefit of short enums is probably not worth the trouble, since the packed compiler attribute can be used to individually make an enum short. The reason for not choosing no short enums during the ARM EABI introduction was an issue with Newlib. This is addressed with the following patch: https://sourceware.org/ml/newlib/2017/msg00238.html					
~~#2968~~	3 years ago	fixed	unspecified	Joel Sherrill		2 years ago
Summary	newlib inttypes.h is missing some methods					
Description	inttypes.h defines some methods which are not present but required for POSIX compliance. They are also included in the FACE General Purpose Profile. intmax_t imaxabs(intmax_t); imaxdiv_t imaxdiv(intmax_t, intmax_t); intmax_t strtoimax(const char *restrict, char **restrict, int); uintmax_t strtoumax(const char *restrict, char** restrict, int); intmax_t wcstoimax(const wchar_t *restrict, wchar_t **restrict, int); uintmax_t wcstoumax(const wchar_t *restrict, wchar_t**restrict, int); This was originally discussed here (https://sourceware.org/ml/newlib/2013/msg00626.html) with follow up discussion here (https://sourceware.org/ml/newlib/2017/msg00240.html). The consensus seems to be that the methods as currently implemented in FreeBSD address the concerns raised in that email thread. This ticket is complete when: • source for these methods is merged into newlib • methods are documented in newlib • RSB is updated appropriately • tests are added to RTEMS • RTEMS POSIX Compliance spreadsheet (https://goo.gl/AXrnxO) is updated					
~~#2969~~	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago
Summary	qoriq BSPs depend on mkimage which is not always available					
Description	The following BSPs do not successfully build on the master because they use UBoot's mkimage which is not part of the standard RTEMS tools. qoriq_core_0 qoriq_core_1 qoriq_p1020rdb					
~~#2976~~	3 years ago	fixed	unspecified	Joel Sherrill	Chris Johns	2 years ago
Summary	warnings in rtems-debugger-server.c					
Description	This should be present on any ARM or x86 build. cpukit/libdebugger/rtems-debugger-server.c:393:1: warning: control reaches end of non-void function [-Wreturn-type] cpukit/libdebugger/rtems-debugger-server.c:405:1: warning: control reaches end of non-void function [-Wreturn-type]					
~~#2977~~	3 years ago	fixed	unspecified	Joel Sherrill	Sebastian Huber	2 years ago
Summary	warnings in Dhrystone Benchmark					
Description	The following warnings show up across the various BSPs for the dhrystone benchmark: grep "dhrystone.*warning" log/* log/epiphany-epiphany_sim.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:286:1: warning: control reaches end of non-void function [-Wreturn-type] log/powerpc-haleakala.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:244:3: warning: 'Int_2_Loc' may be used uninitialized in this function [-Wmaybe-uninitialized] log/powerpc-t32mppc.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:244:3: warning: 'Int_2_Loc' may be used uninitialized in this function [-Wmaybe-uninitialized] log/sparc64-niagara.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:220:40: warning: cast from pointer to integer of different size [-Wpointer-to-int-cast] log/sparc64-niagara.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:231:40: warning: cast from pointer to integer of different size [-Wpointer-to-int-cast] log/sparc64-usiii.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:220:40: warning: cast from pointer to integer of different size [-Wpointer-to-int-cast] log/sparc64-usiii.log:../../../../../../../rtems/c/src/../../testsuites/benchmarks/dhrystone/dhry_1.c:231:40: warning: cast from pointer to integer of different size [-Wpointer-to-int-cast]					
~~#2980~~	3 years ago	worksforme	unspecified	Joel Sherrill	Sebastian Huber	2 years ago
Summary	pc586-sse does not compile fsjffs2gc01					
Description	After the tool upgrade, the pc586-sse BSP does not compile the test fsjffs2gc01: i386-rtems4.12-gcc -B../../../../../pc586-sse/lib/ -specs bsp_specs -qrtems -DHAVE_CONFIG_H -I. -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	2 years ago
Summary	testdata excludes on included tcfg files does not work					
Description	It looks like the includes do not always work for .tcfg files. So far these BSPs do not appear to honor the excludes in an included file: log/m32c-m32csim.log log/mips-hurricane.log log/mips-rbtx4925.log log/mips-rbtx4938.log log/moxie-moxiesim.log mips and moxie are dl tests.					
~~#2982~~	3 years ago	invalid	tool/gcc	Chris Johns	Sebastian Huber	2 years ago
Summary	LibBSD broken with GCC+RTEMS changes					
Description	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:					

```
$ 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/basedefs.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;
}
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' was not declared in this scope
   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/basedefs.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'
/opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: expression list treated as compound expression in initializer [-fpermissive]
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 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
   ^~~~~~~~
```

~~#2983~~	3 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill <joel@…>	2 years ago

Summary: Create <rtems/inttypes.h> to consolidate extensions to <inttypes.h>

Description: Per discussion at https://lists.rtems.org/pipermail/devel/2017-April/017483.html, create <rtems/inttypes.h> to consolidate extensions to the C99 <inttypes.h> file. A quick search shows that there are the following set of defines which could be consolidated as a starting point. Then these are available to address other printf() format warnings.

```
$ grep -r."#define PRI" . | grep -v PRIORITY | grep -v PRINT ./cpukit/libmisc/shell/main_time.c:#define PRIdtime_t PRId64 ./cpukit/libmisc/shell/main_time.c:#define PRIdtime_t
PRId32 ./cpukit/libmisc/uuid/gen_uuid.c:#define PRIutime_t PRIu64 ./cpukit/libmisc/uuid/gen_uuid.c:#define PRIutime_t PRIu32 ./cpukit/libdl/rtl-shell.c:#define PRIdoff_t PRIo32
./cpukit/libdl/rtl-shell.c:#define PRIdoff_t PRIo64 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIomode_t PRIo64 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIomode_t
PRIo32 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIdoff_t PRIo64 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIdoff_t PRIo32 ./cpukit/libfs/src/rfs/rtems-rfs-
dir.c:#define PRIoff_t PRIo64 ./cpukit/libfs/src/rfs/rtems-rfs-dir.c:#define PRIoff_t PRIo32 ./cpukit/libfs/src/rfs/rtems-rfs-rtems-file.c:#define PRIdoff_t PRId64
./cpukit/libfs/src/rfs/rtems-rfs-rtems-file.c:#define PRIdoff_t PRId32 ./cpukit/libfs/src/rfs/rtems-rfs-rtems.c:#define PRIomode_t PRIo64 ./cpukit/libfs/src/rfs/rtems-rfs-
rtems.c:#define PRIomode_t PRIo32 ./testsuites/psxtests/include/pmacros.h:#define PRIdoff_t PRId64 ./testsuites/psxtests/include/pmacros.h:#define PRIdoff_t PRIo32
./testsuites/psxtests/include/pmacros.h:#define PRIxblksize_t PRIx64 ./testsuites/psxtests/include/pmacros.h:#define PRIxblksize_t PRIx32
./testsuites/psxtests/include/pmacros.h:#define PRIxblkcnt_t PRIx64 ./testsuites/psxtests/include/pmacros.h:#define PRIxblkcnt_t "lx" ./testsuites/libtests/termios01/init.c:#define
PRIdrtems_termios_baud_t PRId32 ./testsuites/support/include/pritime.h:#define PRIdtime_t PRId64 ./testsuites/support/include/pritime.h:#define PRIdtime_t PRId32
./testsuites/support/include/tmacros.h:#define PRIxrtems_id PRIx16 ./testsuites/support/include/tmacros.h:#define PRIxrtems_id PRIx32
./testsuites/support/include/tmacros.h:#define PRIdPriority_Control PRIu64 ./testsuites/support/include/tmacros.h:#define PRIxPriority_Control PRIx64
./testsuites/support/include/tmacros.h:#define PRIdrtems_task_priority PRIu32 ./testsuites/support/include/tmacros.h:#define PRIxrtems_task_priority PRIx32
./testsuites/support/include/tmacros.h:#define PRIdWatchdog_Interval PRIu32 ./testsuites/support/include/tmacros.h:#define PRIdrtems_interval PRIdWatchdog_Interval
./testsuites/support/include/tmacros.h:#define PRIdThread_Entry_numeric_type PRIuPTR ./testsuites/support/include/tmacros.h:#define PRIdrtems_task_argument
PRIdThread_Entry_numeric_type ./testsuites/support/include/tmacros.h:#define PRIxrtems_event_set PRIx32 ./testsuites/support/include/tmacros.h:#define PRIxpthread_t PRIx32
./testsuites/support/include/tmacros.h:#define PRIxrtems_signal_set PRIx32 ./testsuites/support/include/tmacros.h:#define PRIxino_t "lx"
./testsuites/support/include/primode.h:#define PRIomode_t PRIo64 ./testsuites/support/include/primode.h:#define PRIomode_t PRIo32 ./testsuites/sptests/sp21/init.c:#define
PRIurtems_device_major_number PRIu32 ./testsuites/sptests/sp08/init.c:#define PRIxModes_Control PRIx32 ./testsuites/sptests/sp08/init.c:#define PRIxrtems_mode
PRIxModes_Control ./testsuites/sptests/sp47/init.c:#define PRIXModes_Control PRIX32 ./testsuites/sptests/sp47/init.c:#define PRIXrtems_mode PRIXModes_Control
```

Note: The header test in libbsd is currently using C++ and I am not sure why.

~~#2984~~	3 years ago	fixed	unspecified	Chris Johns	Amar Takhar	2 years ago

Summary: Changing Trac milestone page fails

Description: Changing the default milestone is timing out. It has worked before. The error is:

```
Gateway Timeout
```

The gateway did not receive a timely response from the upstream server or application.

~~#2990~~	3 years ago	fixed	tool/rsb	Worth Burruss	Chris Johns	19 months ago

Summary: RTEMS Source Builder Fails on Windows Builds

Description: The source Builder Fails to build 4.11 tools under MSYS2 and windows. Newer versions of MSYS use a version of gcc greater than 6.0 which can no longer be used to build older version of gcc.

The attached patch is from the gcc mailing list and originally was for gcc version 5.3. It has been adjusted so that it applies to 4.9.3.

This problem should also apply to linux and other systems that use newer gcc 6.0 and above.

~~#2992~~	3 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	19 months ago

Summary: Long path crashes the RSB when listing a directory.

Description	Building LM32 on Windows crashes the RSB with a long path. The `os.listdir` call in Python on Windows is limited to 254 characters even if the path is Uncode.

```
building: lm32-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86_64-w64-mingw32-1
Build Set: Time 0:29:19.809228
Build Set: Time 3:47:43.385503
Traceback (most recent call last):
  File "../source-builder/sb-set-builder", line 29, in <module>
    setbuilder.run()
  File "../source-builder/sb/setbuilder.py", line 502, in run
    b.build(deps)
  File "../source-builder/sb/setbuilder.py", line 340, in build
    bs.build(deps, nesting_count)
  File "../source-builder/sb/setbuilder.py", line 354, in build
    self.build_package(configs[s], b)
  File "../source-builder/sb/setbuilder.py", line 194, in build_package
    _build.config.expand('%{_tmproot}'))
  File "../source-builder/sb/setbuilder.py", line 155, in root_copy
    self.copy(src, dst)
  File "../source-builder/sb/setbuilder.py", line 95, in copy
    path.copy_tree(src, dst)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 232, in copy_tree
    copy_tree(srcname, dstname)
  File "../source-builder/sb/path.py", line 191, in copy_tree
    names = os.listdir(hsrc)
TypeError: encoded string too long (269, maximum length 259)
```

~~#2993~~	3 years ago	fixed	score	Chris Johns	joel.sherrill@…	2 years ago
Summary	SMP assert in _Thread_Executing in libdebugger					

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 and error to GDB.

Running the debugger01 test with an SMP build of RTEMS and libbsd for `xilinx_zedboard` and issuing `bt` in GDB results in:

```
*** LIBBSD DEBUGGER 1 TEST ***
[144/1950]
shell:cannot set terminal attributes(/dev/console)

RTEMS Shell on /devn/ecxounss0o:1 e<.R TUEsMeS  'Nheexlups'  dteov ilcies>t
 ccogmemma0n:d s<.C
adence CGEM Gigabit Ethernet Interface> on nexus0
miibus0: <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:

Description

```
 rtems-db: tcp remote: connect host: 10.10.5.2
rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5 watchpoints:3
[} frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
[}  R0 = 00000158  R1 = 00000004  R2 = 00000001  R3 = 0041AB64
[}  R4 = 00000158  R5 = 00000004  R6 = 00000000  R7 = 005606A4
[}  R8 = 00000016  R9 = 00000001 R10 = 00000006 R11 = 0041AB64
[} R12 = 00560658  SP = 00566540  LR = 00000FFD  PC = 00241736
[}  CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
[} target exception: 0 0 0
assertion "cpu_self->thread_dispatch_disable_level != 0 || _ISR_Get_level() != 0" failed: file
"../../cpukit/../../../xilinx_zynq_zedboard/lib/include/rtems/score/percpu.h", line 630, function: _Per_CPU_Get
```

and set to {{{0}}}:

```
rtems-db: tcp remote: connect host: 10.10.5.2
rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5 watchpoints:3
[} frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
[}  R0 = 00000158  R1 = 00000004  R2 = 00000001  R3 = 0041AB64
[}  R4 = 00000158  R5 = 00000004  R6 = 00000000  R7 = 005606A4
[}  R8 = 00000016  R9 = 00000001 R10 = 00000006 R11 = 0041AB64
[} R12 = 00560658  SP = 00566540  LR = 00000FFD  PC = 00241736
[}  CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
[} target exception: 0 0 0
[} tid:0A01000A: thread:0041F5B0 frame:005664EC
[} server access fault
[} frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
[}  R0 = 00000158  R1 = 00000004  R2 = 00000001  R3 = 0041AB64
[}  R4 = 00000158  R5 = 00000004  R6 = 00000000  R7 = 005606A4
[}  R8 = 00000016  R9 = 00000001 R10 = 00000006 R11 = 0041AB64
[} R12 = 00560658  SP = 00566540  LR = 00000FFD  PC = 00241736
[}  CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
[} target exception: 0 0 0
[} tid:0A01000A: thread:0041F5B0 frame:005664EC
[} server access fault
```

The following lines first two values are `cpu_self->thread_dispatch_disable_level` and `_ISR_Get_level()` which are both `0` so I cannot see a reason the assert is happening:

```
[} target exception: 0 0 0
```

~~#2994~~	3 years ago	fixed	unspecified	Joel Sherrill	Chris Johns	2 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@...	2 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	2 years ago
Summary	Monitor config command does not handle unlimited objects.					

Description	Running the console's `config` command with unlimited objects gives:
	
	`[/] # config`
	`INITIAL (startup) Configuration Info`
	`---`
	`WORKSPACE  start: 0x800f0173;  size: 0x374c8`
	`TIME  usec/tick: 10000;  tick/timeslice: 50;  tick/sec: 100`
	`MAXIMUMS  tasks: -2147483614;  timers: -2147483616;  sems: -2147483609;  que's: -2147483616;  ext's: 1`
	`partitions: -2147483616;  regions: -2147483616;  ports: -2147483616;  periods: -2147483616`					

~~#2998~~	3 years ago	fixed	doc	Chris Johns	chrisj@...	7 weeks ago
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	2 years ago

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	16 months ago

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	2 years ago

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 `smptests` set the maximum processor count to `CPU_COUNT` and therefore run in SMP mode. If SMP is not running in an SMP build when running the tests are the tests really reporting a true indication of the of the system? I would expect we have the API tests, `libtests` and `fstests` running with SMP enabled in an SMP build.

~~#3003~~	3 years ago	fixed	fs/fat	munster	Sebastian Huber	2 years ago

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	2 years ago

Summary	SPARC LEON3 BSP SMP build is broken.

Description	The `rtems-bsp-builder` failure output is:
	`2 smp-debug sparc/leon3 build:`
	`configure: /opt/work/chris/rtems/kernel/rtems.git/configure --target\`
	`=sparc-rtems4.12 --enable-rtemsbsp=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@...	12 days ago

Summary	ARM caching issues
Description	There are two problems with the caching on ARM: • In cases where the buffer is not aligned to line boundary at the beginning or the end, the invalidate operation would lose modifications done on the adjacent data. This applies to both L1 and L2 caches. • The L2C-310 cache management operations use excessive locking. According to manual, the used operations (Clean Line by PA, Clean and Invalidate Line by PA, Cache Sync) are atomic and do not require locking. I have attached the proposed patch.

~~#3008~~	3 years ago	fixed	doc	Hassan Karim	chrisj@...	2 years ago

Summary	missing pax causes install failures
Description	I have tried to install sparc bsp=erc32 on 4 different builds. 3 failed, and 1 flawlessly installed. The others all seem to fail somewhere during make install of test suites. Each reports one missing config problem or another. I believe the problem resulted in a missing package, pax & libbsd-dev on Ubuntu 12.04.5 LTS (GNU/Linux 3.2.0-126-virtual x86_64) I hadn't seen this exact problem because I normally update & upgrade as soon as I get a new image. Pressed for time, I skipped it. So, I am not sure if we need to update the documentation to directly include pax, since it is directly called in configure and breaks if not present. https://docs.rtems.org/rsb/#_host_setups Under this section, 11.1.5. Ubuntu Add pax to this line $ sudo apt-get build-dep binutils gcc g++ gdb unzip git python2.7-dev pax

~~#3009~~	3 years ago	wontfix	tool/website	Chris Johns	joel.sherrill@...	2 years ago

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 ~~#3008~~ for a reference to old documentation.

~~#3010~~	3 years ago	fixed	unspecified	David Binderman	Gedare Bloom <gedare@...>	2 years ago

Summary	src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition

Description	src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition (bitwise operator + comparison); Clarify expression with parentheses.
	Source code is
	`} else if ( (flags & MAP_PRIVATE != MAP_PRIVATE) ) {`
	Maybe better code
	`} else if ( (flags & MAP_PRIVATE) != MAP_PRIVATE ) {`

~~#3011~~	3 years ago	worksforme	arch/arm	Arturo Pérez	Gedare Bloom	2 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 built this BSP several times until I did a git pull of the RTEMS repo two weeks ago. Today I updated my repos of the RTEMS and RSB sources, I rebuilt the RSB and I tried to built again the xilinx_zynq_zedboard BSP, encountering the same error: gmake[6]: *** No rule to make target `posix/include/sys/mman.h', needed by ../cpukit/../../../xilinx_zynq_zedboard/lib/include/sys/mman.h'. Stop.**

~~#3012~~	3 years ago	fixed	tool/newlib	Sebastian Huber	Chris Johns	2 years ago

Summary	Global C++ IO streams are broken (cout, cin, cerr)
Description	The global C++ IO stream objects are initialized here https://gcc.gnu.org/viewcvs/gcc/trunk/libstdc%2B%2B-v3/src/c%2B%2B98/ios_init.cc?view=markup#l85 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;
```

```
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	19 months ago

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

Description

```
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")
```

~~**#3014**~~	3 years ago	fixed	bsps	phongvanpham	joel.sherrill@...	2 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@...	2 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@...	2 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@...	2 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	2 years ago
Summary	RSB cannot compile tool chain in CentOS 7.					

	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."					
~~#3023~~	3 years ago	fixed	tool/newlib	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Parameter of CPU_COPY() are in wrong order					

Description	According to the FreeBSD man page we have:
	
	https://www.freebsd.org/cgi/man.cgi?query=cpuset&sektion=9&apropos=0&manpath=FreeBSD+11.0-RELEASE+and+Ports
	
	`CPU_COPY(cpuset_t *from, cpuset_t *to);`
	
	However, in Newlib we have:
	
	`static __inline void CPU_COPY( cpu_set_t *dest, const cpu_set_t *src )`
	`{`
	`  *dest = *src;`
	`}`					

~~#3025~~	3 years ago	fixed	unspecified	Chris Johns	joel.sherrill@...	2 years ago
Summary	m32c/m32csim does not build linpack-pc.c					
Description	1 tests m32c/m32csim build: configure: /opt/work/chris/rtems/kernel/rtems.git/configure --target\ =m32c-rtems4.12 --enable-rtemsbsp=m32csim --prefix=/opt/rtems/4.12\ --enable-tests error: testsuites/benchmarks/linpack/linpack-pc.c:253:33: error: storage size of 'a' isn't constant error: testsuites/benchmarks/linpack/linpack-pc.c:253:21: error: storage size of 'aa' isn't constant					
~~#3027~~	3 years ago	fixed	tool/rsb	Worth Burruss	Chris Johns	2 years ago
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	2 years ago
Summary	CPU_NAND_S() implementation is not in line with FreeBSD					

Description	According to the FreeBSD man page we have:
	
	https://www.freebsd.org/cgi/man.cgi?query=cpuset&sektion=9&apropos=0&manpath=FreeBSD+11.0-RELEASE+and+Ports
	
	The CPU_NAND() macro removes CPUs in src from dst. (It is the cpuset(9) equivalent of the scalar: dst &= ~ src.)
	
	However, in Newlib we had:
	
	`static __inline void CPU_NAND_S(size_t setsize, cpu_set_t *destset,`
	`  const cpu_set_t *srcset1, const cpu_set_t *srcset2)`
	`{`
	`  cpu_set_word_t *wdest = &destset->__bits[0];`
	`  const cpu_set_word_t *wsrc1 = &srcset1->__bits[0];`
	`  const cpu_set_word_t *wsrc2 = &srcset2->__bits[0];`
	`  size_t n = setsize / sizeof(*wdest);`
	`  size_t i;`
	
	`  for (i = 0; i < n; ++i)`
	`    wdest[i] = ~(wsrc1[i] & wsrc2[i]);`
	`}`					

~~#3036~~	3 years ago	fixed	tool/newlib	Sebastian Huber	joel.sherrill@...	2 years ago
Summary	CPU_CMP() implementation is not in line with FreeBSD					

Description	According to the FreeBSD man page we have:
	
	https://www.freebsd.org/cgi/man.cgi?query=cpuset&sektion=9&apropos=0&manpath=FreeBSD+11.0-RELEASE+and+Ports
	
	The CPU_CMP() macro returns true if cpuset1 is NOT equal to cpuset2.
	
	However, in Newlib we had:
	
	`/* return 1 if the sets set1 and set2 are equal, otherwise return 0 */`
	`static __inline int CPU_CMP( const cpu_set_t *set1, const cpu_set_t *set2 )`
	`{`
	`  return CPU_EQUAL(set1, set2);`
	`}`					

~~#3040~~	3 years ago	invalid	tool/website	Sebastian Huber	Amar Takhar	19 months ago
Summary	Cannot use RTEMS mailing list archive for patches					
Description	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		2 years ago
Summary	4.11/rtems-nios2 does not build on Windows.					
Description	The attached RSB report details the failure. The path to `ranlib` is the `cwd` (see `make[5]` path) plus the relative path (see the report) which is 308 characters in length and this exceeds the max path length for the Win32 API and binutils reports this as a `No such file`.					
~~#3046~~	3 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago

Summary	4.12/rtems-moxie missing release number.

Description	4.12/rtems-moxie is reporting
	`cleaning: dtc-1.4.1-x86_64-freebsd11.0-1`
	`cleaning: expat-2.1.0-x86_64-freebsd11.0-1`
	`cleaning: moxie-rtems4.12-binutils-2.28-x86_64-freebsd11.0-`
	`cleaning: moxie-rtems4.12-gcc-7.1.0-newlib-2.5.0.20170519-x86_64-freebsd11.0-`
	`cleaning: moxie-rtems4.12-gdb-7.12-x86_64-freebsd11.0-`
	`cleaning: rtems-tools-HEAD-`
	There is no `-1` or whatever at the end of the lines.

~~#3047~~	3 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
Summary	Remove docs directory from the RSB					
Description	The documentation has been moved to `rtems-docs.git` repo. Remove the docs directory and `asciidocs` from RTEMS.					
~~#3049~~	3 years ago	fixed	unspecified	Joel Sherrill	Chris Johns	19 months ago
Summary	Warnings in libdebugger					
Description	I started fixing the warnings in libdebugger with the latest tools but apparently some of the variables can't be changed to const char *const. So filing as a ticket so Chris can fix them more accurately. 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:957:25: warning: comparison between pointer and zero character constant [-Wpointer-compare] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:61:19: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:60:19: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:53:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:1490:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:1426:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:1302:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:1260:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:1064:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 67 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:1025:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 60 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:302:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 60 ../../../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:301:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier]					
~~#3052~~	3 years ago	fixed	tool/rsb	Sebastian Huber	Chris Johns	2 years ago
Summary	RSB: powerpc GDB build broken on Apple Darwin					

```
RTEMS Tools Project - Source Builder Error Report
 Build: error: building powerpc-rtems4.12-gdb-7.12-x86_64-apple-darwin14.5.0-1
 Command Line: ../source-builder/sb-set-builder --prefix=~/rtems/4.12 4.12/rtems-powerpc
 Python: 2.7.10 (default, Jul 14 2015, 19:46:27) [GCC 4.2.1 Compatible Apple LLVM 6.0 (clang-600.0.39)]
 git://git.rtems.org/rtems-source-builder.git/origin/cb3fac1ea71f50b1bf7dcfe032c639392915d32a-modified
 Darwin yrael.lan 14.5.0 Darwin Kernel Version 14.5.0: Sun Sep 25 22:07:15 PDT 2016; root:xnu-2782.50.9~1/RELEASE_X86_64 x86_64
Tail of the build log:
                                                                        ^
../../gdb-7.12/gdb/common/vec.h:711:18: note: expanded from macro '\
DEF_VEC_FUNC_P'
static inline T *VEC_OP (T,address)                                     \
                 ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:151:1: note: expanded from here
VEC_tp_t_address
^
../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_lower_bound' [-Wunused-function]
../../gdb-7.12/gdb/common/vec.h:428:20: note: expanded from macro 'DEF_VEC_P'
VEC_T(T);                                                               \
                                                                        ^
../../gdb-7.12/gdb/common/vec.h:717:24: note: expanded from macro '\
DEF_VEC_FUNC_P'
static inline unsigned VEC_OP (T,lower_bound)                           \
                       ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:155:1: note: expanded from here
VEC_tp_t_lower_bound
^
../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_alloc' [-Wunused-function]
../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)                                                       \
                                                                        ^
../../gdb-7.12/gdb/common/vec.h:744:23: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline VEC(T) *VEC_OP (T,alloc)                                  \
                      ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:166:1: note: expanded from here
VEC_tp_t_alloc
^
../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_free' [-Wunused-function]
../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)                                                       \
                                                                        ^
../../gdb-7.12/gdb/common/vec.h:751:20: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline void VEC_OP (T,free)                                      \
                   ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:170:1: note: expanded from here
VEC_tp_t_free
^
../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_merge' [-Wunused-function]
../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)                                                       \
                                                                        ^
../../gdb-7.12/gdb/common/vec.h:784:23: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline VEC(T) *VEC_OP (T,merge) (VEC(T) *vec1_, VEC(T) *vec2_)   \
                      ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
```

```
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:187:1: note: expanded from here
VEC_tp_t_merge
^
../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_safe_grow' [-Wunused-function]
../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)                                                   \
                                                                    ^
../../gdb-7.12/gdb/common/vec.h:817:20: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline void VEC_OP (T,safe_grow)                             \
                   ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:205:1: note: expanded from here
VEC_tp_t_safe_grow
^
../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_safe_insert' [-Wunused-function]
../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
DEF_VEC_FUNC_P(T)                                                   \
                                                                    ^
../../gdb-7.12/gdb/common/vec.h:835:18: note: expanded from macro '\
DEF_VEC_ALLOC_FUNC_P'
static inline T *VEC_OP (T,safe_insert)                             \
                 ^
../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
#define VEC_OP(T,OP) VEC_##T##_##OP
                     ^
<scratch space>:225:1: note: expanded from here
VEC_tp_t_safe_insert
^
2 warnings generated.
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o debug.o -MT debug.o -MMD -MP -MF .deps/debug.Tpo ../../gdb-7.12/gdb/debug.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o common-exceptions.o -MT common-exceptions.o -MMD -MP -MF .deps/common-exceptions.Tpo ../../gdb-
7.12/gdb/common/common-exceptions.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o btrace-common.o -MT btrace-common.o -MMD -MP -MF .deps/btrace-common.Tpo ../../gdb-7.12/gdb/common/btrace-
common.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o fileio.o -MT fileio.o -MMD -MP -MF .deps/fileio.Tpo ../../gdb-7.12/gdb/common/fileio.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
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warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
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warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o common-regcache.o -MT common-regcache.o -MMD -MP -MF .deps/common-regcache.Tpo ../../gdb-
7.12/gdb/common/common-regcache.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
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2 warnings generated.
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/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile.o -MT compile.o -MMD -MP -MF .deps/compile.Tpo ../../gdb-7.12/gdb/compile/compile.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
```

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```
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile-c-symbols.o -MT compile-c-symbols.o -MMD -MP -MF .deps/compile-c-symbols.Tpo ../../gdb-
7.12/gdb/compile/compile-c-symbols.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile-c-types.o -MT compile-c-types.o -MMD -MP -MF .deps/compile-c-types.Tpo ../../gdb-
7.12/gdb/compile/compile-c-types.c
2 warnings generated.
2 warnings generated.
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
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/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile-object-load.o -MT compile-object-load.o -MMD -MP -MF .deps/compile-object-load.Tpo ../../gdb-
7.12/gdb/compile/compile-object-load.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile-object-run.o -MT compile-object-run.o -MMD -MP -MF .deps/compile-object-run.Tpo ../../gdb-
7.12/gdb/compile/compile-object-run.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
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/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
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7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile-loc2c.o -MT compile-loc2c.o -MMD -MP -MF .deps/compile-loc2c.Tpo ../../gdb-7.12/gdb/compile/compile-
loc2c.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
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warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o compile-c-support.o -MT compile-c-support.o -MMD -MP -MF .deps/compile-c-support.Tpo ../../gdb-
7.12/gdb/compile/compile-c-support.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
2 warnings generated.
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o inflow.o -MT inflow.o -MMD -MP -MF .deps/inflow.Tpo ../../gdb-7.12/gdb/inflow.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
2 warnings generated.
../../gdb-7.12/gdb/compile/compile-loc2c.c:733:6: warning: variable 'uoffset' is uninitialized when used here [-Wuninitialized]
           uoffset += dwarf2_per_cu_text_offset (per_cu);
           ^~~~~~
../../gdb-7.12/gdb/compile/compile-loc2c.c:671:23: note: initialize the variable 'uoffset' to silence this warning
     uint64_t uoffset, reg;
                      ^
                       = 0
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
2 warnings generated.
17 warnings generated.
2 warnings generated.
3 warnings generated.
2 warnings generated.
99 warnings generated.
Making init.c
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
```

```
builder/rtems/~/rtems/4.12/include -g -O2   -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/gdb/config -
DLOCALEDIR="\"/rtems-source-builder/rtems/~/rtems/4.12/share/locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/../include/opcode -I../../gdb-
7.12/gdb/../opcodes/.. -I../../gdb-7.12/gdb/../readline/.. -I../../gdb-7.12/gdb/../zlib -I../bfd -I../../gdb-7.12/gdb/../bfd -I../../gdb-
7.12/gdb/../include -I../libdecnumber -I../../gdb-7.12/gdb/../libdecnumber  -I../../gdb-7.12/gdb/gnulib/import -Ibuild-gnulib/import   -DTUI=1  -
I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~/rtems/4.12/include  -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -
I/System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -
Wno-switch -Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-variable -Wno-sign-compare -Wno-write-strings -Wno-
narrowing -Wformat-nonliteral  -c -o init.o -MT init.o -MMD -MP -MF .deps/init.Tpo init.c
clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated
warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'? [-Wunknown-warning-option]
2 warnings generated.
rm -f gdb
/usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/include -g -O2   -Wl,-no_pie -L/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-powerpc/rtems-source-
builder/rtems/~/rtems/4.12/lib   \
  -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-bpevent.o
py-breakpoint.o py-cmd.o py-continueevent.o py-xmethods.o py-event.o py-evtregistry.o py-evts.o py-exitedevent.o py-finishbreakpoint.o py-frame.o
py-framefilter.o py-function.o py-gdb-readline.o py-inferior.o py-infevents.o py-infthread.o py-lazy-string.o py-linetable.o py-newobjfileevent.o
py-objfile.o py-param.o py-prettyprint.o py-progspace.o py-signalevent.o py-stopevent.o py-symbol.o py-symtab.o py-threadevent.o py-type.o py-
unwind.o py-utils.o py-value.o py-varobj.o guile.o elfread.o stap-probe.o dtrace-probe.o posix-hdep.o posix-strerror.o c-exp.o cp-name-parser.o
ada-exp.o jv-exp.o d-exp.o f-exp.o go-exp.o m2-exp.o p-exp.o rust-exp.o version.o annotate.o addrmap.o auto-load.o auxv.o agent.o bfd-target.o
blockframe.o breakpoint.o break-catch-sig.o break-catch-throw.o break-catch-syscall.o findvar.o regcache.o cleanups.o charset.o continuations.o
corelow.o disasm.o dummy-frame.o dfp.o source.o value.o eval.o valops.o valarith.o valprint.o printcmd.o block.o symtab.o psymtab.o symfile.o
symfile-debug.o symmisc.o linespec.o dictionary.o namespace.o location.o infcall.o infcmd.o infrun.o expprint.o environ.o stack.o tid-parse.o
thread.o thread-fsm.o exceptions.o extension.o filesystem.o filestuff.o inf-child.o interps.o minidebug.o main.o macrotab.o macrocmd.o macroexp.o
macroscope.o mi-common.o event-loop.o event-top.o inf-loop.o completer.o gdbarch.o arch-utils.o gdbtypes.o gdb_bfd.o gdb_obstack.o osabi.o
copying.o memattr.o mem-break.o target.o target-dcache.o parse.o language.o build-id.o buildsym.o findcmd.o std-regs.o signals-state-save-
restore.o signals.o exec.o reverse.o bcache.o objfiles.o observer.o minsyms.o maint.o demangle.o dbxread.o coffread.o coff-pe-read.o dwarf2read.o
mipsread.o stabsread.o corefile.o dwarf2expr.o dwarf2loc.o dwarf2-frame.o dwarf2-frame-tailcall.o ada-lang.o c-lang.o d-lang.o f-lang.o objc-lang.o
ada-tasks.o ada-varobj.o c-varobj.o ui-out.o cli-out.o varobj.o vec.o go-lang.o go-valprint.o go-typeprint.o jv-lang.o jv-valprint.o jv-
typeprint.o jv-varobj.o m2-lang.o opencl-lang.o p-lang.o p-typeprint.o p-valprint.o selftest.o sentinel-frame.o complaints.o typeprint.o ada-
typeprint.o c-typeprint.o f-typeprint.o m2-typeprint.o ada-valprint.o c-valprint.o cp-valprint.o d-valprint.o f-valprint.o m2-valprint.o ser-
event.o serial.o mdebugread.o top.o utils.o ui-file.o user-regs.o frame.o frame-unwind.o doublest.o frame-base.o inline-frame.o gnu-v2-abi.o gnu-
v3-abi.o cp-abi.o cp-support.o cp-namespace.o d-namespace.o reggroups.o rust-lang.o trad-frame.o tramp-frame.o solib.o solib-target.o prologue-
value.o memory-map.o memrange.o xml-support.o xml-syscall.o xml-utils.o target-descriptions.o target-memory.o xml-tdesc.o xml-builtin.o inferior.o
osdata.o gdb_usleep.o record.o record-full.o gcore.o gdb_vecs.o jit.o progspace.o skip.o probe.o common-utils.o buffer.o ptid.o gdb-dlfcn.o
common-agent.o format.o registry.o btrace.o record-btrace.o waitstatus.o print-utils.o rsp-low.o errors.o common-debug.o debug.o common-
exceptions.o btrace-common.o fileio.o common-regcache.o compile.o compile-c-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  ../libiberty/libiberty.a
../libdecnumber/libdecnumber.a    -lncurses -lm   -L/System/Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/config -ldl -framework
CoreFoundation -lpython2.7 -u _PyMac_Error /System/Library/Frameworks/Python.framework/Versions/2.7/Python -lexpat    ../libiberty/libiberty.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_stdoutput in libsim.a(sim_calls.o)
      ...
    (maybe you meant: _device_error, __Z20host_to_fileio_errori , _bfd_get_error_handler , __bfd_default_error_handler , _bfd_set_error_handler ,
_bfd_set_error_program_name , __Z28dwarf_reg_to_regnum_or_errorP7gdbarchm , __Z29observer_detach_command_errorP8observer , _sim_io_error ,
_deprecated_error_begin_hook , __Z35throw_max_completions_reached_errorv , __Z25type_name_no_tag_or_errorP4type ,
__Z12memory_error18target_xfer_statusm , __bfd_error_handler , __Z20annotate_error_beginv , __Z19compile_rx_or_errorP17re_pattern_bufferPKcS2_ ,
__Z12catch_errorsPFiPvES_Pc11return_mask , __Z20memory_error_message18target_xfer_statusP7gdbarchm , __Z11range_errorPKcz ,
__Z13gdb_xml_errorP14gdb_xml_parserPKcz , __Z29observer_notify_command_errorv , _gdbpy_gdb_memory_error , _bfd_set_error ,
__Z23invalid_thread_id_errorPKc , __Z11throw_error6errorsPKcz , _gdbpy_gdb_error , __Z14gdb_bfd_errmsg9bfd_errorPPc ,
__Z29observer_attach_command_errorPFvvE , __Z27gdbpy_print_python_errors_pv , _bfd_get_error , __Z14internal_errorPKciS0_z ,
__Z17get_regcomp_erroriP17re_pattern_buffer , __Z14annotate_errorv )
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/doit
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@...>	2 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	2 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	2 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	2 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@...	2 years ago
Summary	including 'unistd.h' in C++ does not build.					

Description	Including `unistd.h` in a C++ program does not compile with the RSB for today:
	`$ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ -B/opt/work/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib -B/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib -specs bsp_specs -qrtems -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a9 -g -O2 u.cpp`
	`In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_pthreadtypes.h:24:0,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,`
	`from u.cpp:6:`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_AND_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: error: 'BIT_AND2' was not declared in this scope`
	`BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~~`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: note: suggested alternative: 'BIT_AND'`
	`BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~~`
	`BIT_AND`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_OR_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: error: 'BIT_OR2' was not declared in this scope`
	`BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: note: suggested alternative: 'BIT_OR'`
	`BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~`
	`BIT_OR`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_XOR_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: error: 'BIT_XOR2' was not declared in this scope`
	`BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~~`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: note: suggested alternative: 'BIT_OR'`
	`BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~~`
	`BIT_OR`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_NAND_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: error: 'BIT_NAND2' was not declared in this scope`
	`BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~~~`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: note: suggested alternative: 'BIT_NAND'`
	`BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);`
	`^~~~~~~~`
	`BIT_NAND`
	`In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:46:0,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_pthreadtypes.h:24,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,`
	`from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,`
	`from u.cpp:6:`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'int CPU_COUNT_S(size_t, const cpu_set_t*)':`
	`/opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: error: '__bitcountl' 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'`

~~#3063~~	3 years ago	fixed	config	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Make the EDF scheduler the default SMP scheduler					
Description	The EDF SMP scheduler supports simple thread processor affinities (see ~~#3059~~) with a small run-time overhead. The current default SMP scheduler lacks support for thread processor affinities at all. The EDF SMP scheduler offers a good feature set for most applications. So, use it by default. Run-time libraries like libgomp, MTAPI, work stealing schedulers, language interpreters (e.g. Erlang virtual machine), etc. use a one-to-one thread processor affinity for example.					
~~#3069~~	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add rtems_scheduler_ident_by_processor()					

Description

```
/**
 * @brief Identifies a scheduler by a processor index.
 *
 * @param[in] cpu_index The processor index.
 * @param[out] id The scheduler identifier associated with the processor index.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
 * @retval RTEMS_INVALID_NAME Invalid processor index.
 * @retval RTEMS_INCORRECT_STATE The processor index is valid, however, this
 *   processor is not owned by a scheduler.
 */
```

~~#3070~~	3 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Add rtems_scheduler_ident_by_processor_set()

Description

```
/**
 * @brief Identifies a scheduler by a processor set.
 *
 * The scheduler is selected according to the highest numbered online processor
 * in the specified processor set.
 *
 * @param[in] cpusetsize Size of the specified processor set buffer in
 *   bytes.  This value must be positive.
 * @param[out] cpuset The processor set to identify the scheduler.
 * @param[out] id The scheduler identifier associated with the processor set.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
 * @retval RTEMS_INVALID_SIZE Invalid processor set size.
 * @retval RTEMS_INVALID_NAME The processor set contains no online processor.
 * @retval RTEMS_INCORRECT_STATE The processor set is valid, however, the
 *   highest numbered online processor in the specified processor set is not
 *   owned by a scheduler.
 */
rtems_status_code rtems_scheduler_ident_by_processor_set(
  size_t     cpusetsize,
  cpu_set_t *cpuset,
  rtems_id  *id
);
```

~~#3071~~	3 years ago	fixed	bsps	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Create an interrupt server for every processor in the system

Description: Create an interrupt server for every processor in the system with a one-to-one thread processor affinity. This allows load balancing for interrupt processing. Add support routines to customize the setup after initialization.

~~#3072~~	3 years ago	fixed	arch/sparc	Sebastian Huber	Daniel Hellstrom	2 years ago

Summary: Declaration of global functions in driver source files

Description: There are declarations of global functions in various driver source files, e.g.

c/src/lib/libbsp/sparc/shared/drvmgr/ambapp_bus_grlib.c c/src/lib/libbsp/sparc/shared/drvmgr/ambapp_bus.c

The declaration should move to a header file or a static function should be used.

~~#3076~~	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Test suite failures due to floating point usage

Description: Several tests fail due to an unaccounted use of the floating point unit:

BLOCK 6 BLOCK 14 CONSTRUCTOR/DESTRUCTOR CRYPT 1 DUMPBUF 1 FLASHDISK 1 FSBDPART 1 FSDOSFSFORMAT 1 FSDOSFSNAME 1 FSERROR DOSFS FSERROR JFFS2 FSERROR MOUNTED IMFS FSERROR RFS FSERROR ROOT IMFS FSPERMISSION JFFS2 FSPERMISSION MOUNTED IMFS FSPERMISSION RFS FSPERMISSION ROOT IMFS FSRENAME MOUNTED IMFS FTP 1 libdl (RTL) 1 libdl (RTL) 4 libdl (RTL) 5 MGHTTPD 1 MONITOR 2 MOUSE 1 NETWORKING 1 PSXFILE 1 PSXIMFS 1 PSXIMFS 2 PSXPASSWD 2 PSXPIPE 1 PSXSTAT SMP 1 SMP 2 SMP 3 SMP 8 SMP 9 SMPAFFINITY 1 SMPSCHEDULER 1 SPERROR 1 SPERROR 2 SPERROR 3 SYSCALL 1 TAR 1 TERMIOS 3 TERMIOS 4 TERMIOS 5 TERMIOS 6 TERMIOS 7

~~#3077~~	3 years ago	fixed	arch/sparc	Sebastian Huber	Sebastian Huber	2 years ago

Summary: SPARC: Add lazy floating point context switching

Description: The uniprocessor floating point context switching is unsafe, e.g. it is possible to silently corrupt the floating point context. The SMP floating point switching is safe, however, it doesn't use a deferred switch. Implement lazy floating point switching in uniprocessor configurations. This fixes test case spcontext01.

~~#3079~~	3 years ago	fixed	build	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	2 years ago

Summary: Ada tests do not build

Description: A "make" in the top level build directory does not build the Ada tests (used to work some weeks ago). A "make" in ./sparc-rtems4.12/c/erc32/ada-tests for example works.

The configuration step seems to work:

```
configure: configuring in ada-tests
configure: running /bin/sh '../../../../../rtems/c/src/ada-tests/configure'  '--prefix=/home/joel/rtems-4.11-work/bsp-install' '--host=sparc-rtems4.12' '--build=x86_64-pc-linux-gnu' '--target=sparc-rtems4.12' '--enable-smp' '--disable-profiling' '--disable-multiprocessing' '--enable-rtems-debug' '--enable-cxx' '--disable-rdbg' '--enable-maintainer-mode' '--enable-tests' '--enable-networking' '--enable-posix' '--disable-itron' '--disable-deprecated' '--enable-ada' '--enable-expada' 'SIMSPARC_FAST_IDLE=1' '--with-target-subdir=sparc-rtems4.12' '--exec-prefix=/home/joel/rtems-4.11-work/bsp-install/sparc-rtems4.12' '--includedir=/home/joel/rtems-4.11-work/bsp-install/sparc-rtems4.12/include' 'build_alias=x86_64-pc-linux-gnu' 'host_alias=sparc-rtems4.12' 'target_alias=sparc-rtems4.12' '--with-project-root=../../' '--with-project-top=../../' 'RTEMS_BSP=erc32' 'RTEMS_CPU_MODEL=erc32' 'RTEMS_BSP_FAMILY=erc32' 'CFLAGS=-mcpu=cypress -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs' '--enable-rtems-root=../'    '--enable-project-root=../../../erc32'    '--with-project-top=../../../'    '--enable-rtemsbsp=erc32'    --cache-file=/dev/null --srcdir=../../../../../rtems/c/src/ada-tests
configure: loading site script /usr/share/site/x86_64-unknown-linux-gnu
checking for gmake... gmake
```

However:

```
gmake[4]: Entering directory '/scratch/git-rtems-testing/rtems/build-sparc-erc32-rtems/sparc-rtems4.12/c/erc32/ada-tests'
gmake[4]: Nothing to be done for 'all-am'.
```

~~#3080~~	3 years ago	fixed	arch/sparc	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Infinite loop in SPARC rtems_invalidate_multiple_instruction_lines()

Description	A #define CPU_INSTRUCTION_CACHE_ALIGNMENT 0 is not a good idea in case the default range functions are used.					
~~#3082~~	3 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	15 months ago
Summary	Add 64-bit support for PowerPC					
Description	The QorIQ chips have more than 4GiB of memory available.					
~~#3083~~	3 years ago	fixed	build	Joel Sherrill	Chris Johns	2 years ago
Summary	parallel make not working					
Description	As reported on the mailing list, parallel make on the master is broken.					
~~#3084~~	3 years ago	fixed	build	Joel Sherrill	Chris Johns	2 years ago
Summary	Makefile recipe override warning has returned					
Description	The makefile overrides recipe warnings had disappeared with Chris' rework to improve parallelism. Unfortunately, one Makefile has had the warning return. To reproduce, complete a build with all tests enabled, then just type make >/dev/null at the top of the build tree [joel@rtbf64c rtems-work]$ ./build_bsp sparc erc32 Using rtems for RTEMS source real 5m4.247s user 5m58.188s sys 1m34.959s 0 [joel@rtbf64c rtems-work]$ cd b-erc32/ [joel@rtbf64c b-erc32]$ make >/dev/null Makefile:653: warning: overriding recipe for target `spprofiling01' Makefile:653: warning: ignoring old recipe for target `spprofiling01'					
~~#3085~~	3 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add hypervisor support for QorIQ BSPs					
Description	NXP provides a hypervisor (Topaz) for the QorIQ platform. https://www.xes-inc.com/wp-content/uploads/2016/03/NXP-Embedded-Hypervisor-for-QorIQ-Overview.pdf					
~~#3087~~	3 years ago	fixed	tool/rsb	likangbei	Chris Johns	2 years ago
Summary	RSB rtems-gdb-7.12-1.cfg MD5 value is ERROR					
Description	rtems-source-builder\rtems\config\tools\rtems-gdb-7.12-1.cfg line 16:%hash md5 gdb-7.12-sis-leon2-leon3.diff "fe29e7daaab3bf70c99cda6925d8c0c5" is error "40670e05b7fc3868a405fb43138f3262" is right TEST on WIN7+MSYS2 My English is bad! Sorry					
~~#3088~~	3 years ago	fixed	shell	likangbei	chrisj@...	2 years ago
Summary	shell test in testsuites\samples\fileio many COMMANDs is Lost					
Description	testsuites\samples\fileio test on atsam BSP□ init.c□ #define CONFIGURE_SHELL_COMMANDS_INIT #define CONFIGURE_SHELL_COMMANDS_ALL but when press s -> start shell□I only find three COMMANDs□help□alias□time□□Other COMMANDs is Lost□ I remember that the previous version was normal□ Sorry□ My English is bad□					
~~#3089~~	3 years ago	fixed	fs	Fan Deng	Fan Deng	2 years ago
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:

Description

```
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_fs_block(_fs, _grp, _blk) \
  ((((_fs)->group_blocks) * (_grp)) + (_blk) + 1)
```

The "+ 1" part should really be "+ RTEMS_RFS_SUPERBLOCK_SIZE" to be logically correct. As RTEMS_RFS_SUPERBLOCK_SIZE itself has a comment saying:

```
/**
 * Number of blocks in the superblock. Yes I know it is a superblock and not
 * superblocks but if for any reason this needs to change it is handled.
 */
#define RTEMS_RFS_SUPERBLOCK_SIZE (1)
```

~~#3090~~	3 years ago	fixed	bsps	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add BSP for i.MX 7					
~~#3091~~	3 years ago	fixed	tool	Joel Sherrill	Sebastian Huber	2 years ago
Summary	Core Dump in powerpc-rtems4.12-ld					
Description	This appears to have been introduced by the new binutils. Impacts qemuprep and qemuprep-altivec BSPs. gmake[8]: Entering directory `/data/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuprep-rtems/powerpc-rtems4.12/c/qemuprep/lib/libbsp/powerpc/motorola_powerpc/qemu_fakerom' powerpc-rtems4.12-ld -o qemu_fakerom.bin qemu_fakerom.o qemu_fakeres.o --oformat binary -nostdlib -Ttext 0xfff00000 --section-start=.romentry=0xffffffc gmake[8]: *** [qemu_fakerom.bin] Segmentation fault**						
~~#3096~~	3 years ago	fixed	shell	Chris Johns	Chris Johns	2 years ago
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	19 months ago
Summary	Add new RTEMS repos to github.					
Description	Please add: 1. rtems-docs.git 2. rtems-release.git to our github repos.					
~~#3099~~	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 years ago
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	2 years ago
Summary	Add Xilinx AXI I2C driver					
Description	Add a Xilinx AXI I2C driver.					
~~#3101~~	3 years ago	fixed	score	Chris Johns	Chris Johns	2 years ago
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	2 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@...	2 years ago

Summary: rtems-tools on CentOS 7 Build Failure

Description:

A build failure for rtems-tools on the master has been reported on CentOS 7. This is my notes as I try to reproduce it.

[joel@localhost rtems-tools]$ ./waf configure Setting top to : /home/joel/rtems-work/rtems-tools Setting out to : /home/joel/rtems-work/rtems-tools/build Version : 4.12.78bbe4c1a31d (4.12) Checking for program 'python' : /usr/bin/python Checking for python version >= 2.6.6 : 2.7.5 Checking for 'gcc' (C compiler) : /usr/bin/gcc Checking for 'g++' (C++ compiler) : /usr/bin/g++ Checking for header alloca.h : yes Checking for header fcntl.h : yes Checking for header process.h : not found Checking for header stdlib.h : yes Checking for header string.h : yes Checking for header strings.h : yes Checking for header sys/file.h : yes Checking for header sys/stat.h : yes Checking for header sys/time.h : yes Checking for header sys/types.h : yes Checking for header sys/wait.h : yes Checking for header unistd.h : yes Checking for header vfork.h : not found Checking for function getrusage : yes Checking for program 'm4' : /usr/bin/m4 Checking for header sys/wait.h : yes Checking for function kill : yes Checking for 'gcc' (C compiler) : /usr/bin/gcc Checking for 'g++' (C++ compiler) : /usr/bin/g++ Checking for 'g++' (C++ compiler) : /usr/bin/g++ Checking for function open64 : not found Checking for function stat64 : not found 'configure' finished successfully (0.786s) == [joel@localhost rtems-tools]$ ./waf -j 1 --verbose Waf: Entering directory `/home/joel/rtems-work/rtems-tools/build' [88/151] Compiling rtemstoolkit/rld-process.cpp 11:58:16 runner ['/usr/bin/g++', '-pipe', '-g', '-O2', '-Wall', '-Wextra', '-pedantic', '-Irtemstoolkit', '-I../rtemstoolkit', '-Irtemstoolkit/elftoolchain/libelf', '-I../rtemstoolkit/elftoolchain/libelf', '-Irtemstoolkit/elftoolchain/common', '-I../rtemstoolkit/elftoolchain/common', '-Irtemstoolkit/libiberty', '-I../rtemstoolkit/libiberty', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION="4.12"', '-DRTEMS_RELEASE="4.12.78bbe4c1a31d"', '-DFASTLZ_LEVEL=1', '../rtemstoolkit/rld-process.cpp', '-c', '-o/home/joel/rtems-work/rtems-tools/build/rtemstoolkit/rld-process.cpp.7.o'] In file included from ../rtemstoolkit/libiberty/libiberty.h:42:0,

from ../rtemstoolkit/rld-process.cpp:64:

../rtemstoolkit/libiberty/ansidecl.h:169:64: error: new declaration ‘char* basename(const char*)’

define ATTRIBUTE_NONNULL(m) attribute ((nonnull (m)))

../rtemstoolkit/libiberty/libiberty.h:112:64: note: in expansion of macro ‘ATTRIBUTE_NONNULL’

extern char *basename (const char *) ATTRIBUTE_RETURNS_NONNULL ATTRIBUTE_NONNULL(1);

In file included from ../rtemstoolkit/rld-process.cpp:24:0: /usr/include/string.h:599:26: error: ambiguates old declaration ‘const char* basename(const char*)’

extern "C++" const char *basename (const char *filename)

In file included from ../rtemstoolkit/libiberty/libiberty.h:42:0,

from ../rtemstoolkit/rld-process.cpp:64:

../rtemstoolkit/libiberty/ansidecl.h:169:64: error: declaration of ‘int vasprintf(char**, const char*, va_list_tag*)’ has a different exception specifier**

 # define ATTRIBUTE_NONNULL(m) attribute ((nonnull (m)))

../rtemstoolkit/libiberty/ansidecl.h:198:80: note: in expansion of macro ‘ATTRIBUTE_NONNULL’

#define ATTRIBUTE_PRINTF(m, n) attribute ((format (printf, m, n))) ATTRIBUTE_NONNULL(m)

../rtemstoolkit/libiberty/libiberty.h:651:55: note: in expansion of macro ‘ATTRIBUTE_PRINTF’

extern int vasprintf (char , const char *, va_list) ATTRIBUTE_PRINTF(2,0);

In file included from ../rtemstoolkit/rld-process.cpp:23:0: /usr/include/stdio.h:399:12: error: from previous declaration ‘int vasprintf(char, const char*, va_list_tag*) throw ()’

extern int vasprintf (char restrict ptr, const char *restrict f,

Waf: Leaving directory `/home/joel/rtems-work/rtems-tools/build' Build failed

-> task in 'rld' failed with exit status 1:

{task 23048432: cxx rld-process.cpp -> rld-process.cpp.7.o}

['/usr/bin/g++', '-pipe', '-g', '-O2', '-Wall', '-Wextra', '-pedantic', '-Irtemstoolkit', '-I../rtemstoolkit', '-Irtemstoolkit/elftoolchain/libelf', '-I../rtemstoolkit/elftoolchain/libelf', '-Irtemstoolkit/elftoolchain/common', '-I../rtemstoolkit/elftoolchain/common', '-Irtemstoolkit/libiberty', '-I../rtemstoolkit/libiberty', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION="4.12"', '-DRTEMS_RELEASE="4.12.78bbe4c1a31d"', '-DFASTLZ_LEVEL=1', '../rtemstoolkit/rld-process.cpp', '-c', '-o/home/joel/rtems-work/rtems-tools/build/rtemstoolkit/rld-process.cpp.7.o'] == Looking down into libiberty.h, I picked on basename()

/* HAVE_DECL_* is a three-state macro: undefined, 0 or 1. If it is

undefined, we haven't run the autoconf check so provide the declaration without arguments. If it is 0, we checked and failed to find the declaration so provide a fully prototyped one. If it is 1, we found it so don't provide any declaration at all. */

#if !HAVE_DECL_BASENAME

#if defined (GNU_LIBRARY)
defined (linux) \

defined (FreeBSD)	defined (OpenBSD)	defined (NetBSD) \
defined (CYGWIN)	defined (CYGWIN32)	defined (MINGW32) \
defined (DragonFly)	defined (HAVE_DECL_BASENAME)	

extern char *basename (const char *) ATTRIBUTE_RETURNS_NONNULL ATTRIBUTE_NONNULL(1); #else /* Do not allow basename to be used if there is no prototype seen. We

either need to use the above prototype or have one from autoconf which would result in HAVE_DECL_BASENAME being set. */

#define basename basename_cannot_be_used_without_a_prototype #endif #endif ========== The native CentOS 7 has this definition of basename:

 # 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

~~#3109~~	3 years ago	fixed	arch/riscv	Sebastian Huber	Hesham Almatary	20 months 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	2 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	2 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.

```
typedef struct {
  struct _Mutex_recursive_Control  _mutex;
  unsigned int                     _flags;
  struct _Scheduler_Control       *_scheduler;
  __uint64_t                       _priority_ceiling;
} pthread_mutex_t;
```

~~#3113~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 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.

```
typedef struct {
  struct _Condition_Control  _condition;
  pthread_mutex_t           *_mutex;
  clockid_t                  _clock;
} pthread_cond_t;
```

~~#3114~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 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.

```
typedef struct {
  struct _Thread_queue_Queue  _queue;
  unsigned int                _flags;
  unsigned int                _count;
} pthread_barrier_t;
```

~~#3115~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 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.

```
typedef struct {
  struct _Thread_queue_Queue _queue;
  unsigned int               _flags;
  unsigned int               _readers;
} pthread_rwlock_t;
```

~~#3116~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 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.

```
typedef struct {
  struct _Semaphore_Control _sem;
} sem_t;
```

~~#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	2 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	13 months ago
Summary	Simplify and unify BSP_output_char					
Description	The BSP_output_char should output a char and not mingle with high level processing, e.g. '\n' to '\r\n' translation. Move this translation to rtems_putc(). Remove it from all the BSP_output_char implementations.					
~~#3123~~	3 years ago	wontfix	tool/gdb	Sebastian Huber	Sebastian Huber	2 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:

```
--------------------------
|--- 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
```

~~#3124~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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	2 years ago
Summary	Accept PTHREAD_PROCESS_SHARED for POSIX mutexes					

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

~~#3126~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Accept PTHREAD_PROCESS_SHARED for POSIX barriers

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

~~#3127~~	3 years ago	fixed	tool/gcc	Chris Johns	Chris Johns	19 months ago

Summary: MIPS tool build on Darwin (MacOS) fails.

Description: This is the same bug that effects FreeBSD. For details see:

https://gcc.gnu.org/bugzilla/show_bug.cgi?id=66032 https://gcc.gnu.org/bugzilla/show_bug.cgi?id=62097

~~#3128~~	3 years ago	fixed	tool	Chris Johns	chrisj@...	2 years ago

Summary: RTEMS Tools corvar does not build on Windows.

Description: The following error has appeared on Windows:

```
In file included from ../rtemstoolkit/elftoolchain/libelf/gelf.h:34:0,
                 from ../rtemstoolkit/rld-elf-types.h:29,
                 from ../rtemstoolkit/rld.h:72,
                 from ../rtemstoolkit/rld-process.h:31,
                 from ../tester/covoar/ObjdumpProcessor.h:16,
                 from ../tester/covoar/DesiredSymbols.h:18,
                 from ../tester/covoar/app_common.h:6,
                 from ../tester/covoar/app_common.cc:40:
../rtemstoolkit/elftoolchain/libelf/libelf.h:33:23: fatal error: sys/queue.h: No such file or directory
 #include <sys/queue.h>
                       ^
compilation terminated.

Waf: Leaving directory `D:/opt/rtems/rsb.git/rtems/build/rtH/rtems-tools.git/build'
```

~~#3129~~	3 years ago	fixed	tool	Chris Johns	joel	2 years ago

Summary: RTEMS Tools covoar build fails on Windows

Description: The following warnings and errors are present so the RSB tools do not finish and install:

```
[ 97/150] Compiling linkers/rtems-syms.cpp
[ 98/150] Compiling linkers/rtems-rapper.cpp
[ 99/150] Compiling linkers/rtems-exeinfo.cpp
In file included from ../rtemstoolkit/rld-files.cpp:30:0:
../rtemstoolkit/rld-files.cpp: In destructor 'virtual rld::files::image::~image()':
../rtemstoolkit/rld.h:111:75: warning: throw will always call terminate() [-Wterminate]
     rld::error (_what, std::string (__FILE__) + ":" + to_string (__LINE__))
                                                                           ^
../rtemstoolkit/rld-files.cpp:256:15: note: in expansion of macro 'rld_error_at'
         throw rld_error_at ("references when destructing image");
               ^~~~~~~~~~~~
../rtemstoolkit/rld.h:111:75: note: in C++11 destructors default to noexcept
     rld::error (_what, std::string (__FILE__) + ":" + to_string (__LINE__))
                                                                           ^
../rtemstoolkit/rld-files.cpp:256:15: note: in expansion of macro 'rld_error_at'
         throw rld_error_at ("references when destructing image");
               ^~~~~~~~~~~~

[100/150] Compiling tester/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)
```

~~#3130~~	3 years ago	fixed	doc	Chris Johns	chrisj@...	2 years ago

Summary: RTEMS Doxygen.in latex output does not build

Description: Doxygen latex output on sync.rtems.org does not build.

Does latex output build on any host? If so which hosts and what tool combination.

If it does not build we should consider defaulting the setting for latex output to "no".

~~#3132~~	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	2 years ago

Summary: 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:

Description

```
int op( int fd, ... )
{
  rtems_libio_t *iop;
  unsigned int   flags;

  if ( (uint32_t) fd >= rtems_libio_number_iops ) {
    rtems_set_errno_and_return_minus_one( EBADF );
  }

  iop = rtems_libio_iop( fd );
  flags = rtems_libio_iop_hold( iop );

  if ( ( flags & LIBIO_FLAGS_OPEN ) == 0 ) {
    rtems_libio_iop_drop( _iop );
    rtems_set_errno_and_return_minus_one( EBADF );
  }

  do_op( iop, ... );
  rtems_libio_iop_drop( iop );
  return 0;
}
```

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

~~#3133~~	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove rtems_libio_t::driver					
Description	Remove unused rtems_libio_t::driver member.					
~~#3134~~	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove LIBIO_FLAGS_CREATE					
Description	Remove unused LIBIO_FLAGS_CREATE flag.					
~~#3135~~	3 years ago	fixed	admin	Sebastian Huber	amar@...	2 years ago
Summary	Devel mailing list doesn't work and Git push impossible due to disk full					

Description

I got this:

```
git push
Counting objects: 18, done.
Delta compression using up to 12 threads.
Compressing objects: 100% (17/17), done.
Writing objects: 100% (18/18), 1.68 KiB | 0 bytes/s, done.
Total 18 (delta 16), reused 0 (delta 0)
remote: error: file write error (No space left on device)
remote: fatal: unable to write sha1 file
error: remote unpack failed: unpack-objects abnormal exit
To ssh://dispatch.rtems.org/data/git/rtems.git
 ! [remote rejected]       upstream -> master (unpacker error)
error: failed to push some refs to 'ssh://sebh@dispatch.rtems.org/data/git/rtems.git'
```

We have on dispatch.rtems.org:

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

~~#3136~~	3 years ago	fixed	fs	Sebastian Huber	Sebastian Huber	2 years ago
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	2 years ago
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	2 years ago
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@...	2 years ago
Summary	CPU Kit broken with --enable-rtems-debug					

Description

Building with:

```
..../rtems.git/configure --target=arm-rtems4.12 --prefix=/opt/work/chris/rtems/kernel/4.12 --disable-networking --enable-rtemsbsp=beagleboneblack
--enable-maintainer-mode --enable-rtems-debug
```

results in an error:

```
gmake[5]: Entering directory '/opt/work/chris/rtems/kernel/bsps/beagleboneblack/arm-rtems4.12/c/beagleboneblack/cpukit/score'
arm-rtems4.12-gcc --pipe -DHAVE_CONFIG_H   -I.. -I../../cpukit/../../../beagleboneblack/lib/include   -mcpu=cortex-a8 -O2 -g -ffunction-sections -
fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-semaphore.o -MD
-MP -MF src/.deps/libscore_a-semaphore.Tpo -c -o src/libscore_a-semaphore.o `test -f 'src/semaphore.c' || echo
'/opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/score/'`src/semaphore.c
In file included from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/score/src/semaphore.c:21:0:
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/score/src/semaphore.c: In function '_Semaphore_Post':
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/score/src/semaphore.c:134:27: error: 'UINT_MAX' undeclared (first use in this function);
did you mean 'UINT8_MAX'?
     _Assert( sem->count < UINT_MAX );
                           ^
../../cpukit/../../../beagleboneblack/lib/include/rtems/score/assert.h:67:12: note: in definition of macro '_Assert'
        ( ( _e ) ? \
            ^~
/opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/score/src/semaphore.c:134:27: note: each undeclared identifier is reported only once for
each function it appears in
     _Assert( sem->count < UINT_MAX );
                           ^
../../cpukit/../../../beagleboneblack/lib/include/rtems/score/assert.h:67:12: note: in definition of macro '_Assert'
        ( ( _e ) ? \
            ^~
gmake[5]: *** [Makefile:4571: src/libscore_a-semaphore.o] Error 1
```

We need the `rtems-bsp-builder` to be run on a regular basis to catch these errors.

Tools are:

```
$ /opt/work/rtems/4.12/bin/arm-rtems4.12-gcc --version
arm-rtems4.12-gcc (GCC) 7.2.0 20170814 (RTEMS 4.12, RSB e6d0a8bae6d16eba605370ca11a5928b797820bb-modified, Newlib 2.5.0.20170818)
```

~~#3141~~	3 years ago	fixed	doc	Chris Johns	Chris Johns	2 years ago

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	2 years ago

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@...	2 years ago

Summary: PSXRDWRV Test failure on Beaglebone Black

Description:

Running `rtems-test` with a recent u-boot and a current master this failure is reported:

```
] RTEMS Beagleboard: am335x-based
]
]
] *** BEGIN OF TEST PSXRDWRV ***
] writev bad file descriptor -- EBADF
] writev error 1: 22=Invalid argument
] Error during error test!!!!
```

~~#3152~~	3 years ago	wontfix	arch/arm	Chris Johns	Chris Johns	19 months ago

Summary: Beaglebone Black crashes on u-boot master build.

Description

The crash with a Linux type image and no FDT is:

```
] ## Booting kernel from Legacy Image at 82000000 ...
]    Image Name:   RTEMS
]    Image Type:   ARM Linux Kernel Image (gzip compressed)
]    Data Size:    60886 Bytes = 59.5 KiB
]    Load Address: 80000000
]    Entry Point:  80000000
]    Verifying Checksum ... OK
]    Uncompressing Kernel Image ... OK
]
] Starting kernel ...
]
] data abort
]
]     MAYBE you should read doc/README.arm-unaligned-accesses
]
] pc : [<8000010c>]        lr : [<800000ac>]
] sp : 80101000  ip : 0000000c   fp : 9f35ac28
] r10: 9f3ad0f4  r9 : 00000000   r8 : 9f238f40
] r7 : 00000000  r6 : 80000100   r5 : 00000e05  r4 : 60000193
] r3 : 9f238fe0  r2 : 80000100   r1 : 00000e05  r0 : 60000193
] Flags: nzcv  IRQs off  FIQs on  Mode SVC_32
] Resetting CPU ...
```

and the code is:

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

80000108 <bsp_start_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	2 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	2 years ago
Summary	PowerPC tools don't build on 32-bit hosts					
Description	Using RSB and trying to build PowerPC. Updated RSB just a few days ago. i386 and arm build successfully, but PowerPC fails. configure:3662: checking for suffix of object files configure:3684: /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./gcc/xgcc -B/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./gcc/ -nostdinc -B/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/powerpc-rtems4.12/me6500/m64/newlib/ -isystem /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/powerpc-rtems4.12/me6500/m64/newlib/targ-include -isystem /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/gcc-7.2.0/newlib/libc/include -B/desk/rtems/powerpc-rtems4.12/bin/ -B/desk/rtems/powerpc-rtems4.12/lib/ -isystem /desk/rtems/powerpc-rtems4.12/include -isystem /desk/rtems/powerpc-rtems4.12/sys-include -mcpu=e6500 -m64 -c -g -O2 conftest.c >&5 Assembler messages: Fatal error: -a64 unsupported configure:3688: $? = 1 configure: failed program was: | /* confdefs.h */ | #define PACKAGE_NAME "GNU C Runtime Library" | #define PACKAGE_TARNAME "libgcc" | #define PACKAGE_VERSION "1.0" | #define PACKAGE_STRING "GNU C Runtime Library 1.0" | #define PACKAGE_BUGREPORT "" | #define PACKAGE_URL "http://www.gnu.org/software/libgcc/" | /* end confdefs.h. */ | | int | main () | { | | ; | return 0; | } configure:3702: error: in `/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/powerpc-rtems4.12/me6500/m64/libgcc': configure:3705: error: cannot compute suffix of object files: cannot compile						
~~#3158~~	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 years ago
Summary	Examples v2 does not build					
Description	Updating waf breaks the rootfs. Add rootfs support to `rtems-waf.git`.					
~~#3159~~	3 years ago	fixed	unspecified	Chris Johns	Chris Johns	2 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	2 years ago
Summary	Trace linker score support is broken					

Description	The trace linker needs to be updated to build. I am not sure which bit is broken. Building the tools gives:
	`[ 7/15] Compiling build/arm-rtems4.12-beagleboneblack/hello/both_hello/test.c.2.o`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:134:13: error: 'Thread_queue_Flush_callout' undeclared here (not in a function); did you mean 'Thread_queue_Flush_filter'?`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Thread_queue_Flush_callout), "Thread_queue_Flush_callout" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: Thread_queue_Flush_filter`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:140:13: error: 'CORE_mutex_Status' undeclared here (not in a function); did you mean 'CORE_mutex_Control'?`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (CORE_mutex_Status), "CORE_mutex_Status" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: CORE_mutex_Control`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:143:19: error: unknown type name 'CORE_mutex_Attributes'`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (const CORE_mutex_Attributes*), "const CORE_mutex_Attributes*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:160:13: error: 'CORE_mutex_API_mp_support_callout' undeclared here (not in a function)`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (CORE_mutex_API_mp_support_callout), "CORE_mutex_API_mp_support_callout" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:321:13: error: 'Objects_Locations' undeclared here (not in a function); did you mean 'Objects_Information'?`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_Locations*), "Objects_Locations*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: Objects_Information`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:321:31: error: expected expression before ')' token`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_Locations*), "Objects_Locations*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:342:31: error: expected expression before ')' token`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_Locations*), "Objects_Locations*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:359:31: error: expected expression before ')' token`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_Locations*), "Objects_Locations*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:368:31: error: expected expression before ')' token`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_Locations*), "Objects_Locations*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:443:31: error: expected expression before ')' token`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_Locations*), "Objects_Locations*" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:548:13: error: 'Thread_Start_types' undeclared here (not in a function); did you mean '_Thread_Start'?`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Thread_Start_types), "Thread_Start_types" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: _Thread_Start`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:570:13: error: 'Thread_blocking_operation_States' undeclared here (not in a function); did you mean 'Thread_queue_Operations'?`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Thread_blocking_operation_States), "Thread_blocking_operation_States" },`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: Thread_queue_Operations`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c: In function 'rtld_pg_printk_entry':`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:678:3: warning: implicit declaration of function 'printk'; did you mean 'printf'? [-Wimplicit-function-declaration]`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: printk (">>> %s (0x%08x)\n", func_name, func_addr);`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: printf`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c: At top level:`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:742:48: error: expected declaration specifiers or '...' before 'Thread_queue_Flush_callout'`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: void _CORE_mutex_Flush(CORE_mutex_Control* a1, Thread_queue_Flush_callout a2, uint32_t a3);`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:743:55: error: expected declaration specifiers or '...' before 'Thread_queue_Flush_callout'`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: void __real__CORE_mutex_Flush(CORE_mutex_Control* a1, Thread_queue_Flush_callout a2, uint32_t a3);`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:744:55: error: expected declaration specifiers or '...' before 'Thread_queue_Flush_callout'`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: void __wrap__CORE_mutex_Flush(CORE_mutex_Control* a1, Thread_queue_Flush_callout a2, uint32_t a3)`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:757:1: error: unknown type name 'CORE_mutex_Status'; did you mean 'CORE_mutex_Control'?`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: CORE_mutex_Status _CORE_mutex_Initialize(CORE_mutex_Control* a1, Thread_Control* a2, const CORE_mutex_Attributes* a3, bool a4);`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~~~~~~~~~~~`
	`/Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: CORE_mutex_Control`
	This is a snip of the errors.

~~#3163~~	3 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add I2C device driver for temperature sensor LM75A					
~~#3166~~	3 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 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	2 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	2 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	2 years ago
Summary	Use BSP_output_char via RTEMS printer or simple console driver for test output by default					

	Test runs with a interrupt driven console driver result in unreliable test outcomes. Problem was noticed with test runs on Microzed, for example libtest/block08: The test prints: `** END OF TEST BLOCK 8 ***` The `rtems-test` command marks the result as a failure. There is a single `*` missing from the start of the line. I attach the full test trace.					
~~#3171~~	3 years ago	fixed	tool/gcc	Chris Johns	Chris Johns	19 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	2 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 then the specific Edison support.					
~~#3173~~	3 years ago	fixed	arch/arm	Chris Johns	Chris Johns	2 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	2 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	19 months ago
Summary	Merge FreeBSD timecounter changes from 2015-01-20 to now					
~~#3176~~	3 years ago	fixed	tool/newlib	Joel Sherrill	Joel Sherrill	20 months ago
Summary	getreent in libc.a and generated by confdefs.h					
Description	Some applications are getting duplicate symbol definitions for getreent(). One of the examples-v2 programs is doing this. It is because there are two bodies for this method -- one from confdefs.h and another from newlib. https://sourceware.org/ml/newlib/2017/msg01020.html addresses the issues and needs to be incorporated by the RSB. https://sourceware.org/ml/newlib/2017/msg01019.html is a cleanup that was spotted at the same time. It can be picked up by a newlib snapshot.					
~~#3177~~	3 years ago	fixed	doc	Joel Sherrill	Chris Johns	2 years ago
Summary	Replace/update POSIX Compliance Guide					
Description	The POSIX Compliance Guide was never converted from texinfo. Beyond that, it is out of date and follows the outline of the printed version of the POSIX standard which no one sees anymore. This ticket proposes: 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@…>	2 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	2 years ago
Summary	New warnings from Time Changes					

Description	New warnings after picking up your recent commits. How are you checking for warnings? `../../../../../../rtems/c/src/../../cpukit/posix/src/pthreadattrdefault.c:58:5: warning: initialization discards 'const' qualifier from pointer target type [-Wdiscarded-qualifiers]` `  &_POSIX_Threads_Default_attributes.affinitysetpreallocated,` `  ^` `../../../../../../rtems/c/src/../../cpukit/posix/src/adjtime.c: In function 'adjtime':` `../../../../../../rtems/c/src/../../cpukit/posix/src/adjtime.c:85:16: warning: passing argument 1 of '_TOD_Adjust' from incompatible pointer type [-Wincompatible-pointer-types]` `  _TOD_Adjust( &delta_as_timestamp );` `  ^` `In file included from ../../../../../../rtems/c/src/../../cpukit/posix/src/adjtime.c:28:0:` `../../cpukit/../../../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:` `../../cpukit/../../../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:` `../../cpukit/../../../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(` `  ^~~~~~~~~~~~~~~~~~~~~~~~`

~~#3180~~	3 years ago	fixed	build	Joel Sherrill	Sebastian Huber	18 months ago
Summary	ar warning: `u' modifier ignored since` D' is the default (see `U')					
Description	Remove this warning `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@…>	2 years ago
Summary	Various cc1plus warnings for "valid for C/ObjC but not for C++"					

Description	Fix these
	`cc1plus: warning: command line option '-Wmissing-prototypes' is valid for C/ObjC but not for C++`
	`cc1plus: warning: command line option '-Wimplicit-function-declaration' is valid for C/ObjC but not for C++`
	`cc1plus: warning: command line option '-Wstrict-prototypes' is valid for C/ObjC but not for C++`
	`cc1plus: warning: command line option '-Wnested-externs' is valid for C/ObjC but not for C++`					

~~#3182~~	3 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago
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	2 years ago
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	2 years ago
Summary	smptests/Makefile.am Issues					
Description	There appear to be two issues in smptests/Makefile.am: 1. smppsxaffinity0[12] are listed twice. This causes a warning. I am unsure if they should always be built or only when POSIX is enabled. 2. smppsxmutex01 is listed in the "HAS_POSIX" section. Aren't POSIX mutexes always on now so this test should not be inside the conditional?					
~~#3188~~	3 years ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	2 years ago

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	2 years ago

Summary	MUTEX_INITIALIZER missing braces warning

Description	Hi
	
	Multiple tests have this warning. Appears to be something not quite right in the newlib .h files.
	
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_unlock.c:27:27: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_trylock.c:27:27: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_timedlock.c:30:27: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_lock.c:27:27: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_init.c:27:31: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_mutex_destroy.c:27:28: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_cond_wait.c:28:27: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxhdrs/pthread/pthread_cond_timedwait.c:28:27: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxautoinit02/init.c:33:25: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxautoinit01/init.c:29:28: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psxautoinit01/init.c:28:28: warning: missing braces around initializer [-Wmissing-braces]`
	`21 ../../../../../../../rtems/c/src/../../testsuites/psxtests/psx0`

~~#3190~~	3 years ago	fixed	tool	Chris Johns	Chris Johns	2 years ago

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	2 years ago

Summary	RTEMS Tester covoar dies with no arguments.

Description	Running `covoar` terminate with an unhandled exception with no arguments on the command line:
	
	`$ ./build/tester/covoar/covoar`
	`error missing option: target -T`
	`Usage: ./build/tester/covoar/covoar [-v] -T TARGET -f FORMAT [-E EXPLANATIONS] -l EXECUTABLE coverage1 ... coverageN`
	`--OR--`
	`Usage: ./build/tester/covoar/covoar [-v] -T TARGET -f FORMAT [-E EXPLANATIONS] -e EXE_EXTENSION -c COVERAGEFILE_EXTENSION EXECUTABLE1 ... EXECUTABLE2`
	
	`-v - verbose at initialization`
	`-T TARGET - target name`
	`-f FORMAT - coverage file format (RTEMS, QEMU, TSIM or Skyeye)`
	`-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`

~~#3198~~	3 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	2 years ago

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	2 years ago

Summary	m32c tests don't build -- test_context too large
Description	../../../../../../rtems/c/src/../../testsuites/tmtests/tmfine01/init.c:58:21: error: size of variable 'test_instance' is too large static test_context test_instance; FWIW I marked this as unspecified because this is just a generic small target issue.

~~#3201~~	3 years ago	fixed	arch/epiphany	Joel Sherrill	Joel Sherrill <joel@…>	2 years ago

Summary	epiphany tools checksum error
Description	I assume this is a side-effect of the recent checksum changes. If that's the case, it just needs to be updated. Otherwise, it is a more serious error. download: (full) https://github.com/adapteva/epiphany-gcc/archive/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip -> sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip download: https://github.com/adapteva/epiphany-gcc/archive/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip -> sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip redirect: https://codeload.github.com/adapteva/epiphany-gcc/zip/f7051762470c42ce7f01baa7edeb113d51c7dd72 redirect: https://codeload.github.com/adapteva/epiphany-gcc/zip/f7051762470c42ce7f01baa7edeb113d51c7dd72 checksums: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip: 4d911e7bff4f1827dd7712669d20e4a1bf02806df0fae113ff0e7d13466bef2e => 2b2034fd12f2fd5108205ade66400c175ede8cef8141a38ae03fc78bf2d65325 warning: checksum error: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip error: checksum failure file: sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip

~~#3202~~	3 years ago	fixed	arch/or1k	Joel Sherrill	Joel Sherrill <joel@…>	2 years ago

Summary	or1k tools build error

Description	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: 0b8b2a23c7d1592315fe0130188f457c80f8b1e26645535bed091a5e0671682dc44a1987d00e6939a1b1c562c7579404db43183e666c29c2b479446aa61ca4f6 => 4c44afec9c00a45b9322d787da3796f3294f207ddae9fe9faab3327b6991ac75 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	19 months ago

Summary	Upgrade trac to fix numerous problems.
Description	There are a ton of issues going on with trac that need to be resolved. The two major ones are: • The ticket commenter emails people who aren't a trac user. This may require a custom modification. • The always_email setting is taking things too literally and always sending emails even if it shouldn't. • The Git plug-in consistently spins, floods the jail with processes then the site dies. • Frequent, strange and random crashes. ◦ This one is not a huge deal since it's just that request process users won't even notice when this happens. Upgrading trac is a weeklong project usually I will start preparing for it and update here. If anyone has any feature requests now is the time to do it!

~~#3204~~	3 years ago	worksforme	tool	Joel Sherrill	Chris Johns	5 months ago

Summary	Exception in rtems-test
Description	Note: No category for rtems-tools. My first attempt to send run logs didn't go so well. This was a weird failure mode. It didn't exit but had to be killed by hand. I dropped off the options related to mailing the log and it still failed. This is on an up to date CentOS 7 (rtbf64c 7.4) as well as my 7.3 VM.

```
+ /home/joel/rtems-work/rtems-tools//tester/rtems-test --rtems-tools=/home/joel/rtems-work/tools/4.12 --rtems-bsp=erc32 --log=run.log --mail --
mail-from=joel@rtems.org --mail-to=build@lists.rtems.org ./sparc-rtems4.12/c/erc32/testsuites/samples/ticker/ticker.exe ./sparc-
rtems4.12/c/erc32/testsuites/samples/minimum/minimum.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/iostream/cxx_iostream.exe ./sparc-
rtems4.12/c/erc32/testsuites/samples/fileio/fileio.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/capture/capture.exe ./sparc-
rtems4.12/c/erc32/testsuites/samples/nsecs/nsecs.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/paranoia/paranoia.exe ./sparc-
rtems4.12/c/erc32/testsuites/samples/cdtest/cdtest.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/base_sp/base_sp.exe ./sparc-
rtems4.12/c/erc32/testsuites/samples/unlimited/unlimited.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/hello/hello.exe
RTEMS Testing - Tester, 4.12 (52513610668b)
[ 5/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: hello.exe
[ 6/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: cxx_iostream.exe
[ 3/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: cdtest.exe
[ 9/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: paranoia.exe
[ 7/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: minimum.exe
[ 1/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: base_sp.exe
[11/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: unlimited.exe
[ 4/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: fileio.exe
[10/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: ticker.exe
[ 2/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: capture.exe
[ 8/11] p:0  f:0  u:0  e:0  I:0  B:0  t:0  i:0  | sparc/erc32: nsecs.exe
Traceback (most recent call last):
  File "/home/joel/rtems-work/rtems-tools//tester/rtems-test", line 40, in <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	2 years ago

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		2 years ago

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

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	2 years ago

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	2 years ago

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	worksforme	tool/rsb	Joel Sherrill	Chris Johns	5 months ago

Summary: Qemu Fails to Build, RSB Gives Odd Traceback

Description:

After applying the attached patch to update the md5's to sha512's, something goes wrong in the RSB build of Qemu. There is nothing obvious from the qemu build directory. But it appears that the cd into the qemu git directory didn't work and it is acting on my RSB git clone. The RSB trace is:

```
script: 78: cd "/data/home/joel/rtems-work/rtems-source-builder/bare/build/qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1"
script: 79: echo "=> qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1:"
script: 80: echo "==> %prep:"
script: 81: build_top=$(pwd)
script: 82: source_dir_qemu="qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144"
source setup: qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1: source qemu -q -n qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144
making dir: /data/home/joel/rtems-work/rtems-source-builder/bare/sources/git
_url: git://git.qemu-project.org/qemu.git?pull?checkout=42d58e7c6760cb9c55627c28ae538e27dcf2f144?submodule=dtc -> /data/home/joel/rtems-
work/rtems-source-builder/bare/sources/git/qemu.git
cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /usr/bin/git status
exe: ['/usr/bin/git', 'status']
# On branch am
# Untracked files:
#   (use "git add <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
```

~~#3213~~	3 years ago	fixed	tool	Joel Sherrill	Chris Johns	5 months ago

Summary: Move erc32, leon2, leon3, psim and jmr3904 to Tier 2

Description:

Based on these results on gdb simulators, please bump these to Tier 2.

- erc32 - https://lists.rtems.org/pipermail/build/2017-October/000018.html
- leon2 - https://lists.rtems.org/pipermail/build/2017-October/000021.html
- leon3 - https://lists.rtems.org/pipermail/build/2017-October/000022.html
- psim - https://lists.rtems.org/pipermail/build/2017-October/000020.html
- jmr3904 - https://lists.rtems.org/pipermail/build/2017-October/000019.html

As an aside, how will we distinguish the SPARC BSPs on sis, tsim or real hardware in the results?

~~#3215~~	2 years ago	fixed	doc	Joel Sherrill	Joel Sherrill	2 years ago

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

Description:

This section has the wrong heading and needs to be deleted anyway.

```
24.8.2. Specify Maximum Classic API Timers
CONSTANT:
CONFIGURE_ENABLE_CLASSIC_API_NOTEPADS
```

~~#3216~~	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago

Summary: Replace vprintk() implementation

Description: The current vprintk() implementation has a questionable licence header, lacks support for the 'z' and 'j' format specifiers, is not robust against invalid format specifiers, uses a global variable for output. Replace it with a stripped down version of the FreeBSD kernel kvprintf() function.

~~#3217~~	2 years ago	fixed	lib	Chris Johns	Chris Johns	2 years ago

Summary: Add RTEMS version, build and tools details to tests

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

~~#3218~~	2 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	2 years ago

Summary	Termios canonical mode (ICANON) does not return input line by line					
Description	In canonical mode, input is made available line by line. We must stop the canonical buffer filling upon reception of an end-of-line character.					
~~#3219~~	2 years ago	fixed	bsps	Chris Johns	Chris Johns	20 months ago
Summary	Zynq BSP missing linker option --gc-sections					
Description	This Zynq BSP is missing this option.					
~~#3220~~	2 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Change RTEMS release number scheme from 4.12 to 5					

Description

As discussed here

https://lists.rtems.org/pipermail/devel/2017-October/019169.html

it was agreed to use version 5.1 with the new number scheme for the next RTEMS release.

Most important items of this release:

- SMP support
- 64-bit time_t (year 2038 problem)
- the network stack header consolidation and the move to Newlib
- self-contained POSIX synchronization objects (impacting the configuration)
- improved Ada support (however, not all Ada tests pass currently)

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

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~~	2 years ago	fixed	doc	Sebastian Huber	Chris Johns	3 weeks ago
Summary	RSB wiki page duplicates documentation					

Description

The wiki page

https://devel.rtems.org/wiki/Developer/Tools/RSB

duplicates content with

https://docs.rtems.org/branches/master/rsb/index.html

~~#3224~~	2 years ago	fixed	tool/binutils	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Upgrade or1k and m32c to Binutils 2.29					
~~#3225~~	2 years ago	fixed	tool/gdb	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Upgrade m32c to GDB 8.0.1					
~~#3226~~	2 years ago	fixed	tool/gdb	Sebastian Huber	Sebastian Huber	2 years ago
Summary	gdb: pr 16827, fix sim on Mavrick					
~~#3227~~	2 years ago	worksforme	admin	Joel Sherrill	Chris Johns	2 years ago
Summary	sb-check fails on Msys2 64-bit					

There must be a recent change to msys2 which is breaking things. I installed the 64-bit version from https://msys2.github.io/ per the instructions at https://docs.rtems.org/branches/master/user/hosts/index.html#microsoft-windows

```
$ ./source-builder/sb-check
error: no hosts defaults found; please add
```

After adding some prints, I learned this:

```
$ ./source-builder/sb-check
posix
made it
MSYS_NT-10.0
error: no hosts defaults found; please add
```

I filled in options.py and windows.py to recognize this as MSYS2. I was then able to run sb-check. But it wasn't happy. Apparently the pacman command in the User's Guide is missing some packages based on newer versions:

```
$ ./source-builder/sb-check
posix
MSYS_NT-10.0
RTEMS Source Builder - Check, 5 (8b30eb3f440a modified)
error: exe: not found: (__ar) ar
error: exe: not found: (__as) as
error: exe: not found: (__cc) x86_64-w64-mingw32-gcc
error: exe: not found: (__cxx) x86_64-w64-mingw32-g++
error: exe: not found: (__ld) ld
error: exe: not found: (__nm) nm
error: exe: not found: (__objcopy) objcopy
error: exe: not found: (__objdump) objdump
error: exe: not found: (__ranlib) ranlib
Environment is not correctly set up
```

Description

I installed binutils explcitly with pacman and then sb-check is complaining about gcc. I did a find to locate the gcc's installed:

```
$ find / -name "*gcc.*"
/home/jrs007/.ssh/id_rsa_gcc.pub
/mingw64/bin/gcc.exe
/mingw64/bin/x86_64-w64-mingw32-gcc.exe
/mingw64/lib/gcc/x86_64-w64-mingw32/6.2.0/include/stdint-gcc.h
/mingw64/lib/gcc/x86_64-w64-mingw32/6.2.0/libgcc.a
/mingw64/share/info/gcc.info.gz
/mingw64/share/man/man1/gcc.1.gz
/usr/share/vim/vim80/compiler/gcc.vim
find: failed to read file names from file system at or below '/': No such file or directory

jrs007@JRS-OAR-Laptop MINGW64 /c/opt/rtems/rsb/source-builder
$ /mingw64/bin/x86_64-w64-mingw32-gcc.exe --version
x86_64-w64-mingw32-gcc.exe (Rev2, Built by MSYS2 project) 6.2.0
Copyright (C) 2016 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

~~#3228~~	2 years ago	fixed	tool/rsb	Chris Johns		2 years ago
Summary	aarch64 missing from 5/rtems-all build set					
Description	This arch needs to be added to the all build set.					
~~#3229~~	2 years ago	fixed	doc	Chris Johns	Chris Johns	19 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~~	2 years ago	fixed	rtems	Chris Johns	Chris Johns	2 days ago
Summary	RTEMS Top level README needs updating.					
Description	• Add markdown header. • Does the release process add a VERSION file to releases? • Docs link is wrong. • Anything else we need to add?					
~~#3232~~	2 years ago	fixed	doc	Chris Johns	Chris Johns	2 years ago
Summary	Use of `.. include::` in the User Manual should be changed.					
Description	This tricket for Sphinx highlights an issue when using `.. include::`, we should be using `.. toctree::`: https://github.com/sphinx-doc/sphinx/issues/3432					
~~#3234~~	2 years ago	invalid	doc	Joel Sherrill	Joel Sherrill	2 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~~	2 years ago	fixed	rtems	Sebastian Huber	Sebastian Huber	2 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~~	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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~~	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 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~~	2 years ago	fixed	admin	Chris Johns	Amar Takhar	19 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~~	2 years ago	fixed	dev	Sebastian Huber	Sebastian Huber	2 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~~	2 years ago	fixed	lib	Andrei Chichak	Chris Johns	2 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~~	2 years ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	2 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 - GRFPU Floating-point controller: Missing FDIV/FSQRT Result Daniel Cederman (4): [SPARC] Errata workaround for GRLIB-TN-0012 [SPARC] Errata workaround for GRLIB-TN-0011 [SPARC] Errata workaround for GRLIB-TN-0010 [SPARC] Errata workaround for GRLIB-TN-0013					
~~#3243~~	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	19 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~~	2 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~~	2 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Replace BSP_panic() with rtems_panic()					
Description	Due to a new rtems_panic() implementation, it is possible to replace the PowerPC-specific BSP_panic() with rtems_panic(). Remove BSP_panic() implementations.					
~~#3246~~	2 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove _BSP_Fatal_error()					
Description	BSPs can use the bsp_fatal_extension() to provide BSP-specific fatal error handling. There is no need for a _BSP_Fatal_error().					
~~#3247~~	2 years ago	fixed	build	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove BSP-specific defaults for RTEMS_BSP_CLEANUP_OPTIONS()					
Description	Remove BSP-specific defaults for RTEMS_BSP_CLEANUP_OPTIONS() to simplify the BSP configuration and documentation. Change default to: BSP_PRESS_KEY_FOR_RESET=0 BSP_RESET_BOARD_AT_EXIT=1 BSP_PRINT_EXCEPTION_CONTEXT=1					
~~#3248~~	2 years ago	fixed	build	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add BSP_VERBOSE_FATAL_EXTENSION to RTEMS_BSP_CLEANUP_OPTIONS					
Description	Add BSP_VERBOSE_FATAL_EXTENSION to RTEMS_BSP_CLEANUP_OPTIONS to optionally print the RTEMS version, the fatal source and the fatal code in the shared bsp_fatal_extension().					
~~#3249~~	2 years ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	2 years ago
Summary	imx7 does not link getentropy01 test on master					
Description	arm-rtems5-gcc -B../../../../../imx7/lib/ -specs bsp_specs -qrtems -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a7 -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -Wl,--gc-sections -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a7 -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--wrap=putchar -o getentropy01.exe init.o init.o: In function `test_getentropy': /home/joel/rtems-work/rtems-testing/rtems/build-arm-imx7-rtems/arm-rtems5/c/imx7/testsuites/libtests/getentropy01/../../../../../../rtems/c/src/../../testsuites/libtests/getentropy01/init.c:57: undefined reference to `getentropy' /home/joel/rtems-work/rtems-testing/rtems/build-arm-imx7-rtems/arm-rtems5/c/imx7/testsuites/libtests/getentropy01/../../../../../../rtems/c/src/../../testsuites/libtests/getentropy01/init.c:59: undefined reference to `getentropy'					
~~#3254~~	2 years ago	fixed	build	Sebastian Huber		17 months ago
Summary	Reorganize header files to avoid "make preinstall"					
~~#3255~~	2 years ago	duplicate	arch/powerpc	Joel Sherrill	Sebastian Huber	2 years ago
Summary	Warnings on 64-bit targets					

Description	This occurred on the 64 bit PowerPC and SPARC64 targets. log/powerpc-qoriq_e6500_64.log:../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:57:27: warning: cast to pointer from integer of different size [-Wint-to-pointer-cast] log/powerpc-qoriq_e6500_64.log:../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:64:27: warning: cast to pointer from integer of different size [-Wint-to-pointer-cast] log/powerpc-qoriq_e6500_64.log:../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:488:11: warning: format '%u' expects argument of type 'unsigned int', but argument 5 has type 'long int' [-Wformat=] log/powerpc-qoriq_e6500_64.log:../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:536:13: warning: format '%u' expects argument of type 'unsigned int', but argument 2 has type 'long int' [-Wformat=]					
~~#3256~~	2 years ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Ada run-time needs support for self-contained POSIX synchronization objects					
Description	Object types are hard coded in gcc/ada/s-osinte-rtems.ads.					
~~#3260~~	2 years ago	fixed	arch/sparc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	libpci depends on BSP-specific header files					
Description	The libpci is currently only used on SPARC. It is in cpukit, so BSP-specific header files are not allowed. Unfortunately this is not the case for libpci. However, it seems the the routines depending on BSP_PCI_BIG_ENDIAN are not used: grep -r 'pci_[ldst]\{2\}_' . ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint16_t pci_ld_le16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_le16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint32_t pci_ld_le32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_le32(volatile uint32_t *addr, uint32_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint16_t pci_ld_be16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_be16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint32_t pci_ld_be32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_be32(volatile uint32_t *addr, uint32_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint16_t pci_ld_le16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_le16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint32_t pci_ld_le32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_le32(volatile uint32_t *addr, uint32_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint16_t pci_ld_be16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_be16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint32_t pci_ld_be32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE void pci_st_be32(volatile uint32_t *addr, uint32_t val) Is this dead code and can I remove BSP_PCI_BIG_ENDIAN? Another issue is the use of a BSP-specific interrupt API in cpukit/libpci/pci/irq.h. The missing functions should be added to <rtems/irq-extension.h>.					
~~#3261~~	2 years ago	fixed	doc	Frédéric Jouault	Frédéric Jouault <f.jouault@...>	16 months ago
Summary	A couple of documentation typos					
Description	This patch includes a couple of typo corrections in the C User Manual.					
~~#3264~~	2 years ago	fixed	score	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add monotonic watchdog based on uptime					
Description	The CLOCK_MONOTONIC time services use currently the clock tick based watchdog. This is a problem in case the uptime (measured via the timercounter) and the ticks since boot drift away (measured via the clock ticks). Introduce a new watchdog which uses the uptime. The memory overhead is quite small (two pointers per processor).					
~~#3265~~	2 years ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Use second one based uptime for CLOCK_MONOTONIC for FreeBSD compatibility					
Description	This simplifies the CLOCK_MONOTONIC based time services. It is potentially important for libbsd.					
~~#3266~~	2 years ago	duplicate	lib	Chris Johns		2 years ago
Summary	cpukit/libpci references BSP headers.					
Description	On the `no-preinstall` branch of https://git.rtems.org/chrisj/rtems.git/ the build fails with: `sparc-rtems5-gcc --pipe -DHAVE_CONFIG_H -I.. -I/opt/work/chris/rtems/kernel/bsps/beagleboneblack/sparc-rtems5/c/erc32/include -I/opt/work/chris/rtems/kernel/rtems.git/cpukit/include -I/opt/work/chris/rtems/kernel/rtems.git/cpukit/score/cpu/sparc/include -mcpu=cypress -O2 -g -ffunction-sections -fdata-sections -MT pci_access.o -MD -MP -MF $depbase.Tpo -c -o pci_access.o /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pci_access.c &&\ mv -f $depbase.Tpo $depbase.Po In file included from /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/pci.h:23:0, from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pci_access.c:10: /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/pci/access.h:16:10: fatal error: libcpu/byteorder.h: No such file or directory #include <libcpu/byteorder.h> ^~~~~~~~~~~~~~~~~~~`  This header is found under:  `$ find . -name byteorder.h ./bsps/powerpc/include/libcpu/byteorder.h ./bsps/sparc/include/libcpu/byteorder.h ./bsps/i386/include/libcpu/byteorder.h`					
~~#3267~~	2 years ago	fixed	lib	Chris Johns		2 years ago
Summary	rtems/status-checks.h calls printk without including the needed header.					
Description	`/opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:74:7: warning: implicit declaration of function 'printk'; did you mean 'printf'? [-Wimplicit-function-declaration] printk(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"); ^~~~~~~~~~~~`					
~~#3268~~	2 years ago	fixed	arch/powerpc	Chris Johns		2 years ago
Summary	PowerPC BSP include naming mess.					

Description	The PowerPC BSP family headers need some refactoring for the RTEMS 5 release. The BSP family relies on the preinstall process to get suitable headers installed to work and removing `preinstall` exposes this. The specific issue appears with `irq.h` when building the `no-preinstall` branch. There is a PowerPC BSP family header and a number of BSPs also have an `irq.h` which overrides families header. The code has `#include <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~~	2 years ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Remove unused support for MPC505					
Description	There is some support for MPC505 in libcpu, however, I cannot find a BSP for this code. Remove this apparently dead code.					
~~#3277~~	2 years ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	2 years ago
Summary	QorIQ: Add MAC-less DPAA driver to libbsd					
Description	The SDK Linux DPAA driver supports a so called MAC-less interface driver. This driver allows Ethernet communication between guest systems of a hypervisor.					
~~#3278~~	2 years ago	fixed	tool	Joel Sherrill	Chris Johns	2 years ago
Summary	bsp-builder has incorrect print (%s in output)					
Description	I don't think the tools have branches so only impacts master. Notice the "run: %s:" [1114/1565] powerpc/mpc5674fevb (profiling) Configuring run: %s: powerpc/mpc5674fevb.profiling\ /home/joel/rtems-work/rtems/configure --target=powerpc-rtems5\ --enable-rtemsbsp=mpc5674fevb --prefix=/home/joel/rtems-work/bsps\ --enable-profiling					
~~#3281~~	2 years ago	wontfix	tool/gdb	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add epiphany support to GDB 8.0.0					
~~#3283~~	2 years ago	fixed	doc	Joel Sherrill	Chris Johns	2 years ago
Summary	Bad URL in OpenOCD/Xilinx_Zynq Wiki Page					
Description	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~~	2 years ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber <sebastian.huber@…>	2 years ago
Summary	RSB uses hard coded GCC binary paths					

Description	In order to build a tool chain with Ada support you need a native GCC with Ada support of the same version as the cross compiler. The RSB uses hard coded paths for the gcc and g++ programs:
	
	`source-builder/defaults.mc:__cc: exe, required, '/usr/bin/gcc'`
	`source-builder/defaults.mc:__cxx: exe, required, '/usr/bin/g++'`
	
	So, the RSB user must change the main GCC installation of the machine to build a particular RTEMS tool chain. This is undesired/infeasible in most situations.					

~~#3285~~	2 years ago	fixed	build	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Reorganize BSP source directory					

Description	Now, that all BSP header files are in
	
	• bsps/include
	• bsps/@RTEMS_CPU@/include
	• bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/include
	
	we should also move the BSP sources to this new directory tree. How do we want to organize the BSP sources in bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@?
	
	• include (this is already there, see ~~#3254~~)
	• config
	  ◦ somebsp.cfg
	• start (everything required to run a minimal application without devices)
	  ◦ start.S
	  ◦ bspstart.c
	  ◦ bspsmp.c
	  ◦ linkcmds
	• cache (everything for the cache controller support)
	• irq (everything for the interrupt controller support)
	• console (everything for the console driver)
	• clock (everything for the clock driver
	• i2c (everything for the I2C driver)
	• spi (everything for the SPI driver)
	• net (legacy network stack drivers)
	• mpci (RTEMS_MULTIPROCESSING support)
	• rtc (everything for the RTC driver)
	• ata (everything for the ATA driver)
	• contrib (import of external sources)
	  ◦ The layout of external sources should be used as is if possible.					

~~#3290~~	2 years ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	2 years ago
Summary	Add device tree support to Altera/Intel? Cyclone V BSP					
~~#3294~~	2 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 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~~	2 years ago	fixed	lib/dl	Chris Johns	Chris Johns	15 months ago
Summary	dlerror non-conformance					
Description	This is a port of the 4.11 patches from ~~#2747~~ to `master`. 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	20 months 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		19 months ago
Summary	rtems_task_create's initial_mode SMP update					
Description	The `initial_mode` cannot have the non-preempt flag or an interrupt level set or an RTEMS_UNSATISFIED error is returned. This is not documented in the directive.					
~~#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	The `define` call in `macros.py` checks for a `str` while the `__setitem__` call can convert a `unicode` string to `str`. Remove the check.
	Remove the other places in `macros.py` a `key` `str` check is made and see if they can be improved.
	The following has been reported to me:
	`cd rtems-source-builder-4.11.3/rtems`
	`../source-builder/sb-set-builder --prefix=/home/user/rtems/4.11 --log=arm.txt --without-rtems 4.11/rtems-arm`
	`Traceback (most recent call last):`
	`File "../source-builder/sb-set-builder", line 29, in <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'>`					

~~#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	bsps	mfletcher	Sebastian Huber	2 years ago
Summary	Improve INTERNAL_ERROR_THREAD_EXITTED to show the id and thread name					

Description	It might be more helpful i the case of a thread exit to output some information about that thread to make tracking it down simpler.
	This example works ok.
	static void thread_exitted_print_info(rtems_tcb *tcb) {
	printf("Thread exited: %s (id %d)\n", tcb->Object.name, tcb->Object.id)
	}
	/* In your configuration: */ #define CONFIGURE_INITIAL_EXTENSIONS \
	{ .thread_exitted = thread_exitted_print_info }					

~~#3320~~	2 years ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber <sebastian.huber@...>	22 months ago
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.

Description

```
.. 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.
```

~~#3323~~	2 years ago	fixed	lib	Chris Johns	Chris Johns	2 years ago

Summary: mhttpd's http etag can result in invalid caching in a browser.

Description:

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

Summary: Simplify clustered scheduler configuration

Description:

Improve the scheduler configuration documentation according to user review.

Do not use names derived from scheduler implementation details. Instead use names derived from the scheduler configuration or documentation. Provide defines for backward compatibility.

~~#3327~~	2 years ago	fixed	score	Joel Sherrill		2 years ago

Summary: Eliminate score/cpu/*/.../types.h

Description:

Each port contains a types.h file. It universally defines one type (CPU_Uint32ptr) that is required. Some of the types.h files define a CPU specific simple vectored ISR handler prototype.

- Move the CPU_Uint32ptr typedef to cpu.h
- If unused, delete the ISR handler prototype. If used, move to cpu.h

~~#3328~~	2 years ago	fixed	build	Amaan Cheval		2 years ago

Summary: bootstrap uses non-POSIX compliant echo -e

Description:

On certain shells, the "-e" option is not supported, and causes echo to output the flag along with the quoted text.

```
-> % sh
$ echo -e "foo bar"
-e foo bar
$
```

This varies by shell, and is not even consistent between sh or bash.

It was introduced while removing the make preinstall stage here, and may still work on most shells, though it didn't for me on sh on Ubuntu 16.04 LTS (4.4.0-78-generic x86_64 GNU/Linux) - as far as I can tell, this bug hasn't made it to any releases yet, so just fixing it on master should be enough.

A patch is attached.

Reference to the POSIX standard which confirms that -n is the only argument supported.

http://pubs.opengroup.org/onlinepubs/9699919799/utilities/echo.html

Link to POSIX for printf(1):

http://pubs.opengroup.org/onlinepubs/9699919799/utilities/printf.html

~~#3329~~	2 years ago	fixed	tool/website	Joel Sherrill	Amar Takhar	19 months ago

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

Description

```
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, **kwds)
  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
```

~~#3334~~	2 years ago	fixed	posix	Stavros Passas	Sebastian Huber	15 months ago

Summary: deadlock in _once()

Description:

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

Investigating deeper, seems like this happens if std::async executes before std::future gets scheduled to run. Both of these create a pthread_once instance.

_once() uses a common semaphore for all calls, thus the first function (async.get usually) gets the lock, calls its “init” function (which blocks until the second function has completed. After this, std::future also uses pthread_once to execute, but because the lock is already taken, it also blocks, casing a deadlock.

Attached you can find a test application that reproduces the deadlock.

~~#3339~~	2 years ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber <sebastian.huber@…>	4 months ago

Summary: Several PowerPC linker commands do not support constructors/destructors with priority

Description	This BSP shouldn't have trouble linking any of the tests so I was surprised at this failure. gmake[6]: Entering directory `/data/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuppc-rtems/powerpc-rtems5/c/qemuppc/testsuites/sptests/spglobalcon02' powerpc-rtems5-gcc -mcpu=603e -Dppc603e -O2 -g -fno-keep-inline-functions -mcpu=603e -Dppc603e -B/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuppc-rtems/powerpc-rtems5/c/qemuppc/lib/libbsp/powerpc/qemuppc -B/home/joel/rtems-work/rtems-testing/rtems/rtems/c/src/lib/libbsp/powerpc/qemuppc/startup/ -specs bsp_specs -qrtems -L../../../../../qemuppc/lib -L/home/joel/rtems-work/rtems-testing/rtems/rtems/c/src/lib/libbsp/powerpc/shared/startup -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--wrap=putchar -o spglobalcon02.exe init.o /data/home/joel/rtems-work/tools/5/bin/../lib/gcc/powerpc-rtems5/7.3.0/../../../../powerpc-rtems5/bin/ld: section .ctors.64535 LMA [00000000ffc19780,00000000ffc19783] overlaps section .sdata LMA [00000000ffc19780,00000000ffc19807] collect2: error: ld returned 1 exit status gmake[6]: *** **[spglobalcon02.exe] Error 1 gmake[6]: Leaving directory `/data/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuppc-rtems/powerpc-rtems5/c/qemuppc/testsuites/sptests/spglobalcon02' gmake[5]:** * [spglobalcon02] Error 2					
~~#3340~~	2 years ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber	2 years ago
Summary	gen83xx warning for macros redefined					
Description	log/powerpc-hsc_cm01.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/powerpc/gen83xx/include/bsp/hwreg_vals.h:244:0: warning: "FPGA_START" redefined log/powerpc-hsc_cm01.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/powerpc/gen83xx/include/bsp/hwreg_vals.h:246:0: warning: "FPGA_SIZE" redefined Looking at the code, it is pretty clear that the macros are redefined. Unfortunately one of the three has a different value the second time: == /* fpga BCSR register */ #define FPGA_START 0xF8000000 #define FPGA_SIZE 0x8000 #define FPGA_END (FPGA_START+FPGA_SIZE-1) /* • working values for various registers, used in start/start.S */ /* fpga config 16 MB size */ #define FPGA_CONFIG_START 0xF8000000 #define FPGA_CONFIG_SIZE 0x01000000 /* fpga register 8 MB size */ #define FPGA_REGISTER_START 0xF9000000 #define FPGA_REGISTER_SIZE 0x00800000 /* fpga fifo 8 MB size */ #define FPGA_FIFO_START 0xF9800000 #define FPGA_FIFO_SIZE 0x00800000 #define FPGA_START (FPGA_CONFIG_START) *fpga window size 32 MByte #define FPGA_SIZE (0x02000000) #define FPGA_END (FPGA_START+FPGA_SIZE-1)* ==					
~~#3341~~	2 years ago	fixed	arch/sparc64	Joel Sherrill	Gedare Bloom	2 years ago
Summary	sparc64: Macro Redefined					
Description	log/sparc64-usiii.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/sparc64/include/arch/stack.h:56:0: warning: "STACK_BIAS" redefined This is defined in two header files with the same value. Not sure what the proper fix is.					
~~#3342~~	2 years ago	fixed	posix	Joel Sherrill	Joel Sherrill	21 months ago
Summary	pthread_setschedparam() has incorrect prototype					
Description	We are missing the const on the third parameter. This requires a change to newlib and RTEMS. The correct prototype is: int pthread_setschedparam(pthread_t thread, int policy, const struct sched_param *param)					
~~#3343~~	2 years ago	fixed	posix	Joel Sherrill	Joel Sherrill	21 months ago
Summary	pthread_mutex_getprioceiling() has incorrect prototype					
Description	We are missing the const and restrict on the first parameter. This requires a change to newlib and RTEMS. The correct prototype is: int pthread_mutex_getprioceiling(const pthread_mutex_t *restrict mutex, int *prioceiling)					
~~#3344~~	2 years ago	fixed	arch/m68k	Joel Sherrill	Joel Sherrill	2 years ago
Summary	mcf5272/mcf5272.h Timer3 Duplicate Definition					
Description	This .h file uses the same macro names for two blocks of INT macros. My assumption given that the second looks to be a different INT, is that it should not be INT3 again but INT3. --- a/bsps/m68k/include/mcf5272/mcf5272.h +++ b/bsps/m68k/include/mcf5272/mcf5272.h @@ -88,9 +88,9 @@ #define MCF5272_ICR1_INT3_PI (bit(23)) #define MCF5272_ICR1_INT3_IPL(x) ((x) << 20) #define MCF5272_ICR1_INT3_MASK ((7) << 20) -#define MCF5272_ICR1_INT3_PI (bit(19)) -#define MCF5272_ICR1_INT3_IPL(x) ((x) << 16) -#define MCF5272_ICR1_INT3_MASK ((7) << 16) +#define MCF5272_ICR1_INT4_PI (bit(19)) +#define MCF5272_ICR1_INT4_IPL(x) ((x) << 16) +#define MCF5272_ICR1_INT4_MASK ((7) << 16)					
~~#3345~~	2 years ago	fixed	arch/powerpc	Joel Sherrill	Joel Sherrill	2 years ago
Summary	mvme3100 spaces needed around quote in macro definitions in bsp.h					
Description	Various BSP_I2c_XXX_DEV_NAME macros have a stray " at the end of the first parameter.					
~~#3346~~	2 years ago	fixed	arch/bfin	Joel Sherrill	Joel Sherrill	2 years ago
Summary	bf533.h					
Description	TIMER_STATUS, TIMER< DISABLE, and TIMER_ENABLE are defined in bf52x.h and in bf533.h. Disable second definition in full bf533 register set list and add a sanity check to ensure it stays the same. In file included from /home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/bfin/TLL6527M/include/bsp.h:28:0, from ../../../../../rtems/c/src/libchip/display/disp_hcms29xx.c:26: /home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/bfin/include/bf52x.h:43:0: warning: "TIMER_STATUS" redefined #define TIMER_STATUS 0xffc00648					
~~#3348~~	2 years ago	fixed	arch/powerpc	Joel Sherrill	Joel Sherrill	2 years ago
Summary	beatnick:spaces needed around quote in macro definitions in bsp.h					
Description	Macros need spaces around ","					
~~#3349~~	2 years ago	fixed	arch/i386	Joel Sherrill	Joel Sherrill	2 years ago
Summary	pc386 edid.h invalid macro names					
Description	Minus sign not underbar in macro name. -#define DVS_HDMI-a 0x2 -#define DVS_HDMI-b 0x3 +#define DVS_HDMI_a 0x2 +#define DVS_HDMI_b 0x3					
~~#3350~~	2 years ago	fixed	rtems	Joel Sherrill	Sebastian Huber	2 years ago
Summary	sptimecounter02 warning due to defining _KERNEL and disabling part of <sys/time.h>					

~~#3352~~	2 years ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	2 years ago

Summary: Warning in all lpc176x variants

Description:

The bottom of <sys/time.h> is protected by ifndef _KERNEL where gettimeofday() is prototyped. sptimecounter02 is the only test which trips this.

In file included from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/confdefs.h:323:0,

from ../../../../../../../rtems/c/src/../../testsuites/sptests/sptimecounter02/init.c:268:

/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/imfs.h: In function 'IMFS_update_atime': /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/imfs.h:345:3: warning: implicit declaration of function 'gettimeofday' [-Wimplicit-function-declaration]

gettimeofday(&now, 0);

~~#3354~~	2 years ago	fixed	arch/powerpc	Joel Sherrill	Joel Sherrill	2 years ago

Summary: PowerPC BSPs duplicate PAGE_MASK, etc redefinition

Description:

bsps/arm/lpc176x/include/bsp.h defines OPERATION_COUNT in an attempt to override the autoconf generated constant. This conflicts and results in this warning:

/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/arm/lpc176x/include/bsp.h:42:0: warning: "OPERATION_COUNT" redefined

I understand why this is lowered by the BSP but the mechanism used is not good. And if the include file order is different between tests, you could get the BSP value or the autoconf generated value based on the order.

This warning needs to be fixed and a safer mechanism for a BSP to override OPERATION_COUNT defined.

My first suggestion is to use BSP_OPERATION_COUNT and add logic to one of the common test .h files to undef OPERATION_COUNT and redefine it to BSP_OPERATION_COUNT if it is defined.

A safer option might be to change the name of the autoconf generated variable to OPERATION_COUNT_DEFAULT and rely on logic in a common test support .h to define OPERATION_COUNT to OPERATION_COUNT_DEFAULT or BSP_OPERATION_DEFAULT.

~~#3358~~	2 years ago	fixed	lib/block	Sebastian Huber	Sebastian Huber	17 months ago

Summary: Deprecate rtems_disk_create_phys(), etc.

Description:

The following BSPs:

powerpc-beatnik powerpc-mcp750 powerpc-mtx603e powerpc-mvme2100 powerpc-mvme2307 powerpc-mvme5500 powerpc-qemuprep-altivec powerpc-qemuprep

use bsps/powerpc/include/libcpu/page.h which defines _ALIGN, PAGE_MASK, and PAGE_SIZE. These are defined by <machine/param.h>. I think the solution is to delete the versions in libcpu/page.h. Comments appreciated.

========== In file included from ../../../../../../../rtems/c/src/lib/libbsp/powerpc/mvme5500/../../powerpc/shared/startup/pgtbl_setup.c:3:0: /home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/powerpc/include/libcpu/page.h:22:0: warning: "PAGE_MASK" redefined

#define PAGE_MASK (~(PAGE_SIZE-1))

In file included from /data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/sys/_cpuset.h:36:0,

from /data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/sys/cpuset.h:45, from /data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/sys/_pthreadtypes.h:24, from /data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/sys/types.h:239, from /data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/sys/time.h:43, from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/timestamp.h:43, from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/thread.h:36, from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/heap.h:22, from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/rtems/types.h:26, from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems.h:31, from ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mvme5500/../../powerpc/shared/startup/pgtbl_setup.c:1:

/data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/machine/param.h:70:0: note: this is the location of the previous definition

#define PAGE_MASK (PAGE_SIZE - 1)

~~#3374~~	2 years ago	fixed	tool	Joel Sherrill	Chris Johns	19 months ago

Summary: rtems-test does not honor --mail-from argument

Description:

This is on the master but may apply to other branches.

$ /home/joel/rtems-work/rtems-tools*tester/rtems-test --rtems-tools=/home/joel/rtems-work/tools/5 --rtems-bsp=erc32 --log=run.log --mail --mail-from=joel@... --mail-to=build@... ./sparc-rtems5/c/erc32/testsuites/samples/base_sp/base_sp.exe error: no valid from address for mail*

The rtems-test command will work if you have a ~/.mailrc with something like this:

set from="Joel Sherrill <joel@...>"

~~#3375~~	2 years ago	fixed	build	Sebastian Huber	Sebastian Huber	19 months ago

Summary: Remove command line pre-processor defines

Description:

Command line defines defined by the build system make it difficult get a consistent view of the sources from other entities, e.g. static code analysis, code editors and reviews.

Command line defines are currently used here:

```
c/src/lib/libbsp/mips/hurricane/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -DRM52XX
c/src/lib/libbsp/mips/rbtx4938/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -DTX49
c/src/lib/libbsp/mips/jmr3904/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -DTX39
cpukit/pppd/Makefile.am:libpppd_a_CPPFLAGS = $(AM_CPPFLAGS) -D__BSD_VISIBLE -I$(srcdir)/../libmd
cpukit/libfs/Makefile.am:libjffs2_a_CPPFLAGS += -D__ECOS
cpukit/libfs/Makefile.am:libjffs2_a_CPPFLAGS += '-DKBUILD_MODNAME="JFFS2"'
cpukit/mghttpd/Makefile.am:# libmghttpd_a_CPPFLAGS += -DHAVE_MD5
cpukit/mghttpd/Makefile.am:libmghttpd_a_CPPFLAGS += -DNO_SSL -DNO_POPEN -DNO_CGI -DUSE_WEBSOCKET
cpukit/librpc/Makefile.am:librpc_CPPFLAGS = -D_RPC_read=read -D_RPC_write=write -D_RPC_close=close \
cpukit/libnetworking/Makefile.am:libnetworking_CPPFLAGS = -DINET -DNFS \
cpukit/libnetworking/Makefile.am:libc_CPPFLAGS = -DNOPOLL -DNOSELECT -D__BSD_VISIBLE -D_THREAD_SAFE
cpukit/libnetworking/Makefile.am:lib_CPPFLAGS = -DNOPOLL -DNOSELECT
cpukit/libnetworking/Makefile.am:lib_a_CPPFLAGS = $(AM_CPPFLAGS) $(lib_CPPFLAGS) -D__BSD_VISIBLE
cpukit/libdl/Makefile.am:libdl_a_CPPFLAGS = $(AM_CPPFLAGS) -DRTEMS_RTL_RAP_LOADER=1 -DRTEMS_RTL_ELF_LOADER=1
```

~~#3376~~	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago

Summary: Remove cklength program

Description:

The cklength program (tools/build/cklength.c) has no license information and is unused in the RTEMS build. General usability is questionable, for example a

```
awk 'length($0) > 80' < file
```

performs a similar task. Remove it.

~~#3377~~	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago

Summary: Remove eolstrip program

Description

The eolstrip program (tools/build/eolstrip.c) has no license information and is unused in the RTEMS build. General usability is questionable, for example a

```
sed -i 's/[[:space:]]*$//' file
```

performs a similar task. Remove it.

~~#3378~~	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago

Summary: Remove unhex program

Description: The unhex program (tools/build/unhex.c) has no license information and is unused in the RTEMS build. Users of HEX files should consider to use ELF instead. Remove it.

~~#3379~~	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago

Summary: Remove packhex program

Description: The packhex program (tools/build/packhex.c) is exported to the standard RTEMS build infrastructure via the PACKHEX variable. It is used by some legacy BSPs. It as unclear license information:

```
/*****  P A C K H E X . C  ********************************************
*
*   Packhex is a hex-file compaction utility.  It attempts to concatenate
*   hex records to produce more size-efficient packaging.
*
*   Limitations: Input files must be correctly formatted.  This utility
*                is not robust enough to detect hex-record formatting
*                errors.
*
*   Published:   May 1993 Embedded Systems Programming magazine
*                "Creating Faster Hex Files"
*
*   URL:         ESP magazine: http://www.embedded.com
*                Source Code:  ftp://ftp.mfi.com/pub/espmag/1993/pakhex.zip
*
*   Author:      Mark Gringrich
*
*   Compiler:    Microsoft C 6.0
*                cl /F 1000 packhex.c
*
*****************************************************************************/
```

Move it to rtems-tools.

~~#3380~~	2 years ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago

Summary: Move rtems-bin2c program to rtems-tools

Description: The rtems-bin2c program (tools/build/rtems-bin2c.c) is exported to the standard RTEMS build infrastructure via the BIN2C variable. Move it to rtems-tools.

~~#3381~~	2 years ago	fixed	doc	Joel Sherrill	Chris Johns	23 hours ago

Summary: rtems-test command line documentation appears to be out of date

Description: https://docs.rtems.org/branches/master/user/tools/tester.html#command-line-help does not look like the current output of the --help.

This may also apply to other branches and branch specific tickets filed.

~~#3382~~	2 years ago	fixed	build	Chris Johns	Chris Johns	19 months ago

Summary: Testsuite Makefile merge to one per group of tests

Description: Merge the nested Makefile.am files into a single file per group of tests.

A single Makefile.am for all tests is not practical at this point in time because a test is an estimated 7 lines and with over 750 tests this means the file would be too big and a conflict hot spot.

~~#3383~~	2 years ago	fixed	build	Chris Johns	Chris Johns	2 years ago

Summary: Require --enable-rtemsbsp with --enable-smp or --enable-multiprocessor

Description: There is a limited number of BSPs that support SMP or MP so using the BSP wildcard will result in a failed build. Require the user provide a BSP.

~~#3384~~	2 years ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	5 months ago

Summary: Prefer int for int32_t

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 *);
```

Description

and C++

```
test.c: In function 'void h()':
test.c:12:4: error: invalid conversion from 'int*' to 'int32_t* {aka long int*}' [-fpermissive]
  g(&i);
    ^~
test.c:7:6: note:   initializing argument 1 of 'void g(int32_t*)'
 void g(int32_t *);
      ^
```

This is due to a Newlib speciality which uses long for int32_t if long is a 32-bit type. To ease the use of third party software in RTEMS we should override this option and use int for int32_t just like the standard host operating systems (e.g. Linux and FreeBSD). Only a small GCC patch is required to do this:

```
diff --git a/gcc/config/rtems.h b/gcc/config/rtems.h
index 439199d4cbb..9b1408efe6f 100644
--- a/gcc/config/rtems.h
+++ b/gcc/config/rtems.h
@@ -48,3 +48,7 @@
  -latomic -lc -lgcc --end-group %{!qnolinkcmds: -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
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	19 months ago
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	4 months ago
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@...	3 weeks ago
Summary	rtems-tester: possible parsing error for qemuprep-altivec on exclude SMP configuration					

Description	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! 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		19 months ago
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
Summary	NFS: Remove support for cexp					
Description	There is some support for cexp and tests in the NFS client directory: cpukit/libfs/src/nfsclient/src/cexphelp.c cpukit/libfs/src/nfsclient/src/dirutils.c cpukit/libfs/src/nfsclient/src/nfs.modini.c cpukit/libfs/src/nfsclient/src/nfsTest.c cpukit/libfs/src/nfsclient/src/rpcio.modini.c There are also some *.rel files installed. This stuff is probably unused. If it is still in use it should move elsewhere, e.g. some general cexp support outside of the main RTEMS sources. Dead/untested code should not be present in the RTEMS code base. See also: https://lists.rtems.org/pipermail/users/2018-April/032182.html					
~~#3392~~	2 years ago	fixed	tool/rsb	Chris Johns	Chris Johns	2 years ago
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
Summary	rtems-ld does not remove executable when there is an output error					
Description	An error when outputting an executable does not clean up the file and leaves an incorrect format file. This is happening with the beagle bone black BSP and test dl06.					
~~#3396~~	2 years ago	fixed	tool	Chris Johns	Chris Johns	2 years ago
Summary	rtems-ld does not handle R_ARM_V4BX relocation records					
Description	The R_ARM_V4BX does not have a symbol and this raised an error with dl06 with a ARMv7 instruction set when merging sections when creating a RAP image. Ignore this relocation record.					
~~#3397~~	2 years ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 years ago
Summary	The register keyword is deprecated in C++11					

Description	The following code gives a warning with GCC and -std=c++17:
	
	``
	void f(void)
	{
	  register int i;
	}
	``
	
	``
	test.cc: In function 'void f()':
	test.cc:3:15: warning: ISO C++1z does not allow 'register' storage class specifier [-Wregister]
	  register int i;
	               ^
	``
	
	Remove the use of the register keyword at least in the public header files for C++ compatibility.					

~~#3401~~	2 years ago	fixed	tool	Joel Sherrill	chrisj@...	19 months ago
Summary	dl06: tms570* Mixed LSB/MSB Error					
Description	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@...	19 months ago
Summary	dl06: mips hurricane Mixed Endian Error					
Description	Also occurs on rbtx4925 and rbtx4938 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
Summary	RSB RTEMS tool set build is irreproducible					
Description	The RTEMS 5 tool set contains the RTEMS tools (rtems-tools). The version of the RTEMS tools is determined by the tool set build time since the current Git master branch is fetched. Instead use an explicit RTEMS tools version (similar to all other tools, e.g. Binutils, Newlib, GCC, GDB) to make the RTEMS tool set independent of the arbitrary build time.					

~~#3407~~	2 years ago	fixed	tool	Joel Sherrill		18 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	4 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	4 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	19 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@…>	5 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	19 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@…	19 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.T 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	19 months ago
Summary	examples-v2: no MIPS BSPs pass configuration step					

Description

```
Checking for program 'ar'                 : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar
Checking for program 'g++, c++'           : /home/joel/rtems-work/tools/5/bin/mips-rtems5-g++
Checking for program 'ar'                 : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar
Checking for program 'gas, gcc'           : /home/joel/rtems-work/tools/5/bin/mips-rtems5-gcc
Checking for program 'ar'                 : /home/joel/rtems-work/tools/5/bin/mips-rtems5-ar
Compiler version (mips-rtems5-gcc)        : 7.3.0 20180125 (RTEMS 5, RSB 6d9c77c77d271d1fc2dfe8493d6713930b52a6dd, Newlib 3.0.0)
Checking for RTEMS CPU options header     : started
-> processing test results               : 1 test failed
One of the tests has failed, read config.log for more information
(complete log in /data/home/joel/rtems-work/examples-v2/build/config.log)
+ check_fatal 1 'failed waf configure - examples-v2 on rbtx4925'
```

~~#3425~~	2 years ago	fixed	unspecified	Joel Sherrill		23 months ago

Summary: examples-v2: PowerPC fails to build fat_ramdisk

Description:

beatnik, gwlcfm, haleakala, mpc5566evb, mpc5566evb_spe, mpc5566evb_spe, mpc5643l_evb, mpc5668g, mpc5674f_ecu508_app, mpc5674f_ecu508_boot, mpc5674fevb, mpc5674fevb_spe, mpc5674f_rsm6, mvme3100, mvme3100, phycore_mpc5554, qemuprep-altivec, qemuprep

```
[5/7] Compiling build/powerpc-rtems5-beatnik/filesystem/fat_ramdisk/fs-root.tar
In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/libcpu/powerpc-utility.h:40:0,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp/vectors.h:40,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp.h:27,
                 from ../../gdb/overwrite/rtems_init.c:7:
/home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
 #error "Unsupported CPU Model"
  ^~~~~

In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/libcpu/powerpc-utility.h:40:0,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp/vectors.h:40,
                 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp.h:27,
                 from ../../hello/hello_world_c/test.c:21:
/home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
 #error "Unsupported CPU Model"
  ^~~~~

Waf: Leaving directory `/data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-beatnik'
Build failed
```

~~#3432~~	2 years ago	wontfix	score	Joel Sherrill		20 months ago

Summary: Remove Simple SMP Priority Scheduler

Description:

This scheduler was the first SMP scheduler added. It was created to have an easy SMP scheduler to debug. This was especially important when all of the SMP modifications and support were new. A Simple Scheduler has a use case as a low resource alternative for small uniprocessor systems. But the SMP variant just doesn't seem to have a good use case. If you have an SMP system, the application is almost certain to have enough resources where the more complicated data structures used by the other schedulers wouldn't be a burden. The Deterministic Priority Scheduler uses ~3K for FIFO with 256 priorities. This should not be an issue for an SMP system.

This ticket is a proposal to remove this as no longer having a use case.

~~#3433~~	2 years ago	fixed	arch/riscv	Sebastian Huber	Sebastian Huber	16 months ago

Summary: Add SMP support for RISC-V

Description:

The project includes the following tasks:

- add CPU counter support
- add context validation code
- add BSP support for Qemu
- add support for device tree provided by Qemu
- fix all unexpected test suite failures running on Qemu
- add build system support to enable an SMP build
- add SMP implementation

~~#3434~~	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	21 months ago

Summary: Add CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configuration option

~~#3435~~	2 years ago	fixed	config	Sebastian Huber	Sebastian Huber	20 months 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	5 months ago

Summary: Remove clock driver Clock_driver_support_shutdown_hardware() hook

Most applications use a clock driver and most BSPs use the clock driver framework provided by clockimpl.h. This framework offers a Clock_driver_support_shutdown_hardware() hook which is used like this.

```
#ifdef Clock_driver_support_shutdown_hardware
/**
 *  @brief Clock_exit
 *
 *  This routine allows the clock driver to exit by masking the interrupt and
 *  disabling the clock's counter.
 */
void Clock_exit( void )
{
  Clock_driver_support_shutdown_hardware();

  /* do not restore old vector */
}
#endif
...
#ifdef Clock_driver_support_shutdown_hardware
  atexit( Clock_exit );
#endif
```

The aim is to stop clock tick interrupts at some late point in the exit() procedure.

The use of atexit() pulls in malloc() which pulls in errno. It is incompatible with the intention of the CONFIGURE_DISABLE_NEWLIB_REENTRANCY configuration option.

The exit() function must be called from thread context, so accompanied clock tick interrupts should cause no harm. On the contrary, someone may assume a normal operating system operation, e.g. working timeouts.

Remove the superfluous Clock_driver_support_shutdown_hardware() hook.

~~#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~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove shgen program					
Description	Rename it to rtems-shgen.					
~~#3444~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Remove nios2gen program					
Description	Rename it to rtems-nios2gen					
~~#3445~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove multigen script					
Description	This script is unused and out dated.					
~~#3446~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove cvsignore-add.sh script					
Description	This script is obsolete since moving to Git.					
~~#3447~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove rtems-testsuite-autostuff script					
Description	It is not used.					
~~#3451~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months 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~~	23 months ago	fixed	arch/riscv	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Update RISC-V tool chain to support standard 64-bit chips					
Description	First step is to include this bug fix in Binutils: https://sourceware.org/bugzilla/show_bug.cgi?id=23244 Second step is a multilib update. Third step is a merge of the riscv32 and riscv64 tool chains into a single riscv tool chain.					
~~#3453~~	23 months ago	fixed	arch/riscv	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Add RISC-V GDB					
~~#3454~~	23 months ago	fixed	doc	Vidushi Vashishth	Vidushi Vashishth	14 months ago
Summary	Tracing Framework Documentation in User Manual					
Description	1) Write up a new chapter in the user manual regarding the existing tracing framework in RTEMS. Include a description of the components of the tracing framework and the various techniques used to generate traces currently. Add explanatory demonstrations and samples. 2) Expand the chapter to include CTF generation (currently under development) as it evolves.					
~~#3455~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Remove install-if-change script					
Description	The last installed tool in RTEMS repository is the install-if-change script. This script does the same as the standard "install" program with an additional feature to install variants via the -V command line option. This script is used by the standard Makefile support: c/src/make/host.cfg.in:INSTALL_CHANGE=$(PROJECT_BIN)/install-if-change The INSTALL_CHANGE is used by: c/src/make/host.cfg.in:ifndef INSTALL_CHANGE c/src/make/host.cfg.in:INSTALL_CHANGE=$(PROJECT_BIN)/install-if-change c/src/make/host.cfg.in:INSTALL_VARIANT=$(INSTALL_CHANGE) -V "$(LIB_VARIANT)" Is the variant stuff still supported? I would remove the support for it and replace the "install-if-change" script with the standard "install" program.					

~~#3458~~	23 months ago	fixed	tool	Chris Johns	Chris Johns <chrisj@...>	23 months ago

Summary: rtems-test should not use the env PATH to find covoar

Description:

The `rtems-test` command should know where `covoar` is when invoking it. It cannot use the environment's path. The path can contain invalid or outdated versions with subtle issues that could be hard to find.

There should be no need to run install to use and test `rtems-test` with coverage.

The `rtems-test` python code for running the tests knows where it is and adjusts. For example using an absolute path to `rtems-tests` in a build directly results in it being able to find the development tree `rtemstoolkit` and configuration data. The command needs to be taught to find the development version of `covoar`.

Note, currently `covoar` needs external tools and this is currently using the environment's path however there is work underway to remove this dependence so there case does not need to be handled.

~~#3459~~	23 months ago	fixed	score	Sebastian Huber	Sebastian Huber	14 months ago

Summary: Rework initialization and interrupt stack support

Description:

We need an initialization stack to run the sequential system initialization before multitasking is enabled. The system initialization is done with interrupts disabled.

We need an interrupt stack for interrupt processing. This helps to avoid a per thread stack overhead for interrupt processing. The size for interrupt stack is application dependent, e.g. maximum interrupt nest level, stack demands of interrupt handlers.

The initialization and interrupt stacks are needed for each processor in the system.

Since interrupts are disabled during the sequential system initialization we can re-use the interrupt stack for the initialization stack. This is important for low end targets, with very limited RAM sizes. We need the initialization stack before a proper C run-time environment is set up e.g. we cannot assume that the access to global data is available. The stack memory area begin and size should be available via global symbols (named addresses). On some BSPs, e.g. ARM, this is done via the linker command file.

It should be possible to set the stack size via the CONFIGURE_INTERRUPT_STACK_SIZE configuration option and not via some magic stuff in linker command files.

Many BSPs set the BSS area to zero during system initialization. Thus, the initialization stack must not be contained in the BSS area.

The interrupt stack implementation is currently controlled by the following CPU port defines:

```
/**
 * Does RTEMS manage a dedicated interrupt stack in software?
 *
 * If TRUE, then a stack is allocated in @ref _ISR_Handler_initialization.
 * If FALSE, nothing is done.
 *
 * If the CPU supports a dedicated interrupt stack in hardware,
 * then it is generally the responsibility of the BSP to allocate it
 * and set it up.
 *
 * If the CPU does not support a dedicated interrupt stack, then
 * the porter has two options: (1) execute interrupts on the
 * stack of the interrupted task, and (2) have RTEMS manage a dedicated
 * interrupt stack.
 *
 * If this is TRUE, @ref CPU_ALLOCATE_INTERRUPT_STACK should also be TRUE.
 *
 * Only one of @ref CPU_HAS_SOFTWARE_INTERRUPT_STACK and
 * @ref CPU_HAS_HARDWARE_INTERRUPT_STACK should be set to TRUE.  It is
 * possible that both are FALSE for a particular CPU.  Although it
 * is unclear what that would imply about the interrupt processing
 * procedure on that CPU.
 *
 * Port Specific Information:
 *
 * XXX document implementation including references if appropriate
 */
#define CPU_HAS_SOFTWARE_INTERRUPT_STACK FALSE

/**
 * Does this CPU have hardware support for a dedicated interrupt stack?
 *
 * If TRUE, then it must be installed during initialization.
 * If FALSE, then no installation is performed.
 *
 * If this is TRUE, @ref CPU_ALLOCATE_INTERRUPT_STACK should also be TRUE.
 *
 * Only one of @ref CPU_HAS_SOFTWARE_INTERRUPT_STACK and
 * @ref CPU_HAS_HARDWARE_INTERRUPT_STACK should be set to TRUE.  It is
 * possible that both are FALSE for a particular CPU.  Although it
 * is unclear what that would imply about the interrupt processing
 * procedure on that CPU.
 *
 * Port Specific Information:
 *
 * XXX document implementation including references if appropriate
 */
#define CPU_HAS_HARDWARE_INTERRUPT_STACK TRUE

/**
 * Does RTEMS allocate a dedicated interrupt stack in the Interrupt Manager?
 *
 * If TRUE, then the memory is allocated during initialization.
 * If FALSE, then the memory is allocated during initialization.
 *
 * This should be TRUE is CPU_HAS_SOFTWARE_INTERRUPT_STACK is TRUE.
 *
 * Port Specific Information:
 *
 * XXX document implementation including references if appropriate
 */
#define CPU_ALLOCATE_INTERRUPT_STACK TRUE
```

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

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

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

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

The optional _CPU_Interrupt_stack_setup() is still useful to customize the registration of the interrupt stack area in the per-CPU information.

~~#3460~~	23 months ago	fixed	tool/gdb	Chris Johns	Chris Johns	15 months ago
Summary	GDB 8 SIS LEON2 LEON3 Patches					
Description	Jiri patch for gdb-8.0.1.					
~~#3461~~	23 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	23 months ago
Summary	Canadian cross compilation of RTEMS tools not supported for x86_64-w64-mingw32					
~~#3463~~	23 months ago	fixed	tool	Chris Johns		19 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~~	22 months ago	fixed	fs/jaffs2	Sebastian Huber	Sebastian Huber	19 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.c fs/jffs2/nodelist.h fs/jffs2/nodemgmt.c fs/jffs2/read.c fs/jffs2/readinode.c
fs/jffs2/scan.c fs/jffs2/summary.h fs/jffs2/write.c fs/jffs2/xattr.h
```

We need a source file transformation in the patches:

```
sed -i 's%/fs/jffs2%/cpukit/libfs/src/jffs2/src%g' 00*
```

To support the first commit:

```
From e8bbeeb755a077cfc0f814b07739f9225642d65c Mon Sep 17 00:00:00 2001
From: Cody P Schafer <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~~	22 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	22 months ago
Summary	Update libfdt as of date 2018-07-09					
Description	The initial import of libfdt was in 2015. Update it to the version as of date 2018-07-09.					
~~#3472~~	22 months ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	15 months ago
Summary	Update of libbsd to a version close to the FreeBSD 12 release					
Description	The FreeBSD project is about to prepare the FreeBSD 12 release soon: https://www.freebsd.org/releases/12.0R/schedule.html Use this time frame to update the libbsd stepwise to a FreeBSD trunk version close to the FreeBSD 12 release.					
~~#3475~~	21 months ago	fixed	score	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch prediction hints					
Description	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~~	21 months ago	fixed	arch/riscv	Joel Sherrill	Sebastian Huber	20 months ago
Summary	RISCV BSP Tester Cleanup Needed					

Description	rtems-tools currently has the following bsp testing configurations:
	`$ find . -name "*riscv*ini"`
	`./tester/rtems/rtems-bsps-riscv64.ini`
	`./tester/rtems/testing/bsps/riscv64_generic.ini`
	`./tester/rtems/testing/bsps/riscv_generic.ini`
	`./tester/rtems/rtems-bsps-riscv32.ini`
	rtems-bsps.ini does not include the riscv.
	tester/rtems/rtems-bsps-tiers.ini does not list the riscv					

~~#3480~~	21 months ago	fixed	config	Sebastian Huber	Sebastian Huber	18 months ago
Summary	CONFIGURE_MINIMUM_TASK_STACK_SIZE may affect CONFIGURE_INTERRUPT_STACK_SIZE					

Description	In case an application defines CONFIGURE_MINIMUM_TASK_STACK_SIZE, then this may change the CONFIGURE_INTERRUPT_STACK_SIZE as well:
	`#ifndef CONFIGURE_INTERRUPT_STACK_SIZE`
	`  #ifdef 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~~	21 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Relax the buffer alignment required by rtems_partition_create()					

Description	Buffer alignment required by rtems_partition_create() is too strict since it is checked via _Addresses_Is_aligned() which is
	`RTEMS_INLINE_ROUTINE bool _Addresses_Is_aligned (`
	`  const void *address`
	`)`
	`{`
	`#if (CPU_ALIGNMENT == 0)`
	`  return true;`
	`#else`
	`  return (((uintptr_t)address % CPU_ALIGNMENT) == 0);`
	`#endif`
	`}`
	The CPU_ALIGNMENT must take long double and vector data type alignment requirements into account. For the partition maintenance only pointer alignment is required. The user should ensure that its buffer is suitable for the items it wants to manage. The user should not be burdened to provide buffers with the maximum architecture alignment, e.g. why need a 16 byte aligned buffer if you want to manage items with 4 byte integers only?					

~~#3484~~	21 months ago	fixed	fs/rfs	Sebastian Huber	Sebastian Huber	21 months ago

Summary	RFS: Remove stray call of rtems_disk_release() in rtems_rfs_buffer_sync()					
Description	The function rtems_rfs_buffer_sync() erroneously calls rtems_disk_release(). This screws up the reference counting of the disk.					
~~#3486~~	21 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Use uintptr_t and size_t instead of uint32_t in rtems_partition_create()					
Description	Use uintptr_t to specify the length of the partition buffer area instead of uint32_t. This is in line with rtems_region_create(). On 64-bit targets, the length may exceed 4GiB. Use size_t for the buffer size, since on some targets the single object size is less than the overall address range, e.g. m32c sizeof(uintptr_t) > sizeof(size_t).					
~~#3488~~	21 months ago	fixed	config	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Remove CONFIGURE_HAS_OWN_MOUNT_TABLE					
Description	RTEMS has the configuration option CONFIGURE_HAS_OWN_MOUNT_TABLE since 1999. This configuration option is broken since RTEMS 4.11. Remove this broken configuration option.					
~~#3489~~	21 months ago	fixed	config	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Obsolete CONFIGURE_HAS_OWN_CONFIGURATION_TABLE					
Description	Obsolete the CONFIGURE_HAS_OWN_CONFIGURATION_TABLE configuration option. The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes.					
~~#3490~~	21 months ago	fixed	config	Sebastian Huber	Sebastian Huber	13 months ago
Summary	Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE					
Description	This configuration option was obsoleted in RTEMS 5.1.					
~~#3491~~	21 months ago	fixed	posix	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Align mprotect() prototype with POSIX					
Description	The correct prototype is: `int mprotect(void *, size_t, int);`					
~~#3496~~	21 months ago	fixed	score	Sebastian Huber	Sebastian Huber	21 months ago
Summary	Remove superfluous interrupt enable in _Thread_Dispatch_enable()					

Description	The _Thread_Dispatch_enable() contains a superfluous interrupt enable. This bug had probably no effect since the interrupt enable is idempotent on all CPU ports.
	`RTEMS_INLINE_ROUTINE void _Thread_Dispatch_enable( Per_CPU_Control *cpu_self )`
	`{`
	`  uint32_t disable_level = cpu_self->thread_dispatch_disable_level;`
	`  if ( disable_level == 1 ) {`
	`    ISR_Level level;`
	`    _ISR_Local_disable( level );`
	`    if (`
	`      cpu_self->dispatch_necessary`
	`#if defined(RTEMS_SCORE_ROBUST_THREAD_DISPATCH)`
	`        || !_ISR_Is_enabled( level )`
	`#endif`
	`    ) {`
	`      _Thread_Do_dispatch( cpu_self, level ); <-- This function enabled interrupts`
	`    } else {`
	`      cpu_self->thread_dispatch_disable_level = 0;`
	`      _Profiling_Thread_dispatch_enable( cpu_self, 0 );`
	`    }`
	`    _ISR_Local_enable( level ); <-- Here we enable it again`
	`  } else {`
	`    _Assert( disable_level > 0 );`
	`    cpu_self->thread_dispatch_disable_level = disable_level - 1;`
	`  }`
	`}`					

~~#3498~~	21 months ago	fixed	doc	Jens Schweikhardt	Sebastian Huber	21 months ago
Summary	Command and Variable Index is empty					
Description	The Command and Variable Index, https://docs.rtems.org/branches/master/cpu-supplement/command.html does not contain any commands or variables. If this chapter does not apply to RTEMS it should not be generated. If it does apply, it should contain what its title promises.					
~~#3499~~	21 months ago	fixed	doc	Jens Schweikhardt	Sebastian Huber	21 months ago
Summary	The "Index" chapter is empty					
Description	The "Index" chapter, https://docs.rtems.org/branches/master/cpu-supplement/genindex.html is empty. This chapter should contain a usable and helpful index or not be generated at all.					
~~#3500~~	21 months ago	fixed	tool	Chris Johns	Chris Johns <chrisj@...>	21 months ago
Summary	Change rtems_waf's RTEMS path check from `bin` to share/rtems<version>`					
Description	Currently `rtems_waf` checks for a `bin` directory in the RTEMS path. There is no `bin` directory any more so this test needs to be changed to `share/rtems<version>`.					
~~#3501~~	21 months ago	fixed	arch/powerpc	Joel Sherrill	Christian Mauderer	21 months ago
Summary	MSR_RI defined multiple places					
Description	Two files define the MSR_RI macro. Since one is a register name on the PowerPC, this shows up on 48 PowerPC BSPs. This is one example. log/powerpc-qoriq_e6500_64.log:../../../../../../rtems/c/src/../../cpukit/dev/serial/sc16is752-regs.h:117:0: warning: "MSR_RI" redefined log/powerpc-qoriq_e6500_64.log: #define MSR_RI (1u << 6) log/powerpc-qoriq_e6500_64.log: #define MSR_RI (1<<1) /* Recoverable Exception */ log/powerpc-qoriq_e6500_64.log:../../../../../../rtems/c/src/../../cpukit/dev/serial/sc16is752-regs.h:117:0: warning: "MSR_RI" redefined log/powerpc-qoriq_e6500_64.log: #define MSR_RI (1u << 6) log/powerpc-qoriq_e6500_64.log: #define MSR_RI (1<<1) /* Recoverable Exception */					
~~#3502~~	21 months ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	21 months ago
Summary	PL111_LCD_CONTROL_LCD_BPP_16 Redefined					
Description	The constant PL111_LCD_CONTROL_LCD_BPP_16 is defined twice in the file bsps/arm/include/bsp/arm-pl111-regs.h: #define PL111_LCD_CONTROL_LCD_BPP_16 0x04U #define PL111_LCD_CONTROL_LCD_BPP_24 0x05U #define PL111_LCD_CONTROL_LCD_BPP_16 0x06U #define PL111_LCD_CONTROL_LCD_BPP_12 0x07U Given the context, I am guessing the first one should be BPP_32 but since Sebastian added the file, I am assuming he has docs and can answer this question for sure.					

~~#3503~~	21 months ago	fixed	doc	Chris Johns	Chris Johns	21 months ago
Summary	PDF Documentation is missing an index					
Description	The PDF generated documents have an empty index.					
~~#3504~~	21 months ago	fixed	arch/powerpc	Joel Sherrill	Sebastian Huber	20 months ago
Summary	Warning and formatting in bsps/powerpc/mpc55xxevb/dev/dspi.c					
Description	This is a printf format warning. Also the file is formatted with tabs and not two spaces. In file included from ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../../../../../bsps/powerpc/mpc55xxevb/dev/dspi.c:32:0: ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../../../../../bsps/powerpc/mpc55xxevb/dev/dspi.c: In function 'mpc55xx_dspi_edma_done': /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/status-checks.h:88:23: warning: format '%x' expects argument of type 'unsigned int', but argument 3 has type 'uint32_t {aka long unsigned int}' [-Wformat=] RTEMS_SYSLOG_PRINT("%s: " fmt, func, ##VA_ARGS) /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/status-checks.h:76:15: note: in definition of macro 'RTEMS_SYSLOG_PRINT' printk(fmt, ##VA_ARGS) /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/status-checks.h:109:3: note: in expansion of macro 'RTEMS_SYSLOG' RTEMS_SYSLOG("Error: " fmt, ##VA_ARGS) ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../../../../../bsps/powerpc/mpc55xxevb/dev/dspi.c:122:3: note: in expansion of macro 'RTEMS_SYSLOG_ERROR' RTEMS_SYSLOG_ERROR("eDMA error: 0x%08x\n", error_status); ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../../../../../bsps/powerpc/mpc55xxevb/dev/dspi.c:122:41: note: format string is defined here RTEMS_SYSLOG_ERROR("eDMA error: 0x%08x\n", error_status); ~~%08lx~~					
~~#3505~~	21 months ago	wontfix	arch/powerpc	Joel Sherrill	Sebastian Huber	19 months ago
Summary	powerpc/virtex redefined warning					
Description	This looks like ppc403 and ppc405 are both defined but I am not seeing source of the ppc405 definition. The warning is in this section of code: #if defined (ppc403) #define exisr 0x040 /* DCR: external interrupt status register */ #define exier 0x042 /* DCR: external interrupt enable register */ #endif /* ppc403 */ #if defined(ppc405) #define exisr 0x0C0 /* DCR: external interrupt status register */ #define exier 0x0C2 /* DCR: external interrupt enable register */ #endif /* ppc405 */ In file included from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/percpu.h:25:0, from ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/virtex/../../../../../../bsps/powerpc/shared/exceptions/ppc_exc_async_normal.S:16: /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:228:0: warning: "exisr" redefined #define exisr 0x0C0 /* DCR: external interrupt status register */ /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:224:0: note: this is the location of the previous definition #define exisr 0x040 /* DCR: external interrupt status register */ /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:229:0: warning: "exier" redefined #define exier 0x0C2 /* DCR: external interrupt enable register */ /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:225:0: note: this is the location of the previous definition #define exier 0x042 /* DCR: external interrupt enable register */					
~~#3506~~	20 months ago	fixed	build	Joel Sherrill	Chris Johns	19 months ago
Summary	waf for building RTEMS applications needs updating					

Description	Because there are no native tools in the RTEMS tree anymore, the RTEMS install point will not have a bin/ directory. If the --rtems-tools and --rtems directories are different, the sanity check by *waf configure* for ${rtems}/bin fails. See examples-v2.
	
	`+ ./waf configure -v --rtems=/home/joel/rtems-work/bsp-install --rtems-tools=/home/joel/rtems-work/tools/5 --rtems-bsps=powerpc/qemuppc`
	`Setting top to : /home/joel/rtems-work/examples-v2`
	`Setting out to : /home/joel/rtems-work/examples-v2/build`
	`RTEMS path is not valid. No bin directory found.`
	`(complete log in /home/joel/rtems-work/examples-v2/build/config.log)`					

~~#3507~~	20 months ago	fixed	score	Sebastian Huber	Sebastian Huber	14 months ago
Summary	Add flexible per-CPU data					
Description	Add means to declare, define and get custom per-CPU data. The API should cover the APIs defined by the Linux <linux/percpu.h> and FreeBSD <sys/pcpu.h> header files.					
~~#3508~~	20 months ago	fixed	score	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Add support for thread to processor pinning					
Description	FreeBSD started to use lock-free data structures (Concurrency Kit) with epoch based reclamation (EBR) in May 2018. The goal of this synchronization approach is to avoid atomic read-modify-write operations in the fast path. The algorithms need highly efficient access to per-processor data. This gives raise to add a new feature to RTEMS: thread to processor pinning. Thread pinning is orthogonal to thread processor affinity and overrules the processor affinity settings of a thread. It is intended for temporary use in short critical sections which allow preemption.					
~~#3510~~	20 months ago	fixed	lib/block	Joel Sherrill	Sebastian Huber	20 months ago
Summary	ATA driver uses deprecated rtems_blkdev services					
Description	This shows up building fileio on the following BSPs. i386/pc386 i386/pc486 i386/pc586 i386/pc586-sse i386/pc686 i386/pcp4 powerpc/brs5l powerpc/brs6l powerpc/dp2 powerpc/icecube powerpc/pm520_cr825 powerpc/pm520_ze30					
~~#3511~~	20 months ago	duplicate	arch/powerpc	Joel Sherrill	Sebastian Huber	20 months ago
Summary	int/pointer size warnings in powerpc-qoriq_e6500_64					
Description	These all look suspiciously like real issues: $ grep warning log/powerpc-qoriq_e6500_64.log ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../../../bsps/powerpc/qoriq/start/bspstart.c:173:5: warning: passing argument 1 of 'qoriq_initialize_exceptions' makes pointer from integer without a cast [-Wint-conversion] ../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:57:27: warning: cast to pointer from integer of different size [-Wint-to-pointer-cast] ../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:64:27: warning: cast to pointer from integer of different size [-Wint-to-pointer-cast] ../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:488:11: warning: format '%u' expects argument of type 'unsigned int', but argument 5 has type 'long int' [-Wformat=] ../../../../../../rtems/c/src/../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:536:13: warning: format '%u' expects argument of type 'unsigned int', but argument 2 has type 'long int' [-Wformat=] ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../../../bsps/powerpc/shared/exceptions/ppc_exc_alignment.c:28:25: warning: cast to pointer from integer of different size [-Wint-to-pointer-cast] ../../../../../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../../../bsps/powerpc/shared/exceptions/ppc_exc_initialize.c:38:10: warning: cast from pointer to integer of different size [-Wpointer-to-int-cast]					

~~#3512~~	20 months ago	duplicate	tool/rsb	Justin		19 months ago
Summary	sb-check:No python command with Python 2 and Python 3 installed					
Description	On Ubuntu 18.04.1 LTS there is no command named Python. I have the following Python commands: `python2.7 python3.6 python3.6m-config python3m-config python 2.7-config python3.6-config python3-config python3 python3.6m python3m` I am going to symlink python2.7 to python to make it work, but there should be a better solution.					
~~#3513~~	20 months ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Convert tqm8xx console driver to new Termios API					
~~#3516~~	20 months ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	19 months ago
Summary	sb-set-builder should report disk usage of build					
Description	Helping others work through the hello world, it is common for their VM images to not have enough disk space for the build to complete. It would be useful if the set-builder could report disk usage of the build/ directory. This information could be fed into the Users Guide. It is frustrating and a bad experience to watch the build fail 90% of the way through.					
~~#3517~~	20 months ago	fixed	doc	Joel Sherrill	Joel Sherrill <joel@…>	19 months ago
Summary	RSB Ubuntu Host Requirements Missing Some					
Description	Add libncurses5-dev and zlib1g-dev to Ubuntu apt-get instructions Also bison and flex seemed to be missing per one of the persons trying it.					
~~#3518~~	20 months ago	fixed	doc	Joel Sherrill	Chris Johns	19 months ago
Summary	RSB MacOS Nits					
Description	The MacOS section of the RSB manual has some minor things that need to be fixed: • says Serria when it should be Sierra (I think). • has +sb-check+ which indicates a formatting error Please review as a Mac user and make sure that's it. :)					
~~#3519~~	20 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	20 months ago
Summary	RSB does not strictly check args					
Description	The RSB loose argument parsing in the RSB needs to change. The RSB needs to strictly check arguments to avoid simple user errors.					
~~#3520~~	20 months ago	fixed	config	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE					
Description	This configuration is untested and undocumented. Remove it to avoid a potential exposure of internal data structures to the application domain.					
~~#3522~~	20 months ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Update mDNSResponder to Apple version v878.30.4					
Description	Download mDNSResponder-561.1.1.tar.gz mDNSResponder-567.tar.gz mDNSResponder-576.30.4.tar.gz mDNSResponder-625.41.2.tar.gz mDNSResponder-765.1.2.tar.gz mDNSResponder-765.20.4.tar.gz mDNSResponder-765.30.11.tar.gz mDNSResponder-765.50.9.tar.gz mDNSResponder-878.1.1.tar.gz mDNSResponder-878.20.3.tar.gz mDNSResponder-878.30.4.tar.gz from https://opensource.apple.com/tarballs/mDNSResponder/ Merge each update into libbsd/mDNSResponder.					
~~#3523~~	20 months ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	20 months ago
Summary	Add FEC network interface driver for TQM8XX					
Description	Import legacy network driver and port it to libbsd.					
~~#3525~~	19 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Add MMC/SDCard support for i.MX 7Dual BSP					
Description	Port device drivers from FreeBSD for i.MX 7Dual uSDHC module.					
~~#3526~~	19 months ago	fixed	dev/serial	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Convert PTY driver to new Termios API					
Description						
~~#3528~~	19 months ago	fixed	config	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Remove undocumented and untested CONFIGURE_MAXIMUM_PTYS					
Description	Remove the undocumented and untested CONFIGURE_MAXIMUM_PTYS configuration option. Add a rtems_telnetd_config_table::client_maximum member to the Telnet configuration.					
~~#3529~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Fix issues raised by Coverity Scan for Telnet server					
~~#3530~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	8 weeks ago
Summary	Fix issues raised by Coverity Scan for FTP server					
~~#3531~~	19 months ago	fixed	unspecified	Joel Sherrill	Joel Sherrill	19 months ago
Summary	Add POSIX Attribute Reports for More Than Scheduler (examples-v2)					
Description	Add programs to report default attributes for various POSIX objects including barriers, condition variables, message queues, mutexes, pthreads, and rwlocks. The programs should be able to run on any POSIX host and report what it uses for object attribute defaults. Object attribute defaults are unspecified by POSIX. The portable practice is to explicitly set every attribute. These programs allow one to probe and compare various operating system implementations.					
~~#3532~~	19 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	11 months ago

Summary	RSB source only download is host specific

Description	The RSB source only download is host specific. Configurations for builds can restrict sources or patches by host to work around specific host issues. Currently a source only download is host specific because the host check is based on the host the RSB is being run on.
	The release process uses source only downloading to create the complete set of sources in a release. This issue means some host specific source may not be captured.
	I am yet to figure how to resolve this issue because the download logic is driven by the configuration scripts and this type of logic exists in configuration files such as `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~~	19 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Add rtems_task_exit()					

Description	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~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Remove stdin, stdout, stderr convenience routines for CEXP					
Description	These functions should be moved to a general CEXP support.					
~~#3536~~	19 months ago	fixed	tool	Chris Johns	Chris Johns	19 months ago
Summary	Move RTEMS configuration data to a common `config` directory					
Description	Move the `rtems-bsp-builder` configuration files to a common area in the RTEMS Tools project and create an `rtems.py` module to handle the configuration. This allows a number of tools access to the `arch/bsp` data. In time this directory of data can move into the `rtems.git` repo.					
~~#3537~~	19 months ago	fixed	tool	Chris Johns	Chris Johns	16 months ago
Summary	RSB and RTEMS Tools Support for python2 and python3					
Description	Upstream python does not create a `python` command any more and creates `python2` and `python3`. Distributions and operating systems are starting to ship without the `python` command. The RSB and RTEMS Tools python commands need to be updated and tested so they run on Python2 and Python3 and support added to use the available commands.					
~~#3538~~	19 months ago	fixed	doc	Joel Sherrill	Joel Sherrill	19 months ago
Summary	Classic API Barrier Wait Section Title Has Wrong Name					
Description	The section title says obtain not wait. Likely also applies to 4.11.					
~~#3539~~	19 months ago	fixed	score	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Remove CPU_PROVIDES_IDLE_THREAD_BODY					
Description	Remove the CPU_PROVIDES_IDLE_THREAD_BODY option to avoid unnecessary conditional compilation.					
~~#3542~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Remove keep_stdio feature from Telnet service					
Description	The Telnet service started via rtems_telnetd_start() has a keep_stdio feature. This just a task and executes the command function in a loop. For this kind of service we do not library support. This can be done by an application task on its own. Remove this functionality and provide only the real Telnet services.					
~~#3543~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Change Telnet server to allocate most resources during initialization					
Description	The Telnet server currently creates the resources needed for a client connection on demand. Allocate most resources during initialization to avoid sporadic resource shortage issues.					
~~#3545~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	18 months ago
Summary	Support O_DIRECTORY open() flag					
Description	Use this flag in opendir().					
~~#3546~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	18 months ago
Summary	Support O_NOFOLLOW open() flag					
Description						
~~#3547~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	18 months ago
Summary	Support O_CLOEXEC open() flag					

Description	This is a POSIX flag. Make sure its use causes no open failure.					
~~#3549~~	19 months ago	fixed	arch/powerpc	Sebastian Huber	Sebastian Huber	19 months ago
Summary	Obsolete powerpc/virtex BSP					
Description	This BSP is quite old (was added 1995), unmaintained and likely without users: https://lists.rtems.org/pipermail/users/2018-September/032557.html					
~~#3551~~	19 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	18 months ago
Summary	Move default configuration to separate library					
Description	An RTEMS application default configuration is contained in cpukit/libmisc/dummy/default-configuration.c. This default configuration is contained in librtemscpu.a. This has at least two problems: 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 librtemscpu.a. This can be used to reduce the size of the configuration itself. Proposed change: Move the default configuration to a separate library, e.g. librtemsdefaultconfig.a.					
~~#3552~~	19 months ago	fixed	shell	jameszxj	Chris Johns	4 months ago
Summary	cpu usage error in SMP mode					
Description	• CPU load dispaly error in SMP mode Load Average: 100.510% Load: 100.966% Idle: 99.033% In fact,CPU is doing nothing. • priority display unreadable in SMP mode in diffrent Schedulers priority is map to a core priority, I think unmap maybe reasonable when display the infomation I create a patch about this,see the attachment.					
~~#3553~~	19 months ago	fixed	build	Joel Sherrill		18 months ago
Summary	rtems-libbsd Missing waf in Top Directory					
Description	At least examples-v2 and rtems-libbsd use waf to build. examples-v2 has a copy of waf known to work for the users' convenience. rtems-libsd 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~~	19 months ago	fixed	network/libbsd	Joel Sherrill	Sebastian Huber	15 months ago
Summary	rtems-libbsd README.waf Needs an Update Sweep					
Description	It is out of date at least by mentioning 4.12 instead of 5. If there are other nits or issues, they need to be addressed while updating the release info.					
~~#3555~~	19 months ago	fixed	admin	Amar Takhar	Amar Takhar	19 months ago
Summary	IRC bots need to be registered to join #rtems					
Description	Due to the spam on Freenode only registered users can join #rtems. The bots both need accounts now.					
~~#3557~~	19 months ago	fixed	admin	Amar Takhar	Amar Takhar	19 months ago
Summary	Test ticket					
Description	Using this as a test ticket to test out my fix.					
~~#3558~~	19 months ago	fixed	admin	Amar Takhar	Amar Takhar	19 months ago
Summary	Update TracSpamFilter?					
Description	Updated to the latest Trac Spam Filter and upgraded captcha to v2 to avoid any errors. This was reported a while back and should fix any issues. There are more please open a new ticket.					
~~#3559~~	19 months ago	fixed	admin	Amar Takhar	Amar Takhar	19 months ago
Summary	Fix NavAdd? plugin.					
Description	I had no idea but this had gotten removed in the last upgrade I've re-added it. This makes a few changes to the navigation: • "New Ticket" now goes to /wiki/NewTicket • There is a new button "New Ticket (direct)" in the upper right for those who want to directly go to creating a ticket. • "My Tickets" used to go to a query but now goes to the new wiki:MyTickets page. These changes existed years ago when NavAdd? was working I opened this ticket in case anyone has complaints about it coming back if not I will close it in a few days.					
~~#3560~~	19 months ago	fixed	admin	Amar Takhar	Amar Takhar	19 months ago
Summary	Fix FlexibleAssignTo?					
Description	When we first went to trac we had restrictions on the 'owner' to developers only. When track was upgraded this broke completely but all the code to handle this was already in place. I took the time to fix it today so we have dropdowns again. I've created this ticket to see if anyone has an issue with this should we keep it? Drop it? I know it's been years but it was our original choice. See any ticket the 'reassign to' and on a new ticket the 'assign to' is now a dropdown. These are based on trac permissions so we can always add more if we need it but it really should be restricted to having a project member be the owner so we can ensure tickets are closed and sorted properly.					
~~#3561~~	19 months ago	fixed	admin	Amar Takhar	Amar Takhar	17 months ago
Summary	Migrate to CommitTicketUpdater?					
Description	The old script was ancient and outdated. I've now killed it off and moved to the internal system described here: https://trac.edgewall.org/wiki/CommitTicketUpdater This should handle all scenarios if it does not please let me know. I will leave this ticket open for a week or so.					
~~#3562~~	19 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	18 months ago
Summary	Use a short paths for the RSB temporary build path on Windows					

Description

The `%{_tmproot}` path is currently based on a `BuildRoot` setting in the build configuration files. The line is:

```
BuildRoot: %{_tmppath}/%{name}-root-%(%{__id_u} -n)
```

This is for a shared `$TEMP` path plus the name is not shortened so on Windowss these paths become long. Remove the `BuildRoot` from all configuration files and add support for a shortened temporary path. Windows needs short paths due to the 256 max. path length issue.

~~#3568~~	18 months ago	fixed	tool/rsb	Sebastian Huber	Chris Johns	16 months ago

Summary: RSB: UnboundLocalError?: local variable 'build_max_size_human' referenced before assignment

Description

../source-builder/sb-set-builder --prefix=/build/rtems/5 5/rtems-or1k

```
...
config: tools/rtems-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b.cfg
package: or1k-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
warning: gcc-4.9.3-or1k.patch: no hash found
building: or1k-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
error: building or1k-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
Build FAILED
  See error report: rsb-report-or1k-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1.txt
error: building or1k-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
```

~~#3569~~	18 months ago	fixed	build	Malte Münch	Chris Johns	2 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~~	18 months ago	fixed	tool/gdb	Joel Sherrill	Joel Sherrill	18 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~~	18 months ago	fixed	tool/gcc	Sebastian Huber	Sebastian Huber	18 months ago

Summary: Avoid CLooG and ISL host depencencies 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~~	18 months ago	fixed	admin	Chris Johns	Chris Johns <chrisj@…>	18 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~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	18 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~~	18 months ago	fixed	score	Sebastian Huber	Sebastian Huber	5 months ago

Summary: Deprecate proc_ptr

Description

See comment in basedefs.h

```
/**
 * XXX: Eventually proc_ptr needs to disappear!!!
 */
typedef void * proc_ptr;
```

~~#3587~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	18 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~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	18 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~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	18 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~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	18 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~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	18 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~~	18 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	17 months ago
Summary	Move internal types of API objects to separate header file					
Description	The <rtems.h> header file still exposes a lot of implementation details via the definition of internal data structures, e.g. the *_Control structures of the API objects. They are only necessary for the application configuration. Move them to separate header files. Currently we have: • <rtems/rtems/XYZ.h> • <rtems/rtems/XYZimpl.h> Use • <rtems/rtems/XYZdata.h> for this new header file. Potential new header files are: • rtems/extensiondata.h • rtems/rtems/asrdata.h • rtems/rtems/barrierdata.h • rtems/rtems/dpmemdata.h • rtems/rtems/eventdata.h • rtems/rtems/messagedata.h • rtems/rtems/partdata.h • rtems/rtems/ratemondata.h • rtems/rtems/regiondata.h • rtems/rtems/semdata.h • rtems/rtems/tasksdata.h • rtems/rtems/timerdata.h					
~~#3599~~	18 months ago	fixed	arch/m32c	Sebastian Huber	Sebastian Huber	18 months ago
Summary	Remove m32c architecture port					
Description	The m32c architecture port is incomplete, e.g. important features such as interrupt support are missing. It never run on real hardware. The tools are out dated and unmaintained. There are no known users: https://lists.rtems.org/pipermail/users/2018-January/031991.html					
~~#3600~~	18 months ago	fixed	arch/or1k	Joel Sherrill	Joel Sherrill	5 months ago
Summary	Update or1k tools to use GCC master					
Description	Stafford Horne emailed me to say that he just pushed the or1k gcc to the FSF repository. We can now switch from gcc 4.9.3 to a hash from the gcc master. I was testing periodically from his repository before the merge so it should be working. I am marking this as a blocker but expect it to be easy and quick to resolve. We don't want to release using gcc 4.9.3 for any target.					
~~#3602~~	18 months ago	fixed	arch/or1k	Sebastian Huber	Sebastian Huber	18 months ago
Summary	Update or1k tool chain to use the upstream GCC					
~~#3603~~	18 months ago	fixed	score	Sebastian Huber	Sebastian Huber	17 months ago
Summary	Remove support for 16-bit object identifiers					
Description	The RTEMS_USE_16_BIT_OBJECT define is not set by an RTEMS port. Remove support for 16-bit object identifiers. If someone really wants to use RTEMS on a 16-bit target, then it is better to use self-contained objects instead of playing around with object identifier optimizations.					
~~#3604~~	18 months ago	fixed	lib/dl	Joseph Hickey	Chris Johns	17 months ago
Summary	RTL Unresolved Symbols from common section on i386/pc686 (cloned)					
Description	Cloned from #3527: By default GCC puts uninitialized global variables into a common section in the ELF file. When attempting to load the resulting ELF file at runtime using `dlopen()`, these global symbols are not resolved as expected. The RTL reports unresolved symbols, and runtime code that take the address of the global get `NULL` instead. This is reproducible using the libtests/dl01 example by adding a global variable to the module code. I will attach a patch that replicates the issue. Test platform is QEMU using pc686 BSP, RTEMS source version 4.11.3 (latest on 4.11 git branch as of this writing)					
~~#3605~~	18 months ago	fixed	lib/dl	Kevin Gordon		5 months ago
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 dlcose() 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.					
~~#3609~~	18 months ago	fixed	tool/rsb	Joel Sherrill	Hesham Almatary	4 weeks ago
Summary	Update Spike Version in RSB (RISC-V simulator)					
Description	The spike version in the RSB does not run the test executables. Per Hesham, we should be using a newer version from git. This is one of the two alternative simulators to run RISC-V executables. At the moment, neither Spike nor Qemu are usable for the RISC-V as present in the RSB.					
~~#3612~~	18 months ago	fixed	lib/dl	Chris Johns	Chris Johns	17 months ago
Summary	RTL unresolved compaction does not update string indexes after removing a string					
Description	The RTL unresolved compaction does not update the string indexes when compacting.					
~~#3620~~	17 months ago	fixed	admin	Sebastian Huber	Amar Takhar	17 months ago
Summary	CommitTicketUpdater? does not process commits in order					

Description

The new CommitTicketUpdater? does not process commits in order. For example see:

https://devel.rtems.org/ticket/3598#comment:40 https://devel.rtems.org/ticket/3598#comment:41

Compare with Git commit order:

https://git.rtems.org/rtems/log/?id=eaa5ea84eaf1b3dab72d7a7a6578f0dc59e55396&qt=range&q=1947449a5d6f01a44ccc61eda3e78ef7e06da952..5fc727fe77a632f9df38161a8474007dab020608

~~#3621~~	17 months ago	fixed	score	Sebastian Huber	Sebastian Huber	4 months ago

Summary

Statically initialize object information structures

Description

Statically initialize the object information structures to make the configuration easier to review and simplify the debugging.

The workspace size estimate generated by <rtems/confdefs.h> looks currently like this:

```
  const rtems_configuration_table Configuration = { ( ( ( (ssize_t) ((((((1 +
0) != 0 ? 1 : 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U))) *
(sizeof(Configuration_Thread_control))) != 0 ? 1 : 0) * ((((((1 + 0) != 0 ? 1 :
0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U))) *
(sizeof(Configuration_Thread_control)) + (2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
((((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) % (8))) -
1) - ((((((1 + 0) != 0 ? 1 : 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U)))
* (sizeof(Configuration_Thread_control)) + (2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
((((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) % (8)))
```

[more than 500 similar lines]

```
1) - (((sizeof(Configuration_Initial_Extensions) /
sizeof((Configuration_Initial_Extensions)[0])) *
sizeof(User_extensions_Switch_control) + (2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
((((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) % (8))) -
1) % ((((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) %
(8)))))) + 0 + 0 + (0 * 1024) + ((((2 * sizeof(uintptr_t) +
(sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
(8) - 1) - (((2 * sizeof(uintptr_t) + (sizeof(Heap_Protection_block_begin) +
sizeof(Heap_Protection_block_end)))) + (8) - 1) % (8)) ),
```

The object controls reside on the heap even for fixed object count configuration. Using a statically allocated array makes it easier to find the objects during debugging.

~~#3622~~	17 months ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	17 months ago

Summary

Remove cache routines working with a processor set

Description

The following cache manager API functions are exotic, complex, very hard to use correctly, not used in the RTEMS code base, and apparently unused by applications (https://lists.rtems.org/pipermail/users/2018-November/032764.html). Remove these functions

```
/**
 * @brief Flushes multiple data cache lines for a set of processors
 *
 * Dirty cache lines covering the area are transferred to memory.
 * Depending on the cache implementation this may mark the lines as invalid.
 *
 * This operation should not be called from interrupt context.
 *
 * @param[in] addr The start address of the area to flush.
 * @param[in] size The size in bytes of the area to flush.
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_flush_multiple_data_lines_processor_set(
  const void *addr,
  size_t size,
  const size_t setsize,
  const cpu_set_t *set
);

/**
 * @brief Invalidates multiple data cache lines for a set of processors
 *
 * The cache lines covering the area are marked as invalid.  A later read
 * access in the area will load the data from memory.
 *
 * In case the area is not aligned on cache line boundaries, then this
 * operation may destroy unrelated data.
 *
 * This operation should not be called from interrupt context.
 *
 * @param[in] addr The start address of the area to invalidate.
 * @param[in] size The size in bytes of the area to invalidate.
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_invalidate_multiple_data_lines_processor_set(
  const void *addr,
  size_t size,
  const size_t setsize,
  const cpu_set_t *set
);

/**
 * @brief Flushes the entire data cache for a set of processors
 *
 * This operation should not be called from interrupt context.
 *
 * @see rtems_cache_flush_multiple_data_lines().
 *
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_flush_entire_data_processor_set(
  const size_t setsize,
  const cpu_set_t *set
);

/**
 * @brief Invalidates the entire cache for a set of processors
 *
 * This function is responsible for performing a data cache
 * invalidate. It invalidates the entire cache for a set of
 * processors.
 *
 * This operation should not be called from interrupt context.
 *
 * @param[in] setsize The size of the processor set.
 * @param[in] set The target processor set.
 */
void rtems_cache_invalidate_entire_data_processor_set(
  const size_t setsize,
  const cpu_set_t *set
);
```

~~#3624~~	17 months ago	wontfix	build	Joel Sherrill		6 months ago

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-init.o support/fsdosfsname01-ramdisk_support.o ./../../lib/libbsp/m68k/mrm332/librtemsbsp.a
./../../cpukit/librtemscpu.a
c:/msys64/home/jrs007/rtems-work/tools/5/bin/../lib/gcc/m68k-rtems5/7.3.0/../../../../m68k-rtems5/bin/ld.exe: fsdosfsname01.exe section `.text'
will not fit in region `rom'

c:/msys64/home/jrs007/rtems-work/tools/5/bin/../lib/gcc/m68k-rtems5/7.3.0/../../../../m68k-rtems5/bin/ld.exe: region `rom' overflowed by 874128
bytes

collect2.exe: error: ld returned 1 exit status

make[5]: *** [Makefile:1910: fsdosfsname01.exe] Error 1
```

~~#3625~~	17 months ago	fixed	lib/dl	Kevin Gordon	Chris Johns	17 months ago

Summary: RTL Allows Unloading a Module other Modules Depend Upon (cloned)

~~#3626~~	17 months ago	fixed	posix	Joel Sherrill	Sebastian Huber	17 months ago

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~~	17 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 weeks ago

Summary: Add RSB reporting section to the documentation.

Description:

As reported in this email https://lists.rtems.org/pipermail/users/2018-November/032802.html:

> "I could imagine that the GCC 6.3.0 of the TASTE VM isn't suitable to build RTEMS toolchain with RTEMS source builder & kernel masters but I can't find information which of all those config files of RSB I have to use for a successful build (targets: ARM, x86-64). This is pretty frustrating and very disappointing. There are so many variables which are not exactly documented, at least for the current version of RSB/kernel."

there is no documented way to get a configuration report of an RSB configuration. The documentation needs to be updated to show how this can be done. For example:

```
$ ./source-builder/sb-reports 5/rtems-sparc
$ less 5-rtems-sparc.txt
```

~~#3630~~	17 months ago	fixed	arch/arm	Markus Bernd Moessner	Chris Johns	27 hours ago

Summary: Build of rtems-tools fails with i686-w64-mingw32

Description:

Hi,

I am following

> https://docs.rtems.org/branches/master/user/hosts/windows.html

to build a Windows Host toolchain on Linux Mint 19. However, the build of rtems-tools fails with: "unknown host: i686-w64-mingw32".

I can track the issue down to the function "check_options" in the wscript. The function expects a host called "mingw32" or "x86_64-w64-mingw32". My naive solution would be to simply extend the list with "i686-w64-mingw32", but I've just started with RTEMS so I might have choosen a wrong path in an earlier step.

~~#3636~~	17 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	17 months ago

Summary: Add rtems_scheduler_get_maximum_priority()

Description:

The maximum task priority depends on the scheduler instance. It is a configuration parameter. Add a function to get it at runtime.

```
/**
 * @brief Gets the maximum task priority of the specified scheduler instance.
 *
 * @param[in] scheduler_id Identifier of the scheduler instance.
 * @param[out] priority Pointer to a task priority value.
 *
 * @retval RTEMS_SUCCESSFUL Successful operation.
 * @retval RTEMS_INVALID_ADDRESS The @a priority parameter is @c NULL.
 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
 */
rtems_status_code rtems_scheduler_get_maximum_priority(
  rtems_id             scheduler_id,
  rtems_task_priority *priority
);
```

~~#3637~~	17 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	17 months ago

Summary: Fix rtems_task_restart() argument type

Description: The argument type must be rtems_task_argument in rtems_task_restart() similar to rtems_task_start(). This is a severe issue on 64-bit targets since it prevents to pass pointer values to the task.

~~#3649~~	17 months ago	fixed	admin	Joel Sherrill	Amar Takhar	15 months ago

Summary: Error with IRC anouncing in examples-v2 commits.

Description:

```
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..276a025Â  am -> master
```

~~#3651~~	17 months ago	fixed	doc	Chris Johns		5 months ago

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

l.88 ...ecture}, \hyperindexformat{\spxpagem}{183}
```

Description

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~~	17 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	16 months ago

Summary: RSB config parsing slow on python3

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

~~#3665~~	17 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	4 months ago

Summary: Add low level event recording infrastructure

Description:

Add low level event recording infrastructure for system and user defined events. The infrastructure should be able to record high frequency events such as

- SMP lock acquire/release,
- interrupt entry/exit,
- thread switches,
- UMA zone allocate/free,
- Ethernet packet input/output, etc.

It should allow post-mortem analysis in fatal error handlers, e.g. the last events should be in the record buffer, the newest event overwrites the oldest event. It should be possible to detect record buffer overflows for consumers that expect a continuous stream of events, e.g. to display the system state in real-time.

The framework should support high-end SMP machines (more than 1GHz processor frequency, more than four processors).

The existing capture engine tries to solve this problem, but its performance is not good enough for high-end production systems. The main issues are the variable-size buffers and the use of SMP locks for synchronization. To fix this, the API would change significantly.

Add a new API instead. The implementation should use per-processor data structures and no atomic read-modify-write operations. It is pretty much a per-processor ring buffer for record events.

Use the CPU counter to get the time of events. Combine it with periodic uptime events to synchronize it with CLOCK_REALTIME.

Here is an example of the

```
/**
 * @brief Produces a record item.
 *
 * @param event The record event without a time stamp for the item.
 * @param data The record data for the item.
 */
void rtems_record_produce( rtems_record_event event, rtems_record_data data );
```

function PowerPC machine code generated by GCC:

```
00000000 <rtems_record_produce>:
   0:   7d 00 00 a6     mfmsr   r8
   4:   7c 00 01 46     wrteei  0
   8:   7d 2e 82 a6     mfspr   r9,526
   c:   7d 50 42 a6     mfsprg  r10,0
  10:   81 4a 02 b4     lwz     r10,692(r10)
  14:   55 29 50 2a     rlwinm  r9,r9,10,0,21
  18:   7d 23 1b 78     or      r3,r9,r3
  1c:   81 2a 00 00     lwz     r9,0(r10)
  20:   80 ca 00 08     lwz     r6,8(r10)
  24:   38 e9 00 01     addi    r7,r9,1
  28:   7d 29 30 38     and     r9,r9,r6
  2c:   55 29 18 38     rlwinm  r9,r9,3,0,28
  30:   7d 2a 4a 14     add     r9,r10,r9
  34:   90 69 00 48     stw     r3,72(r9)
  38:   90 89 00 4c     stw     r4,76(r9)
  3c:   7c 20 04 ac     lwsync
  40:   90 ea 00 00     stw     r7,0(r10)
  44:   7d 00 01 06     wrtee   r8
  48:   4e 80 00 20     blr
```

Just 19 instructions, no branches, no stack frame, no atomic-read-modify-write, just a light weight synchronization to ensure that the consumer reads not half finished items.

~~#3666~~	17 months ago	fixed	lib	Sebastian Huber	Sebastian Huber	16 months ago

Summary: Add support for C++17 std::aligned_alloc

Description:

In C++17 there is a std::aligned_alloc():

https://en.cppreference.com/w/cpp/memory/c/aligned_alloc

Unfortunately, it doesn't work with RTEMS currently:

https://gcc.gnu.org/bugzilla/show_bug.cgi?id=85904

Provide aligned_alloc() and memalign() (as a strong alias to aligned_alloo()) by RTEMS.

~~#3667~~	16 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	16 months ago

Summary: Support data cache disable on ARMv7-AR

~~#3668~~	16 months ago	fixed	admin	Christian Mauderer	Amar Takhar	4 weeks ago

Summary: Commit message in examples-v2 and libbsd didn't trigger a ticket update.

Description:

On 19.12.2018 I pushed a commit to the rtems-libbsd with a keyword that should have updated a ticket. But the ticket didn't pick up the commit:

Commit: https://git.rtems.org/rtems-libbsd/commit/?id=91566dda7f52b5eba04df159770b4797ba652f20

Ticket: https://devel.rtems.org/ticket/3569

The same message format worked from rtems-tools and rtems-source-builder. Did I something wrong?

~~#3669~~	16 months ago	fixed	doc	Chris Johns	Amar Takhar	15 months ago

Summary: rtems-docs.git does not build with Sphinx 1.8.2 and 1.8.3

Description

The docs do not build with Sphinx 1.8. Recent posts indicate some changes to support unicode indexes via `xindy` have caused this and the solution being discussed is to use the generate `Makefile` ...

https://github.com/rtfd/readthedocs.org/issues/4454

The need to use the `Makefile` is debatable however what it contains is important as it defines what needs to happen.

This recent issue can be seen in the Tex generated file for the User Manual (`user.tex`). It contains:

```
\item[{Waf\index{Waf@\spxentry{Waf}|spxpagem}\phantomsection\label{\detokenize{glossary/index:term-waf}}}] \leavevmode
Waf build system.  For more information see \sphinxurl{http://www.waf.io/}
```

Our current build uses `pdflatex` directly and there is an error as `spxpagem` is not defined.

If you inspect a version 1.8 generated Makefile the command `latexmk` is used. This wraps the PDF generation so the correct number of passes are performed. Using this tool should be considered.

The `Makefile` contains:

```
export XINDYOPTS = -L english -C utf8  -M sphinx.xdy
```

The `sphinx.xdy` contains the needed `spxpagem`. I can only conclude sphinx needs to be built with `xindy` because the reference is always generated.

The problem for building FreeBSD is `xindy` is not an available command.

~~#3670~~	16 months ago	fixed	examples	Chris Johns	joel@...	16 months ago

Summary

examples-v2 uses deprecated or obsolete RTEMS interfaces

Description

The examples need to be change to use what ever is the newer method of doing something.

```
../../filesystem/fat_ramdisk/init.c:46:3: warning: 'rtems_blkdev_generic_open' is deprecated [-Wdeprecated-declarations]
   open_entry:           rtems_blkdev_generic_open,
   ^~~~~~~~~
In file included from /opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/ramdisk.h:17:0,
                 from ../../filesystem/fat_ramdisk/init.c:16:
/opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/blkdev.h:408:1: note: declared here
 rtems_blkdev_generic_open(
 ^~~~~~~~~~~~~~~~~~~~~~~~~
../../filesystem/fat_ramdisk/init.c:47:3: warning: 'rtems_blkdev_generic_close' is deprecated [-Wdeprecated-declarations]
   close_entry:          rtems_blkdev_generic_close,
   ^~~~~~~~~~
```

```
In file included from ../../ticker/low_ticker/init.c:88:0:
/opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/confdefs.h:3276:4: warning: #warning "The
CONFIGURE_TERMIOS_DISABLED configuration option is obsolete since RTEMS 5.1" [-Wcpp]
   #warning "The CONFIGURE_TERMIOS_DISABLED configuration option is obsolete since RTEMS 5.1"
    ^~~~~~~
```

~~#3672~~	16 months ago	fixed	arch/i386	Joel Sherrill		15 months ago

Summary

No i386 BSP can link all tests after cache manager changes

Description

/data/home/joel/rtems-work/tools/5/bin/../lib/gcc/i386-rtems5/7.4.0/../../../../i386-rtems5/bin/ld: ./../../lib/libbsp/i386/pc386/librtemsbsp.a(cache.o): in function `rtems_cache_invalidate_entire_instruction': /home/joel/rtems-work/rtems-testing/rtems/build-i386-pc486-rtems/i386-rtems5/c/pc486/lib/libbsp/i386/pc386/../../../../../../../../rtems/c/src/lib/libbsp/i386/pc386/../../../../../../bsps/i386/shared/cache/../../../shared/cache/cacheimpl.h:350: undefined reference to `_CPU_cache_invalidate_entire_instruction'

~~#3673~~	16 months ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	16 months ago

Summary

xilinx_zynq_a9_qemu - fails to link psxconfig01

Description

This is with POSIX disabled.

/home/joel/rtems-work/rtems-testing/rtems/build-arm-xilinx_zynq_a9_qemu-rtems/arm-rtems5/c/xilinx_zynq_a9_qemu/testsuites/psxtests/../../../../../../rtems/c/src/../../testsuites/psxtests/psxconfig01/init.c:499: undefined reference to `timer_create' collect2: error: ld returned 1 exit status

~~#3674~~	16 months ago	fixed	arch/arm	Joel Sherrill	Sebastian Huber	16 months ago

Summary

Raspberry Pi Fails to Build

Description

../../../../../../../../rtems/c/src/lib/libbsp/arm/raspberrypi/../../../../../../bsps/arm/shared/cache/cache-v7ar-disable-data.S: Assembler messages: ../../../../../../../../rtems/c/src/lib/libbsp/arm/raspberrypi/../../../../../../bsps/arm/shared/cache/cache-v7ar-disable-data.S:47: Error: selected processor does not support `dmb' in ARM mode ../../../../../../../../rtems/c/src/lib/libbsp/arm/raspberrypi/../../../../../../bsps/arm/shared/cache/cache-v7ar-disable-data.S:53: Error: selected processor does not support `isb' in ARM mode ../../../../../../../../rtems/c/src/lib/libbsp/arm/raspberrypi/../../../../../../bsps/arm/shared/cache/cache-v7ar-disable-data.S:77: Error: selected processor does not support `isb' in ARM mode ../../../../../../../../rtems/c/src/lib/libbsp/arm/raspberrypi/../../../../../../bsps/arm/shared/cache/cache-v7ar-disable-data.S:85: Error: invalid constant (3ff) after fixup ../../../../../../../../rtems/c/src/lib/libbsp/arm/raspberrypi/../../../../../../bsps/arm/shared/cache/cache-v7ar-disable-data.S:92: Error: invalid constant (7fff) after fixup gmake[6]: *** [cache-v7ar-disable-data.o] Error 1**

~~#3675~~	16 months ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber	15 months ago

Summary

RSB: Change default prefix to OS prefix + "rtems" + $rtems_version

Description

The user manual contains this about prefixes:

"A further reason not to use the standard prefix is to allow more than one version of RTEMS to exist on your host machine at a time. The autoconf and automake tools required by RTEMS are not versioned and vary between the various versions of RTEMS. If you use a single prefix such as the standard prefix there is a chance parts from a package of different versions may interact. This should not happen but it can.

For POSIX or Unix hosts, the RTEMS Project uses /opt/rtems as it's standard prefix. We view this prefix as a production level path, and we prefer to place development versions under a different prefix away from the production versions. Under this top level prefix we place the various versions we need for development. For example the version 4.11.0 prefix would be /opt/rtems/4.11.0. If an update called 4.11.1 is released the prefix would be /opt/rtems/4.11.1. These are recommendations and the choice of what you use is entirely yours. You may decide to have a single path for all RTEMS 4.11 releases of /opt/rtems/4.11."

The default prefix selected by the RSB should take this into account. Use OS prefix + "rtems" + $rtems_version, e.g. on Linux for RTEMS 5: "/opt/rtems/5".

~~#3677~~	15 months ago	wontfix	tool/gcc	Chris Johns		15 months ago

Summary

ARM BSP contains ARM code in THUMB only build

The `xilinx_zynq_a9_qemu` BSP contains a `memcpy` that is ARM mode code and not THUMB. This can be seen with `hello.exe` and `vlan01.exe` in the libbsd examples.

The script run with the command that follows shows there is a single ARM function in the executable. The python script is:

```
from __future__ import print_function
import sys
for line in sys.stdin:
    ls = line.split()
    if len(ls) == 8 and ls[0][-1] == ':' and ls[3] == 'FUNC':
        addr = int(ls[1], 16)
        if addr & 1 == 0:
            print(ls[7])
```

Command with output:

```
$ arm-rtems5-readelf -a `find . -name hello.exe` | python ./arm-thumb.py
memcpy
```

The presence of this single function makes me wonder why and if something is wrong in the building of the `memcpy` function. Examination with `rtems-exeinfo` shows the code is built by GNU AS from the file `memcpy-armv7a.S` while other asm files are not generating ARM code. The section of the output from:

Description

```
$ rtems-exeinfo -a `find . -name hello.exe`
```

is:

```
  GNU AS 2.31.1: 14 objects
   | arm_exc_interrupt.S
   | armv4-exception-default.S
   | bpabi.S
   | bpabi.S
   | bsp-start-memcpy.S
   | cpu_asm.S
   | liblfuncs.S
   | liblfuncs.S
   | liblfuncs.S
   | memchr.S
   | memcpy-armv7a.S
   | start.S
   | strcmp-armv7.S
   | strlen-armv7.S
```

GNU LD is correctly managing the interworking and the code runs however is this behavior expected and understood? Note, the existence of this code breaks libdl's loading of `dhcpcd.c` as section `.rel.text.dhcpcd_handle_hwaddr` contains a `R_ARM_THM_JUMP24` relocation record which requires a veneer in large memory application as well as `bl` to `blx` support. This support could be added but I am not currently in favor of having this support for something that should not happen.

~~#3678~~	15 months ago	fixed	arch/riscv	Sebastian Huber	Jiri Gaisler	5 months ago

Summary: Add RISC-V BSP with support for the grlib

~~#3682~~	15 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	4 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~~	15 months ago	wontfix	admin	Sebastian Huber		5 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.

```
git clone https://git.rtems.org/rtems-libbsd
Cloning into 'rtems-libbsd'...
Checking out files: 100% (5159/5159), done.
```

vs.

Description

```
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.
```

~~#3684~~	15 months ago	fixed	lib	Chris Johns	Chris Johns	15 months ago

Summary: rtems_print_buffer is broken

Consider this call:

Description

```
#include <rtems/dumpbuf.h>
rtems_print_buffer ((const unsigned char *) "\x12\x23\x56\x78", 4);
```

On `psim` you get:

```
1f 2f 5f 7f                                     |.#Vx             |
```

~~#3685~~	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns	4 months ago

Summary: Add large memory support to libdl

Description: Add large memory support to libdl. Some architectures use small relative offsets with smaller instructions for performance reasons. Object files loaded at addresses that are outside the relative range require trampoline calls that bridge the instruction in the object to the target symbol. The mechanism used depends on the archives.

Libdl requires generic support to parse the relocation record before the object file allocation to provide the memory to hold the trampoline calls.

The ARM and PowerPC architectures require trampolines. This is called veneers on ARM.

~~#3686~~	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns	2 months ago

Summary: Add library searching and loading to libdl

Description

Provide support to search library files (archives) for symbols loading the object file that contains the symbol. The support shall:

1. Parse a configuration file called `/etc/libdl.conf` for the list of archive symbols to load. Support `fnmatch()` wildcard parsing. Allow runtime updates reloading if there is a change.
2. Maintain archive symbol tables in memory to improve symbol search performance. Archives must have a `ranlib` generated symbol table. Reload an archive if it has changed.
3. Make sure separate text and data built object files is supported. Assume a duplicate symbol means that section and symbol has already been loaded. Load all sections not loaded. There is no need to be efficient at this point in time.
4. Add support to check if there are any system wide unresolved symbols.
5. Automatically unloaded archive object files that are not referenced.
6. Duplicate symbols in archives is not an error. The first archive that has the symbol in an object file is loaded.

The feature adds **symbol based demand loading** of object files to `libdl`. A user loads an object file using the `dlopen` function and unresolved symbols are loaded from the libraries hosted on the target.

~~#3687~~	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns	2 months ago

Summary: Add architecture section support to libdl and support PowerPC's small data.

Description

Add support for architecture specific sections. Allow architecture back end support to handle sections that are specific to an architecture.

Add PowerPC `sdata` and `sbss` support. The PowerPC can support a **small data** 64K continuous system wide region of memory. Small data accesses are faster as the instruction is smaller however the variable is referenced as a signed 16bit offset from the register `r13`. This register is offset from the region's base address by 32K. The linker creates the `.sdata` and `.sbss` regions and sets the `_SDA_BASE_` symbol which is loaded into `r13`. Any run-time loaded code with small data support needs space in the small data region therefore a BSP needs a way to define the space and the linker needs to allocate it. Provide a way for PowerPC BSPs to add extra memory to the small data region.

RTEMS supports the PowerPC EABI and uses `sysv` small data allocations. RTEMS uses the default variable size of `8` as the selector for a variable to be allocated in the small data region. The GCC user manual recommends all code is built with the same settings. Dynamically loaded code could be built with small data disabled and if enabled the default size is recommended.

Note, small data is system wide which means a default size of `8` allows only 8192 8 byte variables.

Provide an allocator to manage the available small data memory.

~~#3688~~	15 months ago	fixed	doc	Chris Johns		5 months ago

Summary: rtems-docs fails to build with python3

Description: Generating `generated-posix-compliance.rst` fails with Python3 as reported in

https://github.com/sphinx-doc/sphinx/issues/6021#issuecomment-460701861

~~#3692~~	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns	15 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~~	15 months ago	fixed	lib/dl	Chris Johns	Chris Johns	25 hours ago

Summary: libdl incorrectly handles MIPS16hi/lo relocs

Description: This issue was reported back is 2016 and it slipped through. I am creating a ticket here to track the issue.

https://lists.rtems.org/pipermail/users/2016-January/029740.html

~~#3694~~	14 months ago	fixed	fs	Joel Sherrill	Gedare Bloom	14 months ago

Summary: shm_open has logically unreachable code (Coverity ID: 1399706, 1399714)

Description: Coverity ID: 1399706 and 1399714 File: shmopen.c Method: shm_open for first

```
    dead_error_condition: The condition oflag & 0 cannot be true.
289  if ( oflag & O_RDONLY ) {

CID 1399706 (#1 of 1): Logically dead code (DEADCODE)
dead_error_line: Execution cannot reach this statement: flags |= 2U;.
290    flags |= LIBIO_FLAGS_READ;
291  } else {
```

URL: https://scan5.coverity.com/reports.htm#v29811/p10069/fileInstanceId=153084281&defectInstanceId=42558012&mergedDefectId=1399706&fileStart=1&fileEnd=250

Same issue at other place in same file:

```
197  int flags;
    dead_error_condition: The condition oflag & 0 cannot be true.
198  if ( oflag & O_RDONLY ) {

CID 1399714 (#1 of 1): Logically dead code (DEADCODE)
dead_error_line: Execution cannot reach this statement: flags = 4;.
199    flags = RTEMS_FS_PERMS_READ;
200  } else {
```

~~#3696~~	14 months ago	fixed	tool	Sebastian Huber	Sebastian Huber	4 weeks ago

Summary: Basic Support for Trace Compass

The Trace Compass is a tool to analyse and display trace data. Trace data can be gathered from RTEMS applications via various means, for example:

- RTEMS Trace Linker
- Event Recording
- Capture Engine

The goal of this project is to enable the Trace Compass to analyse and display some basic information using the Event Recording infrastructure. Basic information is defined by the Linux kernel trace support (lttng) and includes (see Trace Compass project explorer Tracing -> Traces -> Something):

- kernel
  - Views
    - CPU usage
      - CPU usage
    - IRQ Analysis
      - IRQ Statistics
      - IRQ Table
      - IRQ vs Count
      - IRQ vs Time
    - Linux Kernel
      - Control Flow
      - Resources

Example data can be obtained from the Trace Visualization Labs.

Description

Advanced support for Trace Compass could include dynamic memory traces, stack usage, network packet flow, etc.

There are four main problems.

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.

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 (lttng) which Trace Compass already understands.

Related topics are Common Trace Format, Babeltrace, barectf, #2961 and #3028.

Skills Needed

You need good C and C++ skills with a proven record. You need to show socket level and networking programming skills. In case Trace Compass needs to be extended this requires Java skills and familiarity with the Eclipse framework. Knowledge of YAML and XML is helpful. High end RTEMS targets can generate a huge number of events per second (10MiB/s trace data is 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.

Difficulty

We consider this an advanced project.

~~#3699~~	14 months ago	fixed	arch/arm	Kinsey Moore	Sebastian Huber	14 months ago
Summary	Wrong system register specified for ARM virtual timer value retrieval					
Description	In arm_cp15_get_counter_pl1_virtual_timer_value() in cpukit/score/cpu/arm/include/libcpu/arm-cp15.h, the system register specified by "p15, 0, %[val], c14, c2, 0" is actually the system register for the physical timer value. This should be "p15, 0, %[val], c14, c3, 0" for the virtual timer value as used in the setter.					
~~#3720~~	14 months ago	fixed	shell	Sebastian Huber	Sebastian Huber	14 months ago
Summary	mfill shell command uses the wrong arguments for the memset()					
~~#3724~~	14 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	14 months ago
Summary	bsp/lpc24xx: Convert SSP driver to Linux API					
~~#3725~~	14 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	12 months ago
Summary	bsp/lpc24xx: Convert I2C driver to Linux API					
Description						
~~#3728~~	13 months ago	fixed	bsps	Chris Johns	Chris Johns	13 months ago
Summary	Set small data seciton to max size for mvme5500 and motorola_powerpc BSPs					
Description	These are large memory targets that can support libdl. Make the small data memory the maximum size.					
~~#3731~~	13 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	13 months ago
Summary	Add rtems_scheduler_get_processor()					
Description	Add rtems_scheduler_get_processor() as a replacement for rtems_get_current_processor(). The rtems_get_current_processor() is a bit orphaned. Adopt it by the Scheduler Manager. This is in line with the glibc sched_getcpu() function.					
~~#3732~~	13 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	13 months ago
Summary	Add rtems_scheduler_get_processor_maximum()					
Description	Add rtems_scheduler_get_processor_maximum() as a replacement for rtems_get_processor_count(). The rtems_get_processor_count() is a bit orphaned. Adopt it by the Scheduler Manager. The count is also misleading, since the processor set may have gaps and the actual count of online processors may be less than the value returned by rtems_get_processor_count().					
~~#3733~~	13 months ago	fixed	lib/debugger	Chris Johns	Chris Johns	13 months ago
Summary	Add general reg support to libdebugger					

Testing master on a Zynq reports:

```
(gdb) target remote 10.10.5.45:1122
Remote debugging using 10.10.5.45:1122
Truncated register 19 in remote 'g' packet
```

It looks to me like gdb is now smart enough to know this ARM arch has a NEON and floating point registers:

```
(gdb) maint print registers
Name         Nr  Rel Offset    Size  Type
 r0           0    0      0       4 uint32_t
 r1           1    1      4       4 uint32_t
 r2           2    2      8       4 uint32_t
 r3           3    3     12       4 uint32_t
 r4           4    4     16       4 uint32_t
 r5           5    5     20       4 uint32_t
 r6           6    6     24       4 uint32_t
 r7           7    7     28       4 uint32_t
 r8           8    8     32       4 uint32_t
 r9           9    9     36       4 uint32_t
 r10         10   10     40       4 uint32_t
 r11         11   11     44       4 uint32_t
 r12         12   12     48       4 uint32_t
 sp          13   13     52       4 *1
 lr          14   14     56       4 uint32_t
 pc          15   15     60       4 *1
 f0          16   16     64      12 _arm_ext
 f1          17   17     76      12 _arm_ext
 f2          18   18     88      12 _arm_ext
 f3          19   19    100      12 _arm_ext
 f4          20   20    112      12 _arm_ext
 f5          21   21    124      12 _arm_ext
 f6          22   22    136      12 _arm_ext
 f7          23   23    148      12 _arm_ext
 fps         24   24    160       4 uint32_t
 cpsr        25   25    164       4 uint32_t
```

Description

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~~	13 months ago	fixed	score	Sebastian Huber	Sebastian Huber	13 months ago
Summary	Add RTEMS_CONST attribute					
Description	Add RTEMS_CONST attribute to make the compiler specific attribute ((const)) available.					
~~#3735~~	13 months ago	fixed	config	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Remove CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE					
Description	Remove the CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE configuration option. The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes. The use of this configuration option had a note in the documentation: "This is a configuration parameter which is very unlikely to be used by an application. If you find yourself wanting to use it in an application, please reconsider and discuss this on the RTEMS Users mailing list." No discussion took place in a couple of years about this topic.					
~~#3736~~	13 months ago	fixed	arch/powerpc	Chris Johns	Sebastian Huber <sebastian.huber@…>	6 months ago
Summary	PowerPC Beatnik BSP C++ exceptions broken					

Description

Running `cdtest.exe` fails. I am wondering if there is an issue in the `linkcmd` scripts this BSP uses. The psim works.

The trace is:

```
config addr is 0xf1000cf8
config data is 0xf1000cfc
Welcome to RTEMS rtems-5.0.0 (PowerPC/Generic (classic FPU)/beatnik)
CPU: MPC7457
Board Type: MVME5500-0161 (S/N E1712C9)
Bus Clock Freq:   133333333 Hz
CPU Clock Freq:  1000000000 Hz
Memory:           536870912 bytes
----------------------------------------
Now BSP_mem_size = 0x1fe00000
Configuration.work_space_size = a170
Page table setup finished; will activate it NOW...
Going to start PCI buses scanning and initialization
Number of PCI buses found is : 3
MSR 0x2003032
Exit from bspstart
Universe II PCI-VME bridge detected at 0x82000000, IRQ 76
Universe Master Ports:
Port  VME-Addr   Size       PCI-Adrs   Mode:
0:    0x20000000 0x0e000000 0x90000000 A32, D64 [MBLT], Dat, Sup
1:    0x00000000 0x00ff0000 0x9f000000 A24, D64 [MBLT], Dat, Sup
2:    0x00000000 0x00010000 0x9fff0000 A16, D64, Dat, Sup
7:    0x00000000 0x01000000 0x9e000000 CSR, D64, Dat, Sup
Universe Slave Ports:
Port  VME-Addr   Size       PCI-Adrs   Mode:
0:    0x90000000 0x1fe00000 0x00000000 A32, Pgm, Dat, Sup, Usr, PWEN, PRE
N
vmeUniverse IRQ manager: looking for registers on VME...
Trying to find CRG on VME...
vmeUniverse IRQ manager - registers not found on VME; falling back to PCI


*** BEGIN OF TEST CONSTRUCTOR/DESTRUCTOR ***
*** TEST VERSION: 5.0.0.8a8b95aa1d6932ba9d2acd7a785100f7d0919205-modified
*** TEST STATE: EXPECTED-PASS
*** TEST BUILD: RTEMS_NETWORKING RTEMS_POSIX_API
*** TEST TOOLS: 7.4.0 20181206 (RTEMS 5, RSB 9a3e12e5820918057633798c3fe2
a1f952fb4e56, 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
```

~~#3741~~	12 months ago	fixed	lib/dl	dufault	Chris Johns	12 months ago

Summary	libdl loading ELF objects from libbsd NFS file system ends in a deadlock					
Description	For ELF files the run-time loader calls this chain: • *rtems_rtl_elf_file_load()* • *rtems_rtl_alloc_lock()* • *rtems_rtl_alloc_heap()* • *_RTEMS_Lock_allocator()* *_RTEMS_Lock_allocator()* locks all heap operations. RTL then calls *read()* and for NFS file systems the NFS threads try to use the heap, locking up the system.					
~~#3742~~	12 months ago	fixed	test	Chris Johns	joel@...	12 months ago
Summary	T_config conflicting type qualifiers for 'config'					

Description	Running the `rtems-bsp-builder` on FreeBSD is give an error in `ttest01` for bsps:
	• `arm/csb336`
	• `arm/csb337`
	• `arm/csb637`
	• `arm/kit637_v6`
	• `mips/csb350`
	The error being reported is:
	`error: testsuites/libtests/ttest01/init.c:146:23: error: conflicting type qualifiers for 'config'`
	The builder command line is:
	`/opt/work/chris/rtems/rt/rtems-tools.git/tester/rtems-bsp-builder \ --rtems-tools=/opt/work/rtems/5 \ --rtems=/opt/work/chris/rtems/kernel/rtems.git \ --log=everything-tests \ --profile=everything \ --build=tests \ --jobs=7/6`
	A BSP configure command line is:
	`/opt/work/chris/rtems/kernel/rtems.git/configure \ --target=mips-rtems5 --enable-rtemsbsp=csb350 --prefix=/opt/rtems/5 \ --enable-tests --disable-smp`					

~~#3743~~	12 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	12 months ago
Summary	RSB os and arch config logic is broken					
Description	The config file processing of conditionals: • `%ifos` • `%ifnos` • `%ifarch` do not correctly process lists of arguments. The argument list is split in 2 with the first element correct handled and the remaining treated as a lump. The argument list needs to be split evenly.					
~~#3746~~	12 months ago	fixed	lib/dl	Chris Johns	Chris Johns <chrisj@...>	12 months ago
Summary	libdl test dl05.exe failing					
Description	This test is failing because the second stage of the symbol loading does not check if a section referenced by a symbol has been loaded. It is not clear yet if the lack of support in `libdl` for `group` sections is a factor.					
~~#3747~~	12 months ago	fixed	arch/arm	Sebastian Huber	Sebastian Huber	11 months ago
Summary	Address Cortex-M3 Errata 602117					
Description	While testing on a NXP LPC1788 it found that this chip is affected by the Cortex-M3 Errata 602117. NXP didn't bother to document this in their errata sheet for the chip: https://www.nxp.com/docs/en/errata/ES_LPC177X_8X.pdf To avoid the issues, you have to compile everything with -mfix-cortex-m3-ldrd. This option is enabled by default, if you use -mcpu=cortex-m3. I think we have to change our GCC multilibs to account for this errata. For example: `diff --git a/gcc/config/arm/t-rtems b/gcc/config/arm/t-rtems index 026a5895662..e276b4f3e57 100644 --- a/gcc/config/arm/t-rtems +++ b/gcc/config/arm/t-rtems @@ -1,7 +1,7 @@ # Custom RTEMS multilibs for ARM -MULTILIB_OPTIONS = mbig-endian mthumb march=armv6-m/march=armv7-a/march=armv7-r/march=armv7-m/mcpu=cortex-m7 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-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`					
~~#3748~~	12 months ago	fixed	lib/dl	Chris Johns	Chris Johns <chrisj@...>	11 months ago
Summary	libdl uses a linear symbol search on object file symbols					
Description	Symbol searching has two parts, searching the object file and searching the global symbol table. Currently the object file search is linear and the global table search uses a hash table. A large incrementally linked object file can have a large local and global set of symbols and this can slow the loading process. This issue does not show up for small object files with a few symbols which is typically how our libraries are made. Change the object file symbol search to a binary search (`bsearch`). A hash table for each object file would increase the in memory object file footprint by a significant amount and would harm the small object file use case that only have a few symbols. A binary search is a suitable compromise.					
~~#3751~~	11 months ago	fixed	doc	Joel Sherrill	Joel Sherrill <joel@...>	5 months ago

Summary	No documentation on Region Get Information Directives					
Description	rtems_region_get_information and rtems_region_get_free_information are not documented in the Classic API Users Guide. They have been present since at least 4.6 and should be documented.					
~~#3753~~	11 months ago	fixed	config	Joel Sherrill	Sebastian Huber <sebastian.huber@…>	4 months ago
Summary	Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORS					
Description	CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORS 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_DESCRIPTORS to just CONFIGURE_MAXIMUM_FILE_DESCRIPTORS. Perhaps deprecate now and obsolete in next major version. Include code to warn and map old name to new. Thoughts?					
~~#3754~~	11 months ago	fixed	doc	Joel Sherrill	Joel Sherrill	9 months ago
Summary	Users Guide Ubuntu Instructions Have Typo					
Description	sudu should be sudo					
~~#3756~~	11 months ago	fixed	arch/sparc	Sebastian Huber	Sebastian Huber	11 months ago
Summary	Condition codes in PSR are destroyed by lazy FP context switch					
Description	https://lists.rtems.org/pipermail/devel/2019-June/026014.html					
~~#3760~~	11 months ago	fixed	arch/arm	Chris Johns	Chris Johns <chrisj@…>	9 months ago
Summary	BBB MMU update crashes					
Description	Calling `arm_cp15_set_translation_table_entries()` on a BBB (Cortex-A8) crashes in the call to `arm_cp15_tlb_invalidate_entry_all_asids()`. There is no HYP support in the BBB's A8. The `cp15` register is documented in the A8 manual but the BBB device from TI does not have the support built in. A check of the A8 doco from ARM says this is for use in HYP mode so should we be using without checking if HYP is supported and if it is active? I am also wondering if we use should be using it on the Zynq. I have no idea why the 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~~	10 months ago	fixed	arch/arm	Chris Johns	Chris Johns	10 months ago
Summary	Return the current handler from ARM cp15 set exception call					
Description	Update the cp15 call `arm_cp15_set_exception_handler()` to return the current handler. This lets code catch and return an exception handler, for example code to probe suspect hardware. This is need to probe the memory map debug registers for debug v7 implementations.					
~~#3763~~	10 months ago	fixed	tool/rsb	Chris Johns	Chris Johns <chrisj@…>	9 months ago
Summary	RSB SIS build fails on FreeBSD					

Description	The RSB SIS build for RISCV fails on FreeBSD with:
	`+ CFLAGS='-O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include ' ./configure '--build=x86_64-freebsd12.0' '--host=x86_64-freebsd12.0' '--program-prefix=sis-rtems5-' '--prefix='`
	`checking for a BSD-compatible install... /usr/bin/install -c`
	`checking whether build environment is sane... yes`
	`checking for a thread-safe mkdir -p... build-aux/install-sh -c -d`
	`checking for gawk... no`
	`checking for mawk... no`
	`checking for nawk... nawk`
	`checking whether make sets $(MAKE)... yes`
	`checking for x86_64-freebsd12.0-gcc... /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include`
	`checking whether the C compiler works... yes`
	`checking for C compiler default output file name... a.out`
	`checking for suffix of executables...`
	`checking whether we are cross compiling... no`
	`checking for suffix of object files... o`
	`checking whether we are using the GNU C compiler... yes`
	`checking whether /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include accepts -g... yes`
	`checking for /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include option to accept ISO C89... none needed`
	`checking for style of include used by make... GNU`
	`checking dependency style of /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include... gcc3`
	`checking how to run the C preprocessor... /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include -E`
	`checking for grep that handles long lines and -e... /usr/bin/grep`
	`checking for egrep... /usr/bin/grep -E`
	`checking for ANSI C header files... yes`
	`checking for sys/types.h... yes`
	`checking for sys/stat.h... yes`
	`checking for stdlib.h... yes`
	`checking for string.h... yes`
	`checking for memory.h... yes`
	`checking for strings.h... yes`
	`checking for inttypes.h... yes`
	`checking for stdint.h... yes`
	`checking for unistd.h... yes`
	`checking fcntl.h usability... yes`
	`checking fcntl.h presence... yes`
	`checking for fcntl.h... yes`
	`checking stddef.h usability... yes`
	`checking stddef.h presence... yes`
	`checking for stddef.h... yes`
	`checking for stdlib.h... (cached) yes`
	`checking for string.h... (cached) yes`
	`checking sys/time.h usability... yes`
	`checking sys/time.h presence... yes`
	`checking for sys/time.h... yes`
	`checking for unistd.h... (cached) yes`
	`checking termios.h usability... yes`
	`checking termios.h presence... yes`
	`checking for termios.h... yes`
	`checking for readline in -lreadline... no`
	`configure: error: the required "readline" library is missing`

~~#3768~~	9 months ago	fixed	build	Chris Johns	Chris Johns	9 months ago
Summary	Add staging support to Makefile.inc					

Description	Add support to allow staging of an RTEMS BSP build so dependent packages can be built in a single RBS buildset build.					
~~#3769~~	9 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	9 months ago
Summary	RSB BSP Buildsets					
Description	Add support to the RSB for BSP build sets. The support includes building 3rd party packages for a BSP. 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					
~~#3770~~	9 months ago	wontfix	tool/rsb	Chris Johns		5 months ago
Summary	RSB 3rd party packages failing to build					
Description	The following packages do not build or have issues and will be removed if they are not updated: 1. ntp 2. microwindows 3. nxlib 4. lwip The lwip patch used by this package needs to be updated. The `install` target for the `Makefile` does not support `DESTDIR` and cannot be staged. It is being built however a lack of `DESTDIR` is not compatible with the requirements of the RSB for staged builds. The package installs directly to the `prefix` which is not suppose to happen. The packages will need to be fixed or removed before 5.1. There is no point releasing the RSB with packages that are broken.					
~~#3773~~	9 months ago	fixed	arch/arm	Chris Johns	Chris Johns	9 months ago
Summary	RPi fails to boot					
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].					
~~#3774~~	9 months ago	fixed	arch/arm	Chris Johns	Sebastian Huber <sebastian.huber@...>	9 months ago
Summary	RPi2 SMP does not build					
Description	`arm-rtems5-gcc -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a7 -O1 -g -ffunction-sections -fdata-sections -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -B./../../lib/libbsp/arm/raspberrypi -B/opt/work/chris/rtems/kernel/rtems.git/bsps/arm/raspberrypi/start -specs bsp_specs -qrtems -L./../../cpukit -L/opt/work/chris/rtems/kernel/rtems.git/bsps/arm/shared/start -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--wrap=putchar -Wl,--gc-sections -o calloc.norun.exe POSIX/calloc.o ./../../cpukit/librtemsdefaultconfig.a ./../../lib/libbsp/arm/raspberrypi/librtemsbsp.a ./../../cpukit/librtemscpu.a ./../../cpukit/librtemstest.a` `/opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/../../../../arm-rtems5/bin/ld: calloc.norun.exe section `.rtemsstack' will not fit in region `VECTOR_RAM'` `/opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/../../../../arm-rtems5/bin/ld: section .start VMA [0000000000008000,00000000000085ff] overlaps section .rtemsstack VMA [0000000000000040,000000000002003f]` `/opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/../../../../arm-rtems5/bin/ld: region `VECTOR_RAM' overflowed by 114752 bytes` Configured with ... `/opt/work/chris/rtems/kernel/rtems.git/configure --target=arm-rtems5 --prefix=/opt/work/chris/rtems/kernel/5 --disable-networking --enable-maintainer-mode --enable-rtems-debug --enable-tests --enable-rtemsbsp=raspberrypi2 --enable-smp`					
~~#3775~~	9 months ago	fixed	lib/dl	Chris Johns	Chris Johns	9 months ago
Summary	libdl does not handle ARM mode reloc tramp parsing					
Description	The BBB fails on libdl tests because the trampoline parsing of reloc records does not handle the ABS type relocs when the code is built in ARM mode.					
~~#3776~~	9 months ago	fixed	lib/dl	Chris Johns	Chris Johns	9 months ago
Summary	libdl ARM does not support ARM mode trampolines.					
Description	The BBB is ARM mode and crashes `dl09.exe`. This is due to only Thumb mode trampoline support.					
~~#3777~~	9 months ago	fixed	lib/dl	Chris Johns	Chris Johns	9 months ago
Summary	libdl object unload debugger delete support is broken					
Description	The test `dl09.exe` crashes on BBB, Zedboard, and RPi2 but runs on arm qemu and psim. The issue is uncovered by the heap protection support in `free()` where the free block has been touched. It turns out `_rtld_linkmap_delete()` list code is broken. The object module's block should not be walked to the end.					
~~#3781~~	9 months ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber	5 months ago
Summary	RSB crashes in case the host as an unreadable directory in "/"					

Description	`butrfeld@elektra:~/rtemsSMP/src/rsb/rtems$ ../source-builder/sb-set-builder --source-only-download 5/rtems-sparc`
	`RTEMS Source Builder - Set Builder, 5 (29fab0500e22)`
	`Traceback (most recent call last):`
	`  File "../source-builder/sb/cmd-set-builder.py", line 26, in <module>`
	`  setbuilder.run()`
	`  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/setbuilder.py", line 674, in run`
	`  if not check.host_setup(opts):`
	`  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/check.py", line 127, in host_setup`
	`  if not path_check(opts):`
	`  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/check.py", line 115, in path_check`
	`  elif not path.exists(p):`
	`  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 131, in exists`
	`  return _exists(shell(paths))`
	`  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 124, in _exists`
	`  return basename(p) in ['.'] + listdir(dirname(p))`
	`  File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 118, in listdir`
	`  return os.listdir(hp)`
	`OSError: [Errno 13] Permission denied: '/adm'`
	The root directory "/" looks like this:
	`butrfeld@elektra:/$ ls -ls`
	`total 89`
	` 4 drwxr-x---+  6 root root  4096 Nov  5  2018 adm`
	` 4 drwxr-xr-x  2 root root  4096 Apr 10 06:17 bin`					

~~#3783~~	9 months ago	fixed	tool/rsb	jameszxj		8 months ago

Summary	MSYS2 RSB build error
Description	I tried to update the compiler to RSB master, and encountered an error. command line: ../source-builder/sb-set-builder --dry-run --with-download 5/rtems-arm error messgae: config: tools/rtems-gdb-8.2.1-1.cfg error: shell macro failed: sh -c "/mingw64/bin/python2-config --ldflags | awk 'BEGIN{FS=" "}/python/{for(i=1;i<NF;++i)if(match($i,".*lpython.*")) print "lib"substr($i,3)"*";}'": 1: }/python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print libsubstr($i,3)*;}': -c: line 0: unexpected EOF while looking for matching ` *}/python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print libsubstr($i,3)*;}': -c: line 1: syntax error: unexpected end of file Build FAILED Build Set: Time 0:00:47.324763 Build FAILED*

~~#3785~~	9 months ago	fixed	arch/riscv	pragnesh		12 days ago
Summary	Add RISC-V BSP with support for the Freedom E310 Arty A7 FPGA					
~~#3789~~	8 months ago	fixed	arch/arm	Andreas Werner	Sebastian Huber	4 months ago
Summary	TMS570 applciation build error					

Description	**expected behaviour** Build without errors and without runtime errors **undesired behaviour** bsp_start_hook_0_done is undefined CPACR Register is not setup **target hardware** Hercules Safety MCU development Kit TMS570 MCU **toolchain version** Modified GCC, binutils and gdb build script to build armeb compiler build with RTEMS Source Builder master(see patches for RTEMS Soucre Builder) I need a ARM Compiler with Big Endian Support as default for TMS570. **configuration options for bsp** ../rtems/configure '--prefix=[bsp path]/bsp/armeb-rtems5' '--host=arm-rtems5' '--target=arm-rtems5' '--enable-posix' '--enable-rtems-debug' '--disable-tests' '--disable-networking' '--enable-rtemsbsp=tms570ls3137_hdk' 'CC_FOR_TARGET=armeb-rtems5-gcc' 'CXX_FOR_TARGET=armeb-rtem5-gcc' 'AR=armeb-rtems5-ar' 'TMS570_USE_HWINIT_STARTUP=1' Test on master commit RTEMS (4a9a58ea8ad75248af5876c01ef654f9bc59c312) **Bug Fix** define simbol bsp_start_hook_0_done in start.S add if defined(ARM_ARCH_7R) see patches

~~#3792~~	8 months ago	fixed	admin	Jeff Mayes	Chris Johns	8 months ago
Summary	RSB fails to build on MSYS2					

Description	Fresh install of Windows 10, with updates. Then installed MSYS2 as instructed here: https://docs.rtems.org/branches/master/user/hosts/windows.html#msys2 Fetched the RSB, and then tried to build rtems-sparc tools, like this… $ ../source-builder/sb-set-builder --prefix=/home/mayes/dev/rtems/5 5/rtems-sparc RTEMS Source Builder - Set Builder, 5 (b45df48a51bc) Build Set: 5/rtems-sparc Build Set: 5/rtems-autotools.bset Build Set: 5/rtems-autotools-internal.bset config: tools/rtems-autoconf-2.69-1.cfg … … … config: devel/expat-2.1.0-1.cfg package: expat-2.1.0-x86_64-w64-mingw32-1 building: expat-2.1.0-x86_64-w64-mingw32-1 sizes: expat-2.1.0-x86_64-w64-mingw32-1: 9.229MB (installed: 2.037MB) cleaning: expat-2.1.0-x86_64-w64-mingw32-1 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-w64-mingw32-1.txt reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-w64-mingw32-1.xml config: tools/rtems-gdb-8.3-1.cfg error: shell macro failed: sh -c "/mingw64/bin/python2-config --ldflags | awk 'BEGIN{FS=" "}/python/{for(i=1;i<NF;++i)if(match($i,".*lpython.*")) print "lib"substr($i,3)"*";}'": 1: }/python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print libsubstr($i,3)*;}': -c: line 0: unexpected EOF while looking for matching ` *}/python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print libsubstr($i,3)*;}': -c: line 1: syntax error: unexpected end of file Build FAILED Build Set: Time 0:07:19.564000 Build FAILED* This happens when using Python3 and also when using Python2.

~~#3793~~	8 months ago	fixed	tool	Chris Johns		5 months ago
Summary	trace record tool does not build on Windows					

Description	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~~	8 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	7 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 initalization tasks/threads (e.g. before the system is up).
3. After the initial threads are created, the signal mask should be inherited from the creator. This can be done based on system state.

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

Notes:

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

Description

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~~	8 months ago	fixed	doc	Gedare Bloom	Joel Sherrill <joel@…>	5 months ago
Summary	docs/develenv directory structure bitrot					
Description	The directory structure described in the Development Environment Guide is outdated and does not reflect changes made in relocating BSPs to the bsps/ directory and refactoring the include paths.					
~~#3797~~	8 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	5 months ago
Summary	Add LLVM as a package					
Description	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~~	7 months ago	fixed	network/libbsd	Joel Sherrill	Sebastian Huber	4 months ago
Summary	Add sockatmark to libbsd					
Description	Now that pselect() is in libbsd, sockatmark() 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.					
~~#3802~~	6 months ago	fixed	tool/rsb	Joel Sherrill	Hesham Almatary	5 months ago
Summary	RSB Build of Spike Fails on Second TIme (bug in upstream spike)					
Description	See https://github.com/riscv/riscv-isa-sim/issues/348 When this is fixed in the upstream, bump the hash in the RSB. Until then, use the attached patch.					
~~#3803~~	6 months ago	invalid	tool/rsb	Joel Sherrill	Chris Johns	3 weeks ago
Summary	RSB ssl context error fetching qemu patches					

Description	It looks like there is a bug in the code that fetches source/patches. Jiri's site is a simple https:
	
	`making dir: /home/joel/rtems-work/rtems-source-builder/bare/patches`
	`_url: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch -> /home/joel/rtems-work/rtems-source-builder/bare/patches/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch`
	`download: (full) https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch -> patches/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch`
	`download: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch -> patches/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch`
	`download: no ssl context`
	`download: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch: error: <urlopen error [Errno -2] Name or service not known>`
	`error: downloading https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch: all paths have failed, giving up`
	
	This is a build with the following script:
	
	`version=5`
	`# variant="-couverture"`
	
	`time ../source-builder/sb-set-builder \`
	`--trace \`
	`--log=l-qemu.txt \`
	`--prefix=${HOME}/rtems-work/tools/${version} \`
	`devel/qemu${variant}`					

~~#3804~~	6 months ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	3 weeks ago
Summary	sb-get-sources: Error repo_mail referenced before assignment					

This occurred on CentOS 7 with Python 2.7.5 and 3.6.

Description

```
$ ../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
```

~~#3805~~	6 months ago	invalid	lib/debugger	Joel Sherrill	Chris Johns	6 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:

Description

```
arm-rtems5-gcc --pipe -DHAVE_CONFIG_H   -I. -I/home/joel/rtems-cron-5/b-atsam/arm-rtems5/c/atsamv/include -I/home/joel/rtems-cron-5/rtems/cpukit/include -I/home/joel/rtems-cron-5/rtems/cpukit/score/cpu/arm/include -I/home/joel/rtems-cron-5/rtems/cpukit/libnetworking   -mthumb -mcpu=cortex-m7 -mfpu=fpv5-d16 -mfloat-abi=hard -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT libdebugger/rtems-debugger-arm.o -MD -MP -MF $depbase.Tpo -c -o libdebugger/rtems-debugger-arm.o /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c &&\
mv -f $depbase.Tpo $depbase.Po
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'arm_debug_mmap_enable':
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:826:12: warning: unused variable 'abort_handler' [-Wunused-variable]
   void*    abort_handler;
            ^~~~~~~~~~~~~
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'arm_debug_unlock_abort':
/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)
  #define EXCEPTION_ENTRY_EXC()               (void) arm_switch_reg
                                                     ^
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:1609:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
   EXCEPTION_ENTRY_EXC();
   ^~~~~~~~~~~~~~~~~~
/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
  #define EXCEPTION_ENTRY_EXC()               (void) arm_switch_reg
                                                     ^
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:1609:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
   EXCEPTION_ENTRY_EXC();
   ^~~~~~~~~~~~~~~~~~
/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]
   CPU_Exception_frame* frame;
                        ^~~~~
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_undefined_instruction':
/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)
  #define EXCEPTION_ENTRY_EXC()               (void) arm_switch_reg
                                                     ^
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:1619:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
   EXCEPTION_ENTRY_EXC();
   ^~~~~~~~~~~~~~~~~~
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_supervisor_call':
/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)
  #define EXCEPTION_ENTRY_EXC()               (void) arm_switch_reg
                                                     ^
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:1642:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
   EXCEPTION_ENTRY_EXC();
   ^~~~~~~~~~~~~~~~~~
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_prefetch_abort':
/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)
  #define EXCEPTION_ENTRY_EXC()               (void) arm_switch_reg
                                                     ^
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:1659:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
   EXCEPTION_ENTRY_EXC();
   ^~~~~~~~~~~~~~~~~~
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c: In function 'target_exception_data_abort':
/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)
  #define EXCEPTION_ENTRY_EXC()               (void) arm_switch_reg
                                                     ^
/home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:1676:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
   EXCEPTION_ENTRY_EXC();
   ^~~~~~~~~~~~~~~~~~
At top level:
/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]
 arm_debug_unlock_abort(void)
```

~~#3806~~	6 months ago	fixed	score	Sebastian Huber	Sebastian Huber	6 months ago

Summary: Add fatal error for heap errors

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

Description

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

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

~~#3808~~	6 months ago	fixed	tool/rsb	Chris Johns	Joel Sherrill	5 months ago

Summary: Fix qemu-couverture-git RSB download file name

Description:

The file name for qemu-couverture-git is a git hash. This results in a file in a release source directory that has no meaning ...

https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/

The release build output shows the issue ...

```
package: qemu-e9299f7591c8ecf3389922f4e7672b6bc5deae71-x86_64-pc-solaris2-1
download: https://github.com/AdaCore/qemu/archive/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz ->
sources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz
 redirect: https://codeload.github.com/AdaCore/qemu/tar.gz/e9299f7591c8ecf3389922f4e7672b6bc5deae71
downloading: sources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz - 0.0 bytes
```

~~#3809~~	6 months ago	fixed	tool/rsb	Chris Johns	Joel Sherrill <joel@...>	5 months ago

Summary: Fix epiphany-rtems5-gdb-7.8 RSB download file name

Description:

The file name for epiphany-rtems5-gdb-7.8 is a git hash. This results in a file in a release source directory that has no meaning ...

https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/

The release build output shows the issue ...

```
download: https://github.com/adapteva/epiphany-binutils-gdb/archive/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
```

~~#3810~~	6 months ago	fixed	doc	Chris Johns	Chris Johns	23 hours 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~~	6 months ago	fixed	admin	Chris Johns	Chris Johns <chrisj@...>	6 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~~	6 months ago	fixed	admin	Chris Johns	Chris Johns	2 months ago

Summary: Released RSB has no source set for rtems-tools

Description:

Building a release RSB fails in the rtems-tools build with:

```
script: 85: rtems_tools_source="rtems-tools-5.0.0-m1911"
script: 86: source_dir_rtems_tools=${rtems_tools_source}
source setup: rtems-tools-5.0.0-m1911-1: source rtems-tools -q -n ${rtems_tools_source}
error: no source set: rtems-tools (source-rtems-tools)
```

~~#3814~~	6 months ago	fixed	admin	Chris Johns	Chris Johns	5 months ago

Summary: Releasing creates 2 copies or the kernel and tools.

Description:

The release snapshot `m1911` as found here:

https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/

has a kernel (`rtems-5.0.0-m1911.tar.xz`) in the top directory and another copy in the `sources` directory.

The top level copy is the head of the branch, in this case `master` while I suspect the copy in the `sources` directory is created by the RSB when collecting the source.

Which is correct for a release? I am not sure, the tagged version in the RSB or the release packaged version?

I tend to think the release packaged version is used and the RSB collected versions should not be collected. They are only useful when working from git.

~~#3815~~	6 months ago	fixed	score	Sebastian Huber	Sebastian Huber	2 weeks 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~~	6 months ago	fixed	arch/arm	Jeff Mayes	Chris Johns	27 hours ago

Summary: RSB fails on FreeBSD 12.0 (32bit and 64bit)

Fails to build GDB for both the Arm and Sparc architectures.

Description

```
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/9a1cf9a2d940a4f79cd822f05c8fb13a4c0ec3bb
 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
```

~~#3821~~	6 months ago	fixed	network/libbsd	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Port NVMe support from FreeBSD to libbsd					
~~#3822~~	6 months ago	fixed	admin	Chris Johns	Chris Johns	5 weeks ago
Summary	Release created VERSION file in rtems-tools-.*.tar.xz is wrong					
Description	A build of the `VERSION` file in the release `rtems-tools` source package is reporting: `invalid version file: error: Invalid version file: ./VERSION: No option 'revision' in section: 'version'`					
~~#3823~~	5 months ago	fixed	rtems	Jonathan Brandmeyer	Sebastian Huber <sebastian.huber@…>	5 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~~	5 months ago	duplicate	shell	Chris Johns		5 months ago
Summary	top on SMP shows invalid priorities					

	Description	Running `top` on a Zynq `zc706` gives ...
		`ID | NAME | RPRI | CPRI | TIME | TOTAL | CURRENT`
		`0x0a010008 | IRQS | 4611686018427388000 | 4611686018427388000 | 2.437559 | 0.000 | 0.022`
		The code in question is ... https://git.rtems.org/rtems/tree/cpukit/libmisc/cpuuse/cpuusagetop.c#n447
		What is best API to show a priority that makes this code robust?					

~~#3830~~	5 months ago	fixed	tool/rsb	Sebastian Huber	Sebastian Huber	5 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~~	5 months ago	fixed	doc	Joel Sherrill	Chris Johns	5 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. I think the Wiki page can be reviewed and removed. But any references and sub-pages should be dealt with at the same time. https://devel.rtems.org/search?q=Developer%2FArchitectures&noquickjump=1&wiki=on shows two sub-pages to deal with: • https://devel.rtems.org/wiki/Developer/Architectures/ARM which is one sentence and can be removed. • https://devel.rtems.org/wiki/Developer/Architectures/ARM/ARM-EABI which probably should move to the Users Manual. This would eliminate a few pages and a point of duplication for a very important concept to the RTEMS Project.					
~~#3833~~	5 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	4 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 objects, 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~~	5 months ago	fixed	dev	Sebastian Huber	Sebastian Huber	4 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~~	5 months ago	fixed	score	Sebastian Huber	Sebastian Huber	8 weeks ago
	Summary	Support statically allocated threads				
	Description	In some applications it is desirable to have statically allocated resources for all operating system objects. In addition to the thread control block, up to four memory areas are currently allocated by a thread: 1. stack area 2. TLS area 3. FP context 4. thread queue heads Currently the FP context and the TLS area are separately allocated from the workspace. This complicates the workspace size estimate. Add the FP context and TLS size to the stack size and place them in the stack area. This makes it also possible to move the stack area allocation out of _Thread_Initialize(). Use a hook to get the thread queue heads which is configured depending on the unlimited objects option of the configuration. Statically allocate the stacks for internal threads (e.g. idle and MPCI receive server) in a dedicated linker section (similar to the interrupt stacks). Mention this in the Classic API Guide configuration chapter.					
~~#3836~~	5 months ago	fixed	config	Sebastian Huber	Sebastian Huber	4 weeks ago
	Summary	Specify the application configuration options				
	Description	The application configuration is currently specified by the RTEMS Classic API Guide, the test cases, and the implementation. Add the application configuration to specification items maintained by Doorstop to "spec/acfg" in a repository. Generate the documentation from the specification items. The specification and the generator scripts are contained in: https://git.rtems.org/sebh/rtems-qual.git					
~~#3837~~	5 months ago	duplicate	config	Sebastian Huber	Sebastian Huber	4 months ago
	Summary	Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORS				
	Description	Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORS in CONFIGURE_MAXIMUM_FILE_DESCRIPTORS. Issue a C preprocessor warning if CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORS is used and map it to CONFIGURE_MAXIMUM_FILE_DESCRIPTORS.					
~~#3838~~	5 months ago	fixed	bsps	Sebastian Huber	Sebastian Huber	4 weeks ago
	Summary	Rework work area initialization				
	Description	The work area initialization is done by the BSP through bsp_work_area_initialize(). This approach predates the system initialization through the system initialization linker set. The workspace and C program heap are unconditionally initialized. With the availability of statically initialized threads a system without workspace and C program heap is feasible. Change the work area initialization so that components are initialized on demand. To achieve this: 1. Add a Memory Handler which provides support for low level handling of memory areas which are handed over to the higher level Heap Handler. 2. Add an implementation of _Memory_Get() to each BSP (basically a restructuring of the bsp_work_area_initialize() implementations). See optimization opportunity in #3925.					
~~#3839~~	5 months ago	fixed	build	Chris Johns	Chris Johns	5 months ago
	Summary	RTEMS revision does not handle `-`				
	Description	RTEMS configure logic that takes a version number and splits it into major, minor and revision values. The current release snapshots have a version number of `5.0.0-m1912` and this is not correct parsed.					
~~#3840~~	5 months ago	fixed	config	Sebastian Huber	Sebastian Huber	5 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~~	5 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	4 months ago
	Summary	Add rtems_object_get_local_node()					

Description

Add

```
/**
 * @brief Get the local MPCI node number.
 *
 * @return The local MPCI node number.
 */
uint16_t rtems_object_get_local_node( void );
```

to avoid the direct use of internal data structures.

~~#3842~~	5 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	5 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 `no-repo`. The RTEMS version message is embedded in the gcc version string.					
~~#3843~~	4 months ago	fixed	config	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Add CONFIGURE_DIRTY_MEMORY					
Description	Change the BSP_DIRTY_MEMORY BSP option (build-time configuration) into a CONFIGURE_DIRTY_MEMORY application configuration option (link-time configuration).					
~~#3844~~	4 months ago	fixed	config	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE					
Description	Remove the CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE configuration option. The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes. The CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE configuration option had no test case. There was an attempt to get user feedback about this option: https://lists.rtems.org/pipermail/users/2019-April/033131.html					
~~#3845~~	4 months ago	fixed	config	Sebastian Huber	Sebastian Huber	4 months ago
Summary	Remove Ada-specific configuration options					
Description	We have currently three Ada related configuration options: • CONFIGURE_GNAT_RTEMS • CONFIGURE_MAXIMUM_ADA_TASKS • CONFIGURE_MAXIMUM_FAKE_ADA_TASKS The CONFIGURE_MAXIMUM_FAKE_ADA_TASKS option has no effect. The CONFIGURE_GNAT_RTEMS is mandatory to use the CONFIGURE_MAXIMUM_ADA_TASKS option. So, if you just use #define CONFIGURE_MAXIMUM_ADA_TASKS 123 then you get a re-definition warning and hopefully pay attention to it. This is not very user friendly from point of view. The CONFIGURE_MAXIMUM_ADA_TASKS just adds the configured count to CONFIGURE_MAXIMUM_POSIX_THREADS. The original purpose of these was to: CONFIGURE_GNAT_RTEMS - add in resources required by Ada run-time independent of the number of Ada tasks (e.g. POSIX threads) CONFIGURE_MAXIMUM_ADA_TASKS - add in POSIX threads, condition variable, and mutex required for each Ada task CONFIGURE_MAXIMUM_FAKE_ADA_TASKS - add in condition variables and mutex required by Ada run-time for a task/thread created outside the Ada run-time which invokes Ada code and is thus a user of the run-time. Given that you can turn on unlimited threads now and condition variables and mutexes are static, I don't think they have a need any longer. Plus it sounds like they bit rotted. If we needed them still, they would have to be fixed. We still need documentation that Ada tasks are POSIX threads and must be accounted for in configuring the system. So when moving documentation around, please make that point clear in the CONFIGURE_MAXIMUM_POSIX_THREADS description. See also: https://lists.rtems.org/pipermail/devel/2019-December/056523.html					
~~#3848~~	4 months ago	fixed	network/libbsd	Chris Johns	Chris Johns	8 weeks ago
Summary	Libdebugger test in libbsd should depend on libdebugger.a					
Description	The test should be built based on this library being present. The PowerPC does not support libdebugger.					
~~#3849~~	4 months ago	fixed	arch/powerpc	Sebastian Huber	Joel Sherrill <joel@…>	8 weeks ago
Summary	Fix PSIM memory map					

b08278e/rtems leads to the following run-time error on PSIM:

```
BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0
BATs must not overlap; area 0x0c000000..0x0d000000 hits DBAT 0
```

The RAM overlaps with the PCI area:

```
  /*
   * Setup BATs and enable MMU
   */
  /* Memory */
  setdbat(0, 0x0<<28, 0x0<<28, 1<<28, _PAGE_RW);
  setibat(0, 0x0<<28, 0x0<<28, 1<<28,        0);
  /* PCI    */
  setdbat(1, 0x8<<24, 0x8<<24, 1<<24,  IO_PAGE);
  setdbat(2, 0xc<<24, 0xc<<24, 1<<24,  IO_PAGE);
```

Increasing the RAM size to 256MiB (0x10000000) on PSIM breaks also the shared memory support:

Description

```
typedef struct {
  /* 0x0c000000 - 0x0c007FFF - AMD 29F040 */
  volatile uint8_t Flash[ 512 * 1024 ];

  /* 0x0c080000 - 0x0c0FFFFF - NVRAM/NVRAM */
  volatile uint8_t nvram[ 512 * 1024 ];

  /* 0x0c100000 - 0x0c100007 - NVRAM/RTC */
  psim_rtc_t RTC;

  /* 0x0c100008 - 0x0c10000F - NVRAM/RTC */
  uint8_t gap1[8];

  /* 0x0c100010 - 0x0c10001b - System V IPC Semaphore */
  psim_sysv_sem_t Semaphore;

  /* 0x0c10001c - 0x0c10001f - NVRAM/RTC */
  uint8_t gap2[4];

  /* 0x0c100020 - 0x0c10005F - Ethernet */
  volatile uint8_t Ethtap[ 64 ];

  /* 0x0c100060 - 0x0c10FFFF - NVRAM/RTC */
  uint8_t gap3[65440];

  /* 0x0c110000 - 0x0c12FFFF - System V IPC Shared Memory */
  uint8_t SharedMemory[ 128 * 1024 ];

  /* 0x0c130000 - 0x0c170000 - OpenPIC IRQ Controller */
  volatile uint8_t OpenPIC[ 256 * 1024 ];

} psim_registers_t;
```

Proposed solution is to adjust the memory map so that 256MiB of RAM are supported. Probably needs changes in rtems-tools.

~~#3856~~	3 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	3 months ago

Summary: posix_devctl - Add support for SOCKCLOSE

Description: The FACE Technical Standard, Edition 3.0 and later require the definition of the subcommand SOCKCLOSE in <devctl.h>.

Reference: https://www.opengroup.org/face

The SOCKCLOSE constant has previously been added to <devctl.h> in newlib.

~~#3857~~	3 months ago	fixed	posix	Joel Sherrill	Joel Sherrill	3 months ago

Summary: Use EAGAIN for POSIX mq wait in ISR error

Description: POSIX message queues which are about to block in an ISR currently return ENOMEM. This is a status not listed by POSIX. The better status is EAGAIN per https://pubs.opengroup.org/onlinepubs/9699919799/functions/mq_receive.html.

~~#3859~~	3 months ago	fixed	shell	Chris Johns	Chris Johns	2 weeks ago

Summary: No output from joel scripts in telnet

Running a `joel` script in a telnet session results in the output being sent to the global `stdout`. For example:

```
$ telnet 1.2.3.4
Trying 1.2.3.4...
Connected to 1.2.3.4.
Escape character is '^]'.

RTEMS Shell on /dev/pty0. Use 'help' to list commands.
[/] # cat j
#! joel
ls -las /
[/] # ./j
[/] #
```

The bug is a new shell main loop task will default to the global `stdout`, `stdin` etc and has no information about the parent's `std` handles. A `joel` script runs in it's own work task and does not know the telnet's `std` handles.

There are a related set of issues in the handling of the `shell_env` variable, POSIX key handling and the use of the external call `rtems_shell_main_loop`.

The telnet example in `libbsd` has:

```
static void
telnet_shell(char *name, void *arg)
{
 rtems_shell_env_t env;

 memset(&env, 0, sizeof(env));

 env.devname = name;
 env.taskname = "TLNT";
 env.login_check = NULL;
 env.forever = false;

 rtems_shell_main_loop(&env);
}
```

Description

This is problematic as control of the `env` has been lost and this make backwards comptatable changes difficult. Control of this `struct` needs to be brought back under the shell code.

Currently the posix key is set in the parent task only when the run entry point is used. The run's created `shell_env` is then passed to the shell's main loop task as an argument from which it is cloned. This means an `env` is `malloc`ed in each run call and again in the main loop of the shell.

The current code leaks memory as repeated calls to a `joel` script in a shell will set the key over and over. The destructor is only called when the task is deleted. We have to assume the cleanup of any `shell_env` allocated externally to the shell code has to be handled externally.

Setting the key in the main loop task is problematic because telnet code such as the example in `libbsd` uses a local stack `shell_env` and the key has a destructor that blindly `free`'s the key's memory when a task is released.

Changes:

1. Add `parent_stdout`, `parent_stdin`, and `parent_stderr` to the `shell_env` and set to the parent's `std` handles.
2. Add a `managed` flag to `shell_env` and only set when allocated by `rtems_shell_init_env`. Change `rtems_shell_env_free` to only `free` the `shell_env` if `managed`.
3. Remove all key sets and have only one in the shell's main loop code.
4. Change `rtems_shell_init_env` to get the current tasks key and clone that before cloning the global env.
5. Update `rtems_shell_dup_current_env` to set the parent `std` handles.
6. Have the main loop use the parent `std` handles rather than the global handles.
7. Check the `magic` field has been set in the shell's main loop and raise an error if not set. The only code to set this field should reside in `shell.c`. Code such as `libbsd` will need to call `rtems_shell_dup_current_env`.

~~#3861~~	3 months ago	fixed	config	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION					
Description	Add a configuration option to print some information during system initialization.					
~~#3862~~	3 months ago	fixed	config	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Canonicalize CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY					

Description

The CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY configuration option is documented to be a boolean feature macro (is defined or undefined). However, in confdefs.h it uses the values TRUE and FALSE. It is the only configuration option implemented like this. Change it to use defined/undefined instead like the other options. This affects existing application configurations which use:

```
#define CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY FALSE
```

An unintentional zero of the workspace has an effect on the system boot time. This is an acceptable trade-off for the more canonical configuration.

~~#3863~~	3 months ago	fixed	config	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Remove support for the BSP_ZERO_WORKSPACE_AUTOMATICALLY BSP option					
Description	BSPs had the option to enable the CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY via the BSP_ZERO_WORKSPACE_AUTOMATICALLY BSP option. There is no BSP which defines this option. In addition, it makes no sense that a BSP can influence this high level system configuration.					
~~#3864~~	3 months ago	fixed	tool	Joel Sherrill	Chris Johns	4 weeks ago
Summary	rtems-tester does not work with gdb simulators					
Description	It appears that something has broken with the rtems-tester on gdb simulators. On the latest run, I had to kill the tester by hand when it hung. On other times, it appears to abort with a lock issue.					
~~#3865~~	3 months ago	fixed	score	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Fix linker set item declarations for small data area targets					

Description

Some targets (e.g. 32-bit PowerPC) have a small-data area. Linker set items are not in the small data area. We have to tell this the compiler, otherwise linker error may occur due to a mismatch of relocations. There are two options to do this.

1. We can declare items as an array of unspecified size and define items as an array with one element. The problem with this is that it breaks existing code, e.g. an item initializer would have to change.
2. We add the section to the declaration. The problem is that in this case we need a dedicated declaration macro for the ordered items.

Since item declarations are rarely used, we select option 2.

~~#3868~~	3 months ago	fixed	tool/rsb	Chris Johns	Chris Johns <chrisj@...>	3 months ago
Summary	newlib links breaks mingw build					

Description	The following patch in newlib adds links and Windows does not have symlinks and it is emulated as copy. This complicates a bsdtar extraction of source ... https://github.com/RTEMS/sourceware-mirror-newlib-cygwin/commit/cfc4955234828881145a20987c8a0a3cd373585c I tried the `-E` option that was added to the RSB to extract the tar file a second time, this has worked with other tar files with symlinks however it does not work. I have no investigated why. We need Windows building to make a release. **Note, this is in the `tools/rsb` component however is not an RSB bug. I need input on what the RSB needs to do to fix this issue if that is the path we take.**

~~#3871~~	3 months ago	fixed	config	Sebastian Huber	Sebastian Huber	2 months ago
Summary	Remove rtems_configuration_get_posix_api_configuration()					
Description	The corresponding data structure not longer exists. This function was not tested.					
~~#3873~~	2 months ago	fixed	config	Sebastian Huber	Sebastian Huber	2 months ago
Summary	Remove CONFIGURE_HAS_OWN_INIT_TASK_TABLE					
Description	The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last *_HAS_OWN_* configuration options. These two options are probably unused, see also: https://lists.rtems.org/pipermail/users/2019-April/033129.html https://lists.rtems.org/pipermail/users/2019-April/033130.html Removing them simplifies the configuration. If there is a real user need which shows up after the removal, we can resurrect them on demand. Using CONFIGURE_HAS_OWN_INIT_TASK_TABLE would have required the use of the undocumented CONFIGURE_INIT_TASK_TABLE and CONFIGURE_INIT_TASK_TABLE_SIZE configuration options.					
~~#3874~~	2 months ago	fixed	config	Sebastian Huber	Sebastian Huber	2 months ago
Summary	Remove CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE					
Description	The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last *_HAS_OWN_* configuration options. These two options are probably unused, see also: https://lists.rtems.org/pipermail/users/2019-April/033129.html https://lists.rtems.org/pipermail/users/2019-April/033130.html Removing them simplifies the configuration. If there is a real user need which shows up after the removal, we can resurrect them on demand. Using CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE would have required the use of the undocumented CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME and CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE configuration options.					
~~#3875~~	2 months ago	fixed	config	Sebastian Huber	Sebastian Huber	2 weeks ago
Summary	Split up confdefs.h 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

#ifndef __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:

Description

```
rtems/
  confdefs.h
    This file just includes the component based header files listed below.
  confdefs/
    bdbuf.h
    classicobj.h
      Classic API objects
    classictasksinit.h
      Classic initialization task
    driverclock.h
      Clock driver and related configuration, e.g. CONFIGURE_MICROSECONDS_PER_TICK
    driverconsolesimple.h
      Simple console driver configuration
    driverlegacy.h
      Legacy IO driver configuration table
    extensions.h
      User extensions, internal extensions
    filesystem.h
      Filesystem configuration
    general.h
      Basic stuff which is mandatory to configure, e.g. ISR stacks, per-CPU information
    libpci.h
      PCI library configuration
    malloc.h
      Malloc configuration
    mpci.h
      MPCI specific configuration options
    msgq.h
      General message queue configuration
    obsolete.h
      Warning about the use of obsolete configure options
    posixkeys.h
      POSIX keys
    posixobj.h
      POSIX objects
    posixthreadsinit.h
      POSIX initialization threads
    scheduler.h
      Scheduler configuration
    support.h
      Support macros for confdefs header files
    threads.h
      General thread configuration (e.g. thread control block)
    unlimited.h
      Unlimited objects configuration
```

~~#3876~~	2 months ago	fixed	config	Sebastian Huber	Sebastian Huber	2 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~~	2 months ago	fixed	rtems	Sebastian Huber	Sebastian Huber	8 weeks ago
Summary	Add API functions to map a task priority to/from a POSIX thread priority					

Description

Mapping task priorities to/from POSIX thread priorities is probably done in many applications. There seems to be no API to help doing this. Add the following API functions to map a task priority to/from a POSIX thread priority:

```
/**
 * @brief Map a task priority to the corresonding 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 corresonding 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
);
```

~~#3882~~	2 months ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 months ago

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~~	2 months ago	fixed	score	Sebastian Huber	Sebastian Huber	8 weeks ago

Summary: Context switch extension is broken in SMP configurations

Description:

The context switch extensions are called during _Thread_Do_dispatch():

```
void _Thread_Do_dispatch( Per_CPU_Control *cpu_self, ISR_Level level )
{
  Thread_Control *executing;

  executing = cpu_self->executing;

  ...
  do {
    Thread_Control *heir;

    heir = _Thread_Get_heir_and_make_it_executing( cpu_self );
    ...
    _User_extensions_Thread_switch( executing, heir );
    ...
    _Context_Switch( &executing->Registers, &heir->Registers );
    ...
  } while ( cpu_self->dispatch_necessary );
  ...
}
```

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

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

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~~	2 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	3 weeks ago

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~~	2 months ago	fixed	network/libbsd	Chris Johns	Chris Johns	3 weeks ago

Summary: Update rtems_waf in libbsd

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

~~#3893~~	2 months ago	fixed	tool/rsb	Chris Johns	Chris Johns	8 weeks ago

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.

```
../source-builder/sb-set-builder --log=bbb-pkg.txt --prefix=/build/rtems/install/5 --host=arm-rtems5 --with-rtems-bsp=beagleboneblack 5/rtems-packages
```

~~#3894~~	8 weeks ago	fixed	fs	Sebastian Huber	Sebastian Huber	4 weeks 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

```
#define CONFIGURE_USE_DEVFS_AS_BASE_FILESYSTEM
```

configuration option. Replace the device filesystem with a specialization of the IMFS.

~~#3895~~	8 weeks ago	fixed	doc	Sebastian Huber	Sebastian Huber	2 weeks 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~~	8 weeks ago	fixed	tool/rsb	Chris Johns	Chris Johns	8 weeks ago

Summary: RSB option --source-only-download does not work with releases

Description: The RSB option `--source-only-download` does not work for releases

~~#3898~~	8 weeks ago	fixed	config	Sebastian Huber	Sebastian Huber	7 weeks 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~~	8 weeks ago	fixed	doc	Sebastian Huber	Sebastian Huber	4 weeks 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:

```
.. 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.
```

~~#3901~~	8 weeks ago	fixed	doc	Sebastian Huber	Sebastian Huber	4 weeks ago

Summary: New template for configuration options with a value

Change the documentation template for configuration options with a value to:

```
.. _CONFIGURE_XYZ:

CONFIGURE_XYZ
-------------

CONSTANT:
    ``CONFIGURE_XYZ``

OPTION TYPE:
    This configuration option is an integer define.

VALUE CONSTRAINTS:
    The specified value must be greater than or equal to X and less than or
    equal to Y.

DEFAULT VALUE:
    The default value is Z.

DESCRIPTION:
    This configuration option defines the ABC.

NOTES:
    Notes for XYZ.
```

Description

Use `OPTION TYPE` instead of `DATA TYPE` since we have to characterize the option an not just the value of an option. This is in line with ~~#3900~~.

Use `VALUE RANGE` instead of `RANGE` to be more specific.

~~#3903~~	7 weeks ago	fixed	network/libbsd	Chris Johns	Christian Mauderer <christian.mauderer@...>	3 weeks ago

Summary: raspberrypi2 libbsd 5-freebsd-12 does not build

Description:

The build is failing with ...

```
/opt/work/rtems/5/lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: ./libbsd.a(rtems-kernel-nexus.c.18.o): in function `nexus_ofw_map_intr':
/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/rtems-libbsd-v2b9172c9d42d056b6fb16d667091e2ee3ac64009-arm-rtems5-1/rtems-libbsd-
2b9172c9d42d056b6fb16d667091e2ee3ac64009/build/arm-rtems5-raspberrypi2-default/../../rtemsbsd/rtems/rtems-kernel-nexus.c:359: undefined reference
to `bsp_fdt_map_intr'
collect2: error: ld returned 1 exit status
```

Is something on `master` that needs to be back ported to the `5-freebsd-12` branch?

~~#3904~~	7 weeks ago	fixed	unspecified	Sebastian Huber	Sebastian Huber	2 weeks ago

Summary: Add methods to dump the event records in base64 encoding (optionally zlib compressed)

Description: This helps to get the event records easily via a serial line in case of a crash.

~~#3907~~	6 weeks ago	fixed	doc	Joel Sherrill		3 weeks ago

Summary: Update Getting Started Instructions

Description:

https://devel.rtems.org/wiki/GSoC/GettingStarted reflects how SIS was used before it was split from GDB into a separate program.

Ensure this information is in the Users Guide as a Getting Started. We need a Getting Started task for student programs.

Discuss keeping the old instructions under a subheading for older versions.

This ticket can be closed when it is determined that the wiki page content is distributed and updated/removed properly

~~#3909~~	6 weeks ago	fixed	build	Chris Johns	Chris Johns	4 weeks ago

Summary: rtems_waf with python2 needs to handle unicode strings with waf

Description:

Waf will not support Python 2 unicode strings and there is a use case that appears now and again where the user report an error something like:

```
Cannot create ///h/
```

The waf ticket is https://gitlab.com/ita1024/waf/-/issues/2283.

~~#3911~~	6 weeks ago	fixed	bsps	Joel Sherrill		6 weeks ago

Summary: Remove gdbarmsim

Description: Broken as a consequence of ARM rework that did not get done to this BSP. On top of that, there are at least 3 BSPs supported by Qemu which have more peripheral support with the Zynq being at the top of that list.

~~#3914~~	5 weeks ago	fixed	tool	Joel Sherrill	Joel Sherrill	5 weeks ago

Summary: Spike has hard-coded path to DTC

Description:

Spike has a fully qualified hard-coded path to dtc which when built with the RSB ends up being inside the temporary tree.

RTEMS Discussion: https://lists.rtems.org/pipermail/devel/2020-March/058489.html

Filed as Spike bug: https://github.com/riscv/riscv-isa-sim/issues/427

~~#3919~~	5 weeks ago	fixed	tool/rsb	Chris Johns	Chris Johns	5 weeks ago

Summary: RSB may not download source of pkconfig checked packages

There are config files with the following:

```
#
# The GLib build instructions. We use 2.x.x Release 1.
#
%ifn %{pkgconfig check glib-2.0}
 %include %{_configdir}/glib-2-1.cfg
%endif
```

Description

If the glib package is present the config file is not loaded and the source is not downloaded with the `sb-get-source` package. Change the config to:

```
#
# The GLib build instructions. We use 2.x.x Release 1.
#
%if !%{pkgconfig check glib-2.0} || %{defined _rsb_getting_source}
 %include %{_configdir}/glib-2-1.cfg
%endif
```

~~#3921~~	4 weeks ago	fixed	bsps	Sebastian Huber	Sebastian Huber	4 weeks ago

Summary: QorIQ clock tick interval is off by one hardware clock tick

Description: The BCR initialization in qoriq_clock_initialize() is off by one resulting in a wrong clock interval.

~~#3927~~	4 weeks ago	fixed	tool/rsb	Joel Sherrill	Chris Johns	4 weeks ago

Summary: tclsh required to build sqlite -- makes all BSP bsets fail

Description: I'm not sure what to do about this. If building sqlite is a requirement, then host setup instructions, sb-check, etc are impacted. But dtc is a required component for a few things and the RSB deals with it. It is also possible to say that sqlite should not be in the BSP bsets.

This is IMO a blocker at some level for the 5.1 release because it impacts building all bsets.

+ make -j 8 sqlite3.h libsqlite3.la tclsh /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/../sqlite-src-3080801/tool/mksqlite3h.tcl /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/../sqlite-src-3080801 >sqlite3.h gcc -g -o mkkeywordhash -DSQLITE_OMIT_WAL=1 -DSQLITE_ENABLE_COLUMN_METADATA=1 /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/../sqlite-src-3080801/tool/mkkeywordhash.c gcc -g -o lemon /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/../sqlite-src-3080801/tool/lemon.c /bin/sh: tclsh: command not found

~~#3936~~	3 weeks ago	fixed	arch/sparc64	Sebastian Huber	Gedare Bloom	3 weeks ago

Summary: C++ thread-local storage broken on sparc64

Description:

```
gmake[5]: Entering directory '/build/git-build/b-niagara/sparc64-rtems5/c/niagara/testsuites/sptests'
sparc64-rtems5-g++  -mcpu=niagara -g -O2 -ffunction-sections -fdata-sections -Wall     -B./../../lib/libbsp/sparc64/niagara -
B/home/EB/sebastian_h/git-rtems-5/bsps/sparc64/niagara/start -specs bsp_specs -qrtems -L./../../cpukit -L/home/EB/sebastian_h/git-rtems-
5/bsps/sparc64/shared/start -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--wrap=putchar -Wl,--gc-sections -o sptls02.exe sptls02/sptls02-init.o
sptls02/sptls02-var.o ./../../lib/libbsp/sparc64/niagara/librtemsbsp.a ./../../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 [00000000000317c0,00000000000317c7] overlaps
section .data LMA [0000000000031018,00000000000319d7]
```

One option is to disable this test on sparc64.

~~#3938~~	3 weeks ago	fixed	test	Joel Sherrill	joel@...	3 weeks ago

Summary: Many (~40) BSPs Fail to Link all Tests

Description: When configured as as show, ~40 BSPs (list below) cannot link all of the tests due to out of memory issues:

```
../rtems/configure --target=arm-rtems5 --prefix=/home/joel/rtems-work/bsp-install/ --disable-multiprocessing --enable-cxx --disable-rdbg --enable-
maintainer-mode --enable-tests --disable-networking --disable-posix --disable-itron --disable-deprecated --disable-ada --disable-expada --enable-
rtemsbsp=atsamv
```

arm-atsamv arm-lm3s3749 arm-lm3s6965 arm-lm4f120 arm-lpc1768_mbed_ahb_ram_eth arm-lpc1768_mbed_ahb_ram arm-lpc1768_mbed arm-lpc2362 arm-lpc23xx_tli800 arm-lpc32xx_mzx_stage_1 arm-rtl22xx arm-rtl22xx_t arm-stm32f105rc arm-stm32f4 arm-tms570ls3137_hdk_intram arm-tms570ls3137_hdk arm-tms570ls3137_hdk_with_loader m68k-mcf52235 m68k-mcf5225x m68k-mrm332 powerpc-gwlcfm powerpc-mpc5566evb powerpc-mpc5566evb_spe powerpc-mpc5643l_dpu powerpc-mpc5643l_evb powerpc-mpc5668g powerpc-mpc5674f_ecu508_app powerpc-mpc5674f_ecu508_boot powerpc-mpc5674fevb powerpc-mpc5674fevb_spe powerpc-mpc5674f_rsm6 sh-gensh1 sh-gensh2 sh-simsh1 sh-simsh2e sh-simsh2 sh-simsh4 sparc64-niagara sparc64-usiii

~~#3944~~	3 weeks ago	fixed	bsps	Joel Sherrill	Sebastian Huber	20 hours 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?

```
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
```

~~#3945~~	3 weeks ago	fixed	doc	Cláudio Maia	Chris Johns	22 hours 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.

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~~	2 weeks ago	fixed	posix	Sebastian Huber	Sebastian Huber	2 weeks 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~~	13 days ago	fixed	rtems	Sebastian Huber	Sebastian Huber	11 days ago

Summary: rtems_extensions_create() accepts a NULL pointer table

Description: It should return RTEMS_INVALID_ADDRESS instead.

~~#3956~~	12 days ago	fixed	tool/rsb	Chris Johns	Chris Johns	23 hours 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~~	11 days ago	fixed	doc	Joel Sherrill	Chris Johns <chrisj@...>	25 hours 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~~	9 days ago	fixed	arch/arm	Christian Mauderer	Christian Mauderer	9 days 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.

Last modified on Nov 9, 2017, 6:38:58 AM

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5 5.1 release