



RTEMS - 4.11.2-rc5 Release Notes

04 July 2017

RTEMS 4.11 Series Release Notes

These notes cover the dot releases:

4.11.2

4.11.1

4.11.0

4.11.2 (open)

Statistics

Total	48
Fixed	36
Invalid	1
Works for me	0
Duplicate	1
Won't fix	5

Distribution



Summary

- #1523 gethostbyname is not reentrant.
- #2002 ioctl recursive perimeter lock driver deadlock vulnerability
- #2324 Documentation and quick start for the RSB
- #2398 [PATCH] [NFS client] Remove old CVS keywords
- #2401 ARMv7M: Default exception handler doesn't support FPU
- #2479 RTEMS Source Builder gets wrong version of rtems-tools for rtems4-11.
- #2499 RSB 4.11 broken on FreeBSD 10 with default prefix.
- #2622 FAT file corruption when pre-empted while appending to a file
- #2670 epiphany tools fail to build on 4.11
- #2708 [rtems-bsp shell script does not list the available BSPS[]
- #2755 FAT mkdir() broken
- #2758 SDCard driver for QoriQ
- #2815 Add Preferred waf to top of various repositories
- #2827 rtems-bsps broken on 4.11 branch
- #2886 RTEMS version is wrong on 4.11 branch
- #2908 FAT filename comparison is broken
- #2913 RTEMS FAT32 formatter does not set the not dirty and no IO error bits
- #2914 termios: Race condition in raw input buffer handling
- #2915 termios: Potential infinite loop in canonical mode
- #2928 FAT filename comparison is broken while using the UTF-8 support
- #2929 FAT long file names accross cluster boundaries may be broken
- #2934 FAT long file name padding is broken
- #2936 Deadlock in filesystem location management
- #2937 FAT race condition msdos_dir_read()
- #2939 FAT file name search may not consider long file names
- #2940 rtems-docs output and catalogue.xml version numbering is wrong.
- #2947 FreeBSD 11.0 check warnings for makeinfo and install-info
- #2948 ARM: Optimize IEEE-754 sqrt implementation
- #2950 doxygen does not install on sync.rtems.org
- #2952 Support a release candidates residing in an `rc` directory.
- #2953 Change Trac time format to absolute.
- #2955 Backport libdl fixes to the 4.11 branch.
- #2956 Backport rtems-tester qemu console fix.
- #2988 Documentation link to the 4.11 release is broken.
- #2989 doxygen crashes on sync.rtems.org
- #2990 RTEMS Source Builder Fails on Windows Builds
- #2992 Long path crashes the RSB when listing a directory.
- #2996 source download for RTEMS 4.11.2-rc1 Release
- #3002 Incorrect bit reference in ARM GIC
- #3004 Typos in RTEMS User Manual 4.11.99
- #3005 Typo in RTEMS Source Builder 4.11.99
- #3024 dl04, dl05 build failes
- #3030 lm32-rtems4.11-gdb does not build on Windows.
- #3031 Give docs.rtems.org and sync.rtems.org jails access to the TrueNAS storage.
- #3033 MIPS does not build on FreeBSD
- #3035 4.11/rtems-moxie does not build.
- #3044 4.11/rtems-h8300 does not build on Windows.
- #3045 4.11/rtems-h8300 does not build on Windows

Details

Ticket	Created	Resolution	Component	Reporter	Owner	Modified
#1523	7 years ago	wontfix	networking	Chris Johns	Chris Johns	3 months ago
Summary: gethostbyname is not reentrant.						
Description: The gethostbyname call uses global static data and therefore is not reentrant.						
#2002	5 years ago	wontfix	networking	Jeffrey Hill	Joel Sherrill	3 months ago
Summary: ioctl recursive perimeter lock driver deadlock vulnerability						
<p>In summary, a generalized deadlock potential exists any time rtems_bsdnet_ioctl calls rtems_bsdnet_ifconfig which calls the driver, and the driver tries to release the bsd networking semaphore, but the lock count doesn't decrement to zero, so the lock is never released.</p> <p>What happened to me (when writing an Altera Triple Speed Ethernet Driver for NIOS2) was as follows (names here are slightly different than reality). Of course other scenarios are possible.</p> <p>user calls rtems_bsdnet_ioctl which takes bsd stack lock, it calls rtems_bsdnet_ifconfig which locks bsd stack recursively, it calls driver_ioctl function when setting IF_UP flag to true, it calls driver_begin_communicating and it discovers it is already communicating, it calls driver_stop_communicating which is covers that tx/rx threads are running, it calls bsd_locking_semaphore_release while waiting for the tx/rx threads to shutdown rip</p> <p>I fixed this of by changing to a noop if they set IF_UP flag and the driver is already up and running, but sometimes that might be less than robust because we are not forcing a restart of the auxiliary threads. Furthermore, if the user sets the UP flag to false then we cant avoid this issue; we will definitely need to release the lock when the driver threads are forced to exit?</p> <p>POTENTIAL FIX: Usually what is done is to make a rtems_bsdnet_ifconfig_nolock_private function and then call it form both rtems_bsdnet_ioctl and rtems_bsdnet_ifconfig; presumably the perimeter functions must lock only once on the way in, or in any case thats a common convention with multi-threaded code.</p> <p>On Jan 30, 2012, at 12:30 PM, Hill, Jeffrey O wrote: From: Eric Norum Sent: Monday, January 30, 2012 11:21 AM To: Hill, Jeffrey O Cc: Till Straumann Subject: Re: rtems bsd network deadlock potential</p> <p>The network mutex is to be taken whenever making the transition from 'user' code from 'kernel' code. I did this because the BSD kernel from which the networking code was lifted was, like many (all?) old UNIXes, non-reentrant. It's possible that over the years some code has been added to the IOCTL support that ends up calling a 'user' level routine from 'kernel' level which then calls some 'kernel' code again. This should be fixed. kernel code should never call user code -- just to avoid the nested mutex problem that Jeff is reporting. Perhaps some IOCTL routine need to be split up with a user-level wrapper that takes the mutex then calls the kernel level routine -- and that kernel level routine should be what any other kernel level code invokes.</p> <p>I'm afraid that I don't have time to look at this now.</p> <p>On Jan 30, 2012, at 9:30 AM, Hill, Jeffrey O wrote: [It could well be that the intention is that rtems_bsdnet_ioctl()</p>						

Description

```

executes
| atomically w/o the driver temporarily releasing the lock and doing communication. That could alter internal state in unintended ways.
| Ok, maybe this is just part of the design, but I am left with some
|
| doubts if this type of (taking the lock twice to prevent the state from changing while in the driver) enforcement policy is applied uniformly. It might even be that this is
| in place purely because of accidental inconsistencies in the way the lock is acquired on the way in.
| Considering this further, isn't it quite routine and normal for the
|
| driver to shutdown auxiliary threads (which take the lock) when inside the driver ioctl function if the user sets the UP flag to false? Presumably this can't be done
| reliably w/o releasing the lock in the driver?
| Of course the RTEMS designers, who know all of the consequences will
|
| need to decide. I am only identifying what appear to be issues when I see them.
| Jeff
| From: Till Straumann Sent: Monday, January 30, 2012 10:07 AM To: Hill, Jeffrey O Cc: Eric Norum Subject: Re: rtems bsd network deadlock potential
| I see. However, I'm not sure if that is not a programming error in the driver. It could well be that the intention is that rtems_bsdnet_ioctl()
|
executes
| atomically w/o the driver temporarily releasing the lock and doing communication. That could alter internal state in unintended ways.
|
| T.
| On 01/30/2012 10:58 AM, Hill, Jeffrey O wrote:
| Hi Till,
| What happened to me was as follows (names are slightly different than
| reality), but of course other scenarios are possible.
| rtems_bsdnet_ioctl calls (it locks), it calls rtems_bsdnet_ifconfig calls (it locks recursively), it calls driver_ioctl function (because IF_UP flag is being set to true), it
| calls
| driver_begin_communicating (which discovers that it is already
| communicating), it calls
| driver_stop_communicating (which discovers that tx/rx threads are
| running), it calls
| bsd_locking_semaphore_release (while waiting for the tx/rx threads to
| shutdown)
| rip
| I fixed this of course by changing to a noop if they set IF_UP flag
|
and
| the driver is already up and running, but sometimes that might be less robust because we are not forcing a restart of the auxiliary threads.
| In summary, a generalized deadlock potential exists any time
| rtems_bsdnet_ioctl calls rtems_bsdnet_ifconfig which calls the driver,
|
and
| the driver tries to release the semaphore, but the lock count doesn't decrement to zero, so the lock is never released.
| Usually what is done is to make a rtems_bsdnet_ifconfig_nolock_private
| and then call it from both rtems_bsdnet_ioctl and
|
rtems_bsdnet_ifconfig;
| the perimeter functions must lock only once on the way in.
| Jeff
| From: Till Straumann Sent: Friday, January 27, 2012 3:36 PM To: Hill, Jeffrey O Cc: Eric Norum Subject: Re: rtems bsd network deadlock potential
| Maybe I'm missing something but AFAIK the networking semaphore is basically a mutex which you can take multiple times from the same thread.
| Could you please explain in more detail?
| T.
| On 01/27/2012 04:28 PM, Hill, Jeffrey O wrote:
| Hi Eric, Till,
| FWW, I noticed today that there is a situation where
|
rtems_bsdnet_ioctl
| calls rtems_bsdnet_ifconfig, but both functions take the bsd
|
networking
| semaphore resulting in a recursive reference counted lock. Therefore
|
if
| the driver's implementation of ioctl calls rtems_bsdnet_event_receive there will be a deadlock (because the internal attempt to unlock is silently unsuccessful). I
| will no-doubt try to come up with a
|
workaround
| but perhaps the situation is somewhat precarious.
| Is this serious enough that I should report a bug to the RTEMS bug
| tracking system?
| #0 ( rtems_bsdnet_event_receive(event_in=8, option_set=0, ticks=0,
| event_out=0xa7a9f4) (/home/hill/nios2-rtems/rtems/rtems-4.11.0- /cpukit/libnetworking/rtems/rtems_glue.c:687)
| #1 0x5f34 alt_tse_soft_tx_stop(pSoftSgdmaTx=0xb24084)
| (/home/hill/nios2-
| rtems/rtems/rtems-4.11.0- /c/src/lib/libbsp/nios2/nek/network/if_alttse.c:206)
| #2 0x5fa8 alt_tse_soft_tx_destroy(pSoftSgdmaTx=0xb24084)
| (/home/hill/nios2-rtems/rtems/rtems-4.11.0- /c/src/lib/libbsp/nios2/nek/network/if_alttse.c:216)
| #3 0x8808 alt_tse_stop_comm(ipf=0xb23c3c) (/home/hill/nios2-
| rtems/rtems/rtems-4.11.0- /c/src/lib/libbsp/nios2/nek/network/if_alttse.c:1554)
| #4 0x88a8 alt_tse_start_comm(pParm=0xb23c3c) (/home/hill/nios2-
| rtems/rtems/rtems-4.11.0- /c/src/lib/libbsp/nios2/nek/network/if_alttse.c:1576)
| #5 0x8a90 alt_tse_start_comm_no_status(pParm=0xb23c3c)
| (/home/hill/nios2-rtems/rtems/rtems-4.11.0- /c/src/lib/libbsp/nios2/nek/network/if_alttse.c:1651)
| #6 0xe5a8 ether_ioctl(ipf=0xb23c3c, command=1, data=<value
|
optimized
| out> (/home/hill/nios2-rtems/rtems/rtems-4.11.0- /cpukit/libnetworking/net/if_ethersubr.c:838)
| #7 0x8bc0 alt_tse_ioctl(ipf=0xb23c3c, cmmnd=2149607692,
| data=0xb24648
| "\210F\262") (/home/hill/nios2-rtems/rtems/rtems-4.11.0- /c/src/lib/libbsp/nios2/nek/network/if_alttse.c:1680)
| #8 0x3272c in_ifinit(ipf=0xb23c3c, ia=0xb24648, sin=<value
|
optimized
| out>, scrub=1) (/home/hill/nios2-rtems/rtems/rtems-4.11.0- /cpukit/libnetworking/netinet/in.c:480)
| #9 0x331a0 in_control(so=<value optimized out>, cmd=2149607692,
| data=0xa7aba0 "tse0", ipf=0xb23c3c) (/home/hill/nios2-
|
rtems/rtems/rtems-
| 4.11.0- /cpukit/libnetworking/netinet/in.c:312)
| #10 0x2632c old_control(so=0x0, cmd=10987900, data=0xa7a9f4

```

```

"034252\247", ifp=<value optimized out>) (/home/hill/nios2-rtms/rtms/rtms-4.11.0-
/cpukit/libnetworking/kern/uipc_socket2.c:801)
#11 0xfcc8 ifioctl(so=0xb23e08, cmd=1, data=0xa7aba0 "tse0",
p=<value
optimized out>) (/home/hill/nios2-rtms/rtms/rtms-4.11.0- /cpukit/libnetworking/net/if.c:605)
#12 0x1c3e8 so_ioctl(iop=0xaf2544, command=1, buffer=<value
optimized out>) (/home/hill/nios2-rtms/rtms/rtms-4.11.0- /cpukit/libnetworking/rtms/rtms_syscall.c:713)
#13 ( rtms_bsdnet_ioctl(iop=0xaf2544, command=1, buffer=<value
optimized out>) (/home/hill/nios2-rtms/rtms/rtms-4.11.0- /cpukit/libnetworking/rtms/rtms_syscall.c:731)
#14 0x3093c ioctl(fd=<value optimized out>, command=1)
(/home/hill/nios2-rtms/rtms/rtms-4.11.0- /cpukit/libcsupport/src/ioctl.c:50)
#15 0x194b8 rtms_bsdnet_ifconfig(ifname=0x4afb4 "tse0",
cmd=2149607692, param=0xa7abe0) (/home/hill/nios2-rtms/rtms-4.11.0- /cpukit/libnetworking/rtms/rtms_glue.c:1114)
#16 0x19718 rtms_bsdnet_setup_interface(name=0x4afb4 "tse0",
ip_address=0x4afb4 "128.165.34.102", ip_netmask=0x4afcc
"255.255.255.0")
(/home/hill/nios2-rtms/rtms/rtms-4.11.0- /cpukit/libnetworking/rtms/rtms_glue.c:879)
#17 0x19d88 rtms_bsdnet_setup() (/home/hill/nios2-
rtms/rtms/rtms-4.11.0-
/cpukit/libnetworking/rtms/rtms_glue.c:959)
#18 ( rtms_bsdnet_initialize_network) (/home/hill/nios2-
rtms/rtms/rtms-4.11.0-
/cpukit/libnetworking/rtms/rtms_glue.c:1018)
#19 0x360 Init(ignored=336840) (init.c:51) #20 0x3a268 Thread_Handler() (/home/hill/nios2-rtms/rtms/rtms-
4.11.0- /cpukit/score/src/threadhandler.c:157)
#21 0x132c boot_card(cmdline=0xa74338 "DD\247") (/home/hill/nios2-
rtms/rtms/rtms-4.11.0- /c/src/lib/libbsp/nios2/nek/.../shared/bootcard.c:268)
#22 ( 0x00000000 in ??()) (???)
Jeff
-- Eric Norum

```

#2324	2 years ago	fixed	Documentation	punitvara	Chris Johns	3 months ago
Summary	Documentation and quick start for the RSB					

<https://ftp.rtems.org/pub/rtems/people/chrisj/source-builder/source-builder.html> In this guide 2.5. Distributing and Archiving A Build

It would be better if

```
$ cd $ cd development/rtms/src/rtms-source-builder/rtms/tar $ tar --strip-components=3 -xjf rtems-4.11-sparc-rtems4.11-1.tar.bz2
```

because cd leads to home directory and no tar file actually will be created at home directory .Every time it will be created at development/rtms/src/rtms-source-builder/rtms/tar and for extract the file ,user need migrate to this directory.

#2388	2 years ago	fixed	filesystem	Nick Withers	Nick Withers <nick.withers@...>	5 months ago
Summary	[PATCH] [NFS client] Remove old CVS keywords					

The NFS client code in 4.11 and master at least contains CVS keywords that are printed to screen and no longer expanded in the post-CVS world

#2401	22 months ago	fixed	cpukit	Martin Galvan	Sudarshan Rajagopalan <sudarshan.rajagopalan@...>	5 months ago
Summary	ARMv7M: Default exception handler doesn't support FPU					

On exception entry, `_ARMV7M_Exception_default` stores the previous Stack Pointer in a `CPU_Exception_frame`. The SP can be MSP or PSP, depending on the mode in which the exception was taken. To know this, we must check the value of LR.

Right now the code checks whether it should store MSP or PSP by comparing LR to -3 (0xFFFFFDF). However, this doesn't work if we're using an FPU since the error code would be either 0xFFFFFE9 or 0xFFFFFED. The result is that we always end up selecting MSP.

This bug was found by Sudarshan Rajagopalan in the RTEMS git master.

#2479	19 months ago	fixed	tools	Mike Westfall		3 months ago
Summary	RTEMS Source Builder gets wrong version of rtems-tools for rtems4-11.					

When building the tool chain for RTEMS 4.11, RSB gets the 4.12 version of rtems-tools.

#2499	19 months ago	invalid	GDB	Chris Johns		3 months ago
Summary	RSB 4.11 broken on FreeBSD 10 with default prefix.					

Building gdb-7.9 with the default prefix on FreeBSD results in iconv not being found and used when linking.

#2622	16 months ago	fixed	filesystem	Stella Laurenzo	Sebastian Huber	3 months ago
Summary	FAT file corruption when pre-empted while appending to a file					

We've been circling around some odd problems for a while where some of our files end up with garbage sequences in them. I'll save you the hand-wringing diagnostic steps, and jump to the conclusion: when opening and appending to an existing file, sometimes a cluster gets written that contains data from another concurrent write operation (to a different file). An isolated repro is hard to get, but we wedged our code into a state where we can repro it 100% of the time.

I traced the problem down to this sequence (introduced in commit [42a22f0824c4618b864582804ce1440b548a462f](#) - 2012):

```

In fat_file_write_fat32_or_non_root_dir:
    if (file_cln_initial < file_cln_cnt)
        overwrite_cluster = true;

Triggers (in fat_block_write):
    if ( overwrite_block
        || (bytes_to_write == fs_info->vol.bytes_per_block))
    {
        rc = fat_buf_access(fs_info, sec_num, FAT_OP_TYPE_GET, &blk_buf);
    }
    else {
        rc = fat_buf_access(fs_info, sec_num, FAT_OP_TYPE_READ, &blk_buf);
    }

```

I have a task that wakes up every 5s, opens the file for append, and writes some hundreds of bytes. With a little bit of logging, we find that each operation that does not extend past the first cluster (4KiB) takes the `FAT_OP_TYPE_READ` branch. Then as soon as the first write to the second file cluster is made (which is usually an overflow from a user-level write that spanned the 4K boundary), all future writes take the `FAT_OP_TYPE_GET` branch.

I was convinced for a while that perhaps some proximate code of ours was corrupting some bit of accounting, but upon reading through what this is doing, I cannot wrap my head around how the intention was correct. The "if (file_cln_initial < file_cln_cnt)" condition could be unpacked to:

```

if (fat_fd->map.file_cln < (seek_disk_cln - start_disk_cln))

```

I don't see how this arithmetic is correct. We are comparing a file cln to the delta between two disk clns, which unless if I am missing something, is meaningless. Also, we are getting the file cln from the cache, the interpretation of which depends entirely on the operation that took place when it was queried (which is in `fat_file_write`).

I think the only way this makes sense is if this check were instead passing if we are writing to the last cluster of the file at offset 0 within the cluster. At any other time, this needs to be a read-modify-write because we can't just overwrite the cluster. I'm not sure how to express this, though.

It turns out that for many operations without considering pre-emption, the buffer you get back with fat_buf_access(FAT_OP_TYPE_GET) is populated with the cluster data. When writing sequentially to a file from a single task, this seems to hold together. However, being pre-empted by a higher priority writer may cause some buffer churn and will result in writing a cluster that has the beginning corrupted. We see this as periodic corruption, the beginning of which is always aligned to a 4KiB file offset boundary.

If we hard-code overwrite_cluster to always be false, we do not experience corruption (assuming some performance penalty in these corner cases).

Can someone either confirm or explain what this code is (supposed to be) doing? I'm not ruling out that we are causing a problem here, but right now I am leaning to a defect in the filesystem.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2670: 16 months ago, wontfix, RSB, Joel Sherrill, Chris Johns, 3 months ago

Summary: epiphany tools fail to build on 4.11

Description: Looks like an incorrect hash but could be something more subtle.

script: 80: build_top=\$(pwd) script: 81: gcc_source=epiphany-gcc-f7051762470c42ce7f01baa7edeb113d51c7dd72 script: 82: source_dir_gcc=\${gcc_source} source setup: epiphany-rtems4.11-gcc-4.9.1-newlib-ef23a12ff8f840cc571e47870cd5f4ad6bca4553-x86_64-linux-gnu-1: source gcc -q -n \${gcc_source} making dir: /home/joel/rtems-4.11-work/rtems-source-builder/rtems/sources download: 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://codeoad.github.com/adapteva/epiphany-gcc/zip/f7051762470c42ce7f01baa7edeb113d51c7dd72 redirect: https://codeoad.github.com/adapteva/epiphany-gcc/zip/f7051762470c42ce7f01baa7edeb113d51c7dd72

checksums: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip: e089e67261c96c746e685bba018581f0 => c43c2e631418e932e2048607b694e99a warning: checksum error: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip error: checksum failure file: sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip

See error report: rsb-report-epiphany-rtems4.11-gcc-4.9.1-newlib-ef23a12ff8f840cc571e47870cd5f4ad6bca4553-x86_64-linux-gnu-1.txt

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2708: 14 months ago, fixed, General, koreny, Chris Johns, 3 months ago

Summary: [rtems-bsp shell script does not list the available BSPS]

Description: It seems rtems-bsps does not work properly[] loadrun@debian:~/code/rtems/rtems/4.11.0-rc3/rtems-4.11.0-rc3\$ sh rtems-bsps find: paths must precede expression: 5 Usage: find [-H] [-L] [-P] [-Olevel] [-D help|tree|search|stat|rates|opt|exec] [path...] [expression] RTEMS 4.11

Architectures: 0 BSP Count: 0

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2755: 12 months ago, fixed, filesystem, snob-wolpik, Sebastian Huber, 4 months ago

Summary: FAT mkdir() broken

Description: FAT implementation in RTEMS incorrectly create directories. Reproducing is extremely simple:

- Run any application using 'mkdir()' on mounted FAT partition.
• Run fsck under any operating system (Linux, MacOSX, Windows)
• You will get smth like this:

```
sudo fsck msdos /dev/rdisk3s1
** /dev/rdisk3s1
** Phase 1 - Preparing FAT
** Phase 2 - Checking Directories
Directory /0 has size != 0
Correct? [yn]
```

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2758: 12 months ago, wontfix, bsp, snob-wolpik, 5 months ago

Summary: SDCard driver for QoriQ

Description: SDCard driver for QoriQ CPU family. Tested on P2020, Kontron COMe-cP2020 board.

Usage example:
bsp_register_esdhc_memcard();
rc = rtems_bdpert_register_from_disk("/dev/memcard");

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2815: 8 months ago, fixed, Code, Joel Sherrill, Chris Johns, 3 months ago

Summary: Add Preferred waf to top of various repositories

Description: The proper version of waf needs to be placed at the top of each repo. This is missing from at least rtems-libbsd.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2827: 7 months ago, fixed, General, Joel Sherrill, Chris Johns, 3 months ago

Summary: rtems-bsps broken on 4.11 branch

Description: Looks like at least this patch was not backported:
commit 8aa75d0cb18c25fab2078a7641bd823bf0e93999 Author: Chris Johns <chrisj@...> Date: Wed Jul 6 13:01:39 2016 +1000

Config (.cfg) files are only valid if deeper than 5.

Probably worth a double check to ensure that the patch from Pavel to remove GNU find dependencies is also on the 4.11 branch.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2886: 5 months ago, wontfix, General, Sebastian Huber, Sebastian Huber, 3 months ago

Summary: RTEMS version is wrong on 4.11 branch

Description: cat find -name version.m4 | AC_DEFUN([RTEMS_VERSIONING], m4_define([_RTEMS_VERSION],[4.10.99.0]))
m4_define([_RTEMS_API],[4.11]) AC_DEFUN([RTEMS_VERSIONING], m4_define([_RTEMS_VERSION],[4.10.99.0]))
m4_define([_RTEMS_API],[4.11]) AC_DEFUN([RTEMS_VERSIONING], m4_define([_RTEMS_VERSION],[4.10.99.0]))
m4_define([_RTEMS_API],[4.11]) AC_DEFUN([RTEMS_VERSIONING], m4_define([_RTEMS_VERSION],[4.10.99.0]))
m4_define([_RTEMS_API],[4.11])

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2908: 5 months ago, fixed, filesystem, Sebastian Huber, Sebastian Huber, 5 months ago

Summary: FAT filename comparison is broken

Description: For a filename match the entry must match without anything remaining.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2913: 4 months ago, fixed, filesystem, Sebastian Huber, Sebastian Huber, 4 months ago

Summary: RTEMS FAT32 formatter does not set the not dirty and no IO error bits

Description: On FAT12 and FAT32 the FAT table entry 1 contains one bit to indicate that the filesystem is not dirty and one bit that no IO error occurred. Set these bits in the formatter to prevent a warning if mounted on Windows.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2914: 4 months ago, fixed, cpukit, Sebastian Huber, Sebastian Huber, 4 months ago

Summary: termios: Race condition in raw input buffer handling

Description: Use the device lock to protect the raw input buffer management, e.g. tail, head and buffer content updates.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2915: 4 months ago, fixed, cpukit, Sebastian Huber, Sebastian Huber, 4 months ago

Summary: termios: Potential infinite loop in canonical mode

Description: In canonical mode, the raw input buffer or the canonical buffer may overflow without an end of line. Avoid an infinite loop in this case.

Table with 6 columns: ID, Time, Status, Category, Author, Date. Row #2928: 4 months ago, fixed, filesystem, Sebastian Huber, Sebastian Huber, 3 months ago

Summary: FAT filename comparison is broken while using the UTF-8 support

Description: The handling of a maximum 8.3 short file name is broken while using the UTF-8 support. A simple "touch txtvsbin.txt" doesn't work.

#2929	4 months ago	fixed	filesystem	Sebastian Huber	Sebastian Huber	3 months ago
Summary	FAT long file names accross cluster boundaries may be broken					
Description	The procedure to create a long file name directory entry may not work correctly in case a cluster boundary is crossed. Simplify <code>msdos_add_file()</code> to avoid a potential issue.					
#2934	4 months ago	fixed	filesystem	Sebastian Huber	Sebastian Huber	3 months ago
Summary	FAT long file name padding is broken					
Description	In <code>msdos_add_file()</code> the padding of long file names with <code>0xff</code> is broken. This leads to problems on some Windows systems.					
#2936	4 months ago	fixed	filesystem	Sebastian Huber	Sebastian Huber	3 months ago
Summary	Deadlock in filesystem location management					
Description	Always perform a deferred location release to avoid a deadlock on the file system instance locks, for example during a <code>chdir()</code> .					
#2937	4 months ago	fixed	filesystem	Sebastian Huber	Sebastian Huber	3 months ago
Summary	FAT race condition <code>msdos_dir_read()</code>					
Description	Obtain file system instance lock before member access.					
#2939	4 months ago	fixed	filesystem	Sebastian Huber	Sebastian Huber	3 months ago
Summary	FAT file name search may not consider long file names					
Description	Do not use our long file name entry count to optimize the file name search. The Unicode comparison must be taken into account.					
#2940	4 months ago	fixed	Documentation	Chris Johns	Chris Johns	4 months ago
Summary	rtems-docs output and catalogue.xml version numbering is wrong.					
Description	<p>The version number management in <code>rtems-docs.git</code> is mixed up and it is not possible to embed a suitable release number in the release build of the documentation.</p> <p>Remove the version and release from each doc's <code>conf.py</code> and move it into the <code>common/waf.py</code> support.</p> <p>Provide a command line option <code>--release</code> to specify the release string.</p> <p>Default the version to the branch number, eg <code>4.11 (branch)</code>.</p>					
#2947	3 months ago	fixed	RSB	Chris Johns	Chris Johns	3 months ago
Summary	FreeBSD 11.0 check warnings for <code>makeinfo</code> and <code>install-info</code>					
Description	These have moved and the check needs to know.					
#2948	3 months ago	fixed	tools	Sebastian Huber	Sebastian Huber	3 months ago
Summary	ARM: Optimize IEEE-754 <code>sqrt</code> implementation					
Description	<p>Use the <code>vsqrt.f64</code> and <code>vsqrt.f32</code> instructions if available.</p> <p>https://sourceware.org/git/gitweb.cgi?p=newlib-cygwin.git;a=commit;h=baf32fb85fd6ef5e3e5975a357a40de72dc92e15</p>					
#2950	3 months ago	fixed	admin	Chris Johns	Amar Takhar	3 months ago
Summary	doxygen does not install on <code>sync.rtems.org</code>					
Description	<p>The dependent package <code>graphviz</code> does not install:</p> <pre>[sync.rtems.org] [1/2] Extracting graphviz-2.40.1: 0%/usr/local/lib/libpkg.so.4: Undefined symbol "utimensat"</pre> <p>The <code>doxygen</code> command is needed to build <code>doxygen</code> documentation for a release.</p>					
#2952	3 months ago	fixed	RSB	Chris Johns	Chris Johns	3 months ago
Summary	Support a release candidates residing in an <code>rc</code> directory.					
Description	Update the RSB to look for release candidate packages in an <code>rc</code> directory. This removes these packages from the main release directory and stops them cluttering the main release directory keeping the focus on the releases.					
#2953	3 months ago	fixed	admin	Chris Johns	amar@...	3 months ago
Summary	Change Trac time format to absolute.					
Description	<p>Setting the Trac default time format to absolute makes better printed reports as the real time is displayed rather than the time being relative to time the report is printed.</p> <p>Applying the change via the Trac Admin results with the post timing out and I do not know if this is expected given <code>trac.ini</code> is (was) read-only.</p>					
#2955	3 months ago	fixed	libdl	Chris Johns	chrisj@...	3 months ago
Summary	Backport <code>libdl</code> fixes to the 4.11 branch.					
Description	Back port the patches from tickets #2754 and #2767 to the 4.11 branch.					
#2956	3 months ago	fixed	testing	Chris Johns	Chris Johns	3 months ago
Summary	Backport <code>rtems-tester</code> qemu console fix.					
Description	<p>Backport Ric's fix to the qemu console:</p> <p>https://git.rtems.org/rtems-tools/commit/tester/rtems/testing/qemu.cfg?id=92935ed1a3b5cefa37d7ee5701276cd8383e170e</p>					
#2989	3 months ago	fixed	admin	Chris Johns	Amar Takhar	3 months ago
Summary	doxygen crashes on <code>sync.rtems.org</code>					
Description	<p>Attempting to create a release on <code>sync.rtems.org</code> results in a core being dumped:</p> <pre>Running dot for graph 3822/7363 Running dot for graph 3823/7363 Segmentation fault (core dumped)</pre> <p>Run <code>doxygen</code> on a recent RTEMS kernel. This does not happen another 11.0 machine I have. That version of <code>doxygen</code> is 1.8.12 and <code>sync.rtems.org</code> as 1.8.13.</p> <p>I have seen other erratic behaviour such as <code>git</code> not working, disks not</p>					
#2990	3 months ago	fixed	RSB	Worth Burruss	Chris Johns	3 weeks ago
Summary	RTEMS Source Builder Fails on Windows Builds					
Description	<p>The source Builder Fails to build 4.11 tools under <code>MSYS2</code> and windows. Newer versions of <code>MSYS</code> use a version of <code>gcc</code> greater than 6.0 which can no longer be used to build older version of <code>gcc</code>.</p> <p>The attached patch is from the <code>gcc</code> mailing list and originally was for <code>gcc</code> version 5.3. It has been adjusted so that it applies to 4.9.3.</p> <p>This problem should also apply to linux and other systems that use newer <code>gcc</code> 6.0 and above.</p>					
#2992	3 months ago	fixed	RSB	Chris Johns	Chris Johns	3 weeks ago
Summary	Long path crashes the RSB when listing a directory.					
Description	Building LM32 on Windows crashes the RSB with a long path. The <code>os.listdir</code> call in Python on Windows is limited to 254 characters even if the path is Unicode.					

4.11.1 (17 November 2017)**Statistics**

Total	59
Fixed	55
Invalid	1
Works for me	0
Duplicate	1
Won't fix	2

Distribution

defect	<div style="width: 100%;"></div>	51 / 51
enhancement	<div style="width: 100%;"></div>	5 / 5
task	<div style="width: 100%;"></div>	3 / 3

Summary

- #2119 Could the software be downloaded at the beginning?
- #2121 CVS command failure clean up.
- #2124 Strict order mutex introduces unbounded priority inversion
- #2243 c/src/lib/libbsp/arm/nds/libfat/source/directory.c:768: possible bad compare ?
- #2274 Enable libgomp build in GCC
- #2286 cpustdatomic.h on 16 and 64 bit architectures
- #2287 RTEMS printf warnings - newlib's inttypes.h and gcc's newlib-stdint.h
- #2298 sptls01 fails on sis
- #2309 RSB get stuck building: expat-2.1.0-x86_64-w64-mingw32-1
- #2312 rtems-tools built in RSB on Linux fails to install
- #2317 fsseeko01 invalid on some architectures
- #2318 Wrong alignment of ARM exception frame
- #2326 Or1k bsp not supported for c++ usage
- #2328 _CORE_message_queue_Insert_message() not ISR proof
- #2329 or1k Linking error on C++ tests
- #2332 rtemstools cannot be built by RSB under MinGW32
- #2345 BSP spec file error.
- #2358 Interrupt latency problem in _POSIX_Timer_Insert_helper()
- #2364 pc386 build fails
- #2369 [PowerPC Book E] Invalid mftb instruction in _CPU_Counter_read()
- #2373 PowerPC BSPs that do not build
- #2374 RSB builds 3rd party packages as Canadian Cross (Cxc) packages
- #2378 ampolish3 script can't always find perl
- #2379 Ensure ada-tests build
- #2380 Incorrect title for C User's Guide in info output
- #2384 [PATCH] [NFS client] Respect 2^32 - 1 B NFSv2 maximum file size
- #2402 pthread_cancel() invalidates the thread identifier
- #2405 CppCheck errors being reported throughout the code
- #2410 rtems_dhcp.c fails to compile ("free" requires an extra argument)
- #2411 dumpbuf.c compiles with warnings
- #2416 Beaglebone: bsp.h missing clobber in inline assembly.
- #2418 rtems_waf: SMP support is broken
- #2435 gpio functions in bsp name improvement
- #2437 if pax is not found by configure, the tests fail to build un-gracefully.
- #2438 ARM cache problem after libdl load
- #2440 rtems_waf: Install is broken for version != 4.11
- #2465 Update Hello World Instructions to include MSYS2
- #2495 RSB 4.11 tool build broken
- #2497 Beaglebone Black: rtems_gpio_bsp_disable_interrupt disables all the GPIO interrupts
- #2505 beagle_sdcad.sh has hard-coded rtems arm-rtems4.11-objcopy
- #2508 Remove LICENSE.WEBSERVER
- #2511 WorkSpace wiki page
- #2512 RTEMSReferences automatically deleting content
- #2525 RSB Python scripts may refer to Python3
- #2535 Shell: printf() format specifiers do not match parameter types
- #2579 Add per-section compilation and linking support to powerpc/motorola_powerpc
- #2589 Update Applications Ada User's Guide
- #2594 Update POSIX 1003.1 Compliance Guide
- #2595 Update Filesystem Design Guide
- #2645 RSB qemu bset issues and failure
- #2646 glib cfg file is missing hash. Fails in release mode
- #2721 sem_init() does not honour SEM_VALUE_MAX
- #2731 rtems/c/src/lib/libbsp/arm/raspberrypi/console/console_select.c:98]: (warning) Found calculation inside sizeof().
- #2756 MSDOS_MAX_DIR_LENGTH typo
- #2772 Enhancement for more general real-time model
- #2785 ioctl extension for termios
- #2801 Invalid configuration option used in virtex bsp headers
- #2812 Remove Texinfo Documentation
- #2813 4.11.0 has incorrect version information

Details

Ticket	Resolution	Component	Reporter	Owner
#2119	fixed	Code	cynt6007	Chris Johns
Summary	Could the software be downloaded at the beginning?			
Description	I really appreciate having the RTEMS Source Builder! Could we change the software to download first, then build? If we did that, then we would not be tied to the internet for the rest of the build... Thanks!			
#2121	wontfix	Code	Chris Johns	Chris Johns
Summary	CVS command failure clean up.			
Description	If a CVS checkout command fails it is best to clean up the directory or at least determine the state of the directory before a checkout. Better error report to the user could also help.			
#2124	fixed	cpukit	Gedare	Gedare
Summary	Strict order mutex introduces unbounded priority inversion			
Description	The option to ENABLE_STRICT_ORDER_MUTEX is not implemented correctly. It can introduce an unbounded priority inversion in certain circumstances. See http://www.rtems.com/ml/rtems-users/2009/may/msg00093.html and the spsem02 test case http://www.rtems.org/pipermail/rtems-devel/2013-May/003154.html			
#2243	fixed	General	David Binderman	
Summary	c/src/lib/libbsp/arm/nds/libfat/source/directory.c:768: possible bad compare ?			


```

script: 78: echo "=> rtems-tools-HEAD-1:"
script: 79: echo "==> %prep:"
script: 80: build_top=$(pwd)
script: 81: source_dir_rtems_tools="rtems-tools-HEAD-1"
source setup: rtems-tools-HEAD-1: source rtems-tools -q -D -n rtems-tools-HEAD-1
Creating source directory: sources\git
making dir: C:\Projekte\rtems-source-builder\rtems\source\git
git: clone: git://git.rtems.org/rtems-tools.git -> sources\git\rtems-tools.git
git: reset: git://git.rtems.org/rtems-tools.git
git: checkout: git://git.rtems.org/rtems-tools.git => master
git: pull: git://git.rtems.org/rtems-tools.git
script: 82: cd /C/Projekte/rtems-source-builder/rtems/build/rth1
script: 83: ln -s /C/Projekte/rtems-source-builder/rtems/sources/git/rtems-tools.git ${source_dir_rtems_tools}
script: 84: cd rtems-tools-HEAD-1
script: 85: chmod -R a+rX,g-w,o-w .
script: 86: cd ${build_top}
script: 87: SB_CXC="no"
script: 88: echo "==> clean %{buildroot}: ${SB_BUILD_ROOT}"
script: 89: rm -rf ${SB_BUILD_ROOT}
script: 90: /bin/mkdir -p ${SB_BUILD_ROOT}
script: 91: echo "==> %build:"
script: 92: build_top=$(pwd)
script: 93: if test "i686-w32-mingw32" != "i686-w32-mingw32" ; then
script: 94: RT_HOST="-host=i686-w32-mingw32"
script: 95: else
script: 96: RT_HOST=
script: 97: fi
script: 98: cd ${source_dir_rtems_tools}
script: 99: ./waf configure ${RT_HOST} --prefix=/C/msys32/opt/rtems-4.11
script:100: ./waf
script:101: cd ${build_top}
script:102: echo "==> %install:"
script:103: build_top=$(pwd)
script:104: rm -rf $SB_BUILD_ROOT
script:105: cd ${source_dir_rtems_tools}
script:106: ./waf --destdir=$SB_BUILD_ROOT install
script:107: cd ${build_top}
script:108: echo "==> %clean:"
removing: C:\Projekte\rtems-source-builder\rtems\build\rth1
making dir: C:\Projekte\rtems-source-builder\rtems\build\rth1
write script: /C/Projekte/rtems-source-builder/rtems/build/rth1/doit
building: rtems-tools-HEAD-1
run: sh -ex /C/Projekte/rtems-source-builder/rtems/build/rth1/doit
+ export
+ SB_ORIG_PATH=/mingw32/bin:/usr/local/bin:/usr/bin:/usr/bin:/C/Python27:/C/Windows/system32:/C/Windows/c/Windows/System32/Wbem/c/Windows/System32/Window
sPowerShell/v1.0:/C/opt/rtems-4.11/bin:/C/opt/gdc/bin:/C/opt/arm-gdc-project-linux-gnueabi/bin:/C/Program Files/Microsoft SQL Server/100/Tools/Binn:/C/Program
Files/Microsoft SQL Server/100/DTS/Binn:/C/Program Files/TortoiseGit/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl'
+
+ SB_ORIG_PATH='/mingw32/bin:/usr/local/bin:/usr/bin:/usr/bin:/C/Python27:/C/Windows/system32:/C/Windows/c/Windows/System32/Wbem/c/Windows/System32/Window
sPowerShell/v1.0:/C/opt/rtems-4.11/bin:/C/opt/gdc/bin:/C/opt/arm-gdc-project-linux-gnueabi/bin:/C/Program Files/Microsoft SQL Server/100/Tools/Binn:/C/Program
Files/Microsoft SQL Server/100/DTS/Binn:/C/Program Files/TortoiseGit/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl'
+ SB_PREFIX=/C/msys32/opt/rtems-4.11
++ echo /C/msys32/opt/rtems-4.11
++ sed -e 's/^\\/'
+ SB_PREFIX_CLEAN=C/msys32/opt/rtems-4.11
+ SB_SOURCE_DIR=/C/Projekte/rtems-source-builder/rtems/sources
+ SB_BUILD_DIR=/C/Projekte/rtems-source-builder/rtems/build/rth1
+ SB_HOST_CFLAGS=-O2 -pipe '
+ SB_HOST_CXXFLAGS=-O2 -pipe '
+ SB_HOST_LDFLAGS=-L/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/lib
+ SB_BUILD_CFLAGS=-O2 -pipe -I/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/include'
+ SB_BUILD_CXXFLAGS=-O2 -pipe -I/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/include'
+ SB_BUILD_LDFLAGS=-L/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/lib
+ SB_CFLAGS=-O2 -pipe -I/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/include '
+ SB_CXXFLAGS=-O2 -pipe -I/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/include '
+ SB_ARCH=i686
+ SB_OS=win32
+ export SB_SOURCE_DIR SB_BUILD_DIR SB_ARCH SB_OS
+ export SB_HOST_CFLAGS SB_HOST_CXXFLAGS SB_HOST_LDFLAGS
+ export SB_BUILD_CFLAGS SB_BUILD_CXXFLAGS SB_BUILD_LDFLAGS
+ export SB_CFLAGS SB_CXXFLAGS
+ SB_DOC_DIR=/C/msys32/opt/rtems-4.11/share/doc
+ export SB_DOC_DIR
+ SB_PACKAGE_NAME=rtems-tools-HEAD-1
+ SB_PACKAGE_BUILDNAME=rth1
+ SB_PACKAGE_VERSION=HEAD
+ SB_PACKAGE_RELEASE=1
+ export SB_PACKAGE_NAME SB_PACKAGE_VERSION SB_PACKAGE_RELEASE
+ export SB_PREFIX
+ SB_BUILD_DIR=/C/Projekte/rtems-source-builder/rtems/build/rth1
+ SB_BUILD_ROOT=/C/Projekte/rtems-source-builder/rtems/build/tmp/rtems-tools-HEAD-1-root-produktion
+ SB_BUILD_ROOT_BINDIR=/C/Projekte/rtems-source-builder/rtems/build/tmp/rtems-tools-HEAD-1-root-produktion/C/msys32/opt/rtems-4.11/bin
+ export SB_BUILD_ROOT SB_BUILD_DIR SB_BUILD_ROOT_BINDIR
+ SB_BUILD_CXC_DIR=/C/Projekte/rtems-source-builder/rtems/build/rth1-cxc
+ SB_BUILD_CXC_ROOT=/C/Projekte/rtems-source-builder/rtems/build/tmp/rth1-produktion-cxc
+ SB_BUILD_CXC_ROOT_BINDIR=/C/Projekte/rtems-source-builder/rtems/build/tmp/rth1-produktion-cxc/C/msys32/opt/rtems-4.11/bin
+ export SB_BUILD_CXC_ROOT SB_BUILD_CXC_DIR SB_BUILD_CXC_ROOT_BINDIR
+ SB_TMPROOT=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm
+ SB_TMPPREFIX=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11
+ SB_TMPBINDIR=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/bin
+ export SB_TMPROOT SB_TMPPREFIX SB_TMPBINDIR
+ SB_TMPXCROOT=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm
+ SB_TMPXCXPREFIX=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion-cxc/4.11/rtems-arm/C/msys32/opt/rtems-4.11
+ SB_TMPXCBINDIR=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion-cxc/4.11/rtems-arm/C/msys32/opt/rtems-4.11/bin
+ export SB_TMPXCROOT SB_TMPXCXPREFIX SB_TMPXCBINDIR
+ SB_EXTRAPATH=/C/Projekte/rtems-source-builder/source-builder
+ export CFLAGS_FOR_TARGET
+ export CXXFLAGS_FOR_TARGET
+ test -n /C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-4.11/bin
+ PATH=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-
4.11/bin:/mingw32/bin:/usr/local/bin:/usr/bin:/usr/bin:/C/Python27:/C/Windows/system32:/C/Windows/c/Windows/System32/Wbem/c/Windows/System32/WindowsPowerS
hell/v1.0:/C/opt/rtems-4.11/bin:/C/opt/gdc/bin:/C/opt/arm-gdc-project-linux-gnueabi/bin:/C/Program Files/Microsoft SQL Server/100/Tools/Binn:/C/Program
Files/Microsoft SQL Server/100/DTS/Binn:/C/Program Files/TortoiseGit/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl'
+ test -n /C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion-cxc/4.11/rtems-arm/C/msys32/opt/rtems-4.11/bin
+ PATH=/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion-cxc/4.11/rtems-arm/C/msys32/opt/rtems-4.11/bin:/C/Projekte/rtems-source-
builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-
4.11/bin:/mingw32/bin:/usr/local/bin:/usr/bin:/usr/bin:/C/Python27:/C/Windows/system32:/C/Windows/c/Windows/System32/Wbem/c/Windows/System32/WindowsPowerS
hell/v1.0:/C/opt/rtems-4.11/bin:/C/opt/gdc/bin:/C/opt/arm-gdc-project-linux-gnueabi/bin:/C/Program Files/Microsoft SQL Server/100/Tools/Binn:/C/Program
Files/Microsoft SQL Server/100/DTS/Binn:/C/Program Files/TortoiseGit/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl'
+ test -n /C/Projekte/rtems-source-builder/source-builder
+ PATH=/C/Projekte/rtems-source-builder/source-builder:/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion-cxc/4.11/rtems-arm/C/msys32/opt/rtems-
4.11/bin:/C/Projekte/rtems-source-builder/rtems/build/tmp/sb-produktion/4.11/rtems-arm/C/msys32/opt/rtems-
4.11/bin:/mingw32/bin:/usr/local/bin:/usr/bin:/usr/bin:/C/Python27:/C/Windows/system32:/C/Windows/c/Windows/System32/Wbem/c/Windows/System32/WindowsPowerS
hell/v1.0:/C/opt/rtems-4.11/bin:/C/opt/gdc/bin:/C/opt/arm-gdc-project-linux-gnueabi/bin:/C/Program Files/Microsoft SQL Server/100/Tools/Binn:/C/Program
Files/Microsoft SQL Server/100/DTS/Binn:/C/Program Files/TortoiseGit/bin:/usr/bin/site_perl:/usr/bin/vendor_perl:/usr/bin/core_perl'
+ export PATH
+ LANG=C
+ export LANG
+ unset DISPLAY
+ umask 022
+ cd /C/Projekte/rtems-source-builder/rtems/build/rth1
+ echo '=> rtems-tools-HEAD-1:'
+ echo '==> %prep:'
=> rtems-tools-HEAD-1:
==> %prep:
++ pwd
+ build_top=/C/Projekte/rtems-source-builder/rtems/build/rth1
+ source_dir_rtems_tools=rtems-tools-HEAD-1
+ cd /C/Projekte/rtems-source-builder/rtems/build/rth1
+ ln -s /C/Projekte/rtems-source-builder/rtems/sources/git/rtems-tools.git rtems-tools-HEAD-1

```

Description

```
+ cd rtems-w32-head-1
+ chmod -R a+rX,g-w,o-w
+ cd /C:/Projekte/rtems-source-builder/rtems/build/rtH1
+ SB_CXC=no
+ echo '==> clean %buildroot%: /C:/Projekte/rtems-source-builder/rtems/build/tmp/rtems-tools-HEAD-1-root-produktion'
==> clean %buildroot%; /C:/Projekte/rtems-source-builder/rtems/build/tmp/rtems-tools-HEAD-1-root-produktion
+ rm -rf /C:/Projekte/rtems-source-builder/rtems/build/tmp/rtems-tools-HEAD-1-root-produktion
+ /bin/mkdir -p /C:/Projekte/rtems-source-builder/rtems/build/tmp/rtems-tools-HEAD-1-root-produktion
+ echo '==> %build:'
==> %build:
++ pwd
+ build_top=/C:/Projekte/rtems-source-builder/rtems/build/rtH1
+ test i686-w32-mingw32 != i686-w32-mingw32
+ RT_HOST=
+ cd rtems-tools-HEAD-1
+ /waf configure --prefix=/C:/msys32/opt/rtems-4.11
Setting top to : C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1
Setting out to : C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\build
Checking for 'msvc' (C compiler) : c:\Program Files\Microsoft Visual Studio 10.0\VC\BIN\CL.exe
Checking for 'msvc' (C++ compiler) : c:\Program Files\Microsoft Visual Studio 10.0\VC\BIN\CL.exe
Checking for header alloca.h : not found
Checking for header fcntl.h : yes
Checking for header process.h : yes
Checking for header stdlib.h : yes
Checking for header string.h : yes
Checking for header strings.h : not found
Checking for header sys/file.h : not found
Checking for header sys/stat.h : yes
Checking for header sys/time.h : not found
Checking for header sys/types.h : yes
Checking for header sys/wait.h : not found
Checking for header unistd.h : not found
Checking for header vfork.h : not found
Checking for function getrusage : not found
Checking for header sys/wait.h : not found
Checking for function kill : not found
Checking for function open64 : not found
Checking for function stat64 : not found
Checking for program 'python' : C:\Python27\python.exe
Checking for python version : (2, 7, 9, 'final', 0)
Checking for python version : (2, 7, 9, 'final', 0)
'configure' finished successfully (2.803s)
+ /waf
Waf: Entering directory `C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\build'
[ 1/236] Compiling rtemstoolkit\elftoolchain\libelf\libelf_convert.m4
[ 2/236] Compiling rtemstoolkit\elftoolchain\libelf\libelf_fsize.m4
[ 3/236] Compiling rtemstoolkit\elftoolchain\libelf\libelf_msize.m4
[ 4/236] Compiling rtemstoolkit\elftoolchain\libelf\elf.c
c:\projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-head-1\rtemstoolkit\elftoolchain\libelf\libelf.h(32) : fatal error C1083: Datei (Include) kann nicht
ge'ffnet werden: "sys/param.h": No such file or directory

c1 : Befehlszeile warning D9002 : Unbekannte Option "-pipe" wird ignoriert.

c1 : Befehlszeile warning D9002 : Unbekannte Option "-g" wird ignoriert.

Waf: Leaving directory `C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\build'
Build failed
-> task in 'elf' failed (exit status 2):
{task 26199408: c elf.c -> elf.c.4.o}
[C:\Program Files\Microsoft Visual Studio 10.0\VC\BIN\CL.exe, /nologo, '-pipe', '-g', '-O2', /C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-
HEAD-1\build', /C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\build\rtemstoolkit\elftoolchain\libelf, /C:\Projekte\rtems-source-
builder\rtems\build\rtH1\rtems-tools-HEAD-1\rtemstoolkit\elftoolchain\libelf, /C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-
1\build\rtemstoolkit\elftoolchain\common, /C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\rtemstoolkit\elftoolchain\common,
/C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\build\rtemstoolkit\win32, /C:\Projekte\rtems-source-builder\rtems\build\rtH1\rtems-tools-HEAD-1\rtemstoolkit\win32', /C:\Program Files\Microsoft Visual Studio 10.0\VC\INCLUDE, /C:\Program Files\Microsoft
Visual Studio 10.0\VC\ATLMFC\INCLUDE, /C:\Program Files\Microsoft SDKs\Windows\v7.0A\include, /DPYTHONDIR="C:\Python27\Lib\site-packages",
/DPYTHONARCHDIR="C:\Python27\Lib\site-packages", , '..\rtemstoolkit\elftoolchain\libelf\elf.c', /FC', /c', /Fo', C:\Projekte\rtems-source-
builder\rtems\build\rtH1\rtems-tools-HEAD-1\build\rtemstoolkit\elftoolchain\libelf\elf.c.4.o']
shell cmd failed: sh -ex /C:/Projekte/rtems-source-builder/rtems/build/rtH1/doi
error: building rtH1
```

#2345	fixed	bsps	Chris Johns	
Summary	BSP spec file error.			
Description	The BSP specs files have an error. See the devel list thread https://lists.rtems.org/pipermail/devel/2015-May/011256.html for details.			
#2358	fixed	cpukit	Sebastian Huber	
Summary	Interrupt latency problem in _POSIX_Timer_Insert_helper()			
Description	Interrupts are disabled around a _Watchdog_Insert() in _POSIX_Timer_Insert_helper().			
#2364	fixed	General	hermann19829	Joel Sherrill <joel.sherrill@...>
Summary	pc386 build fails			

When building RTEMS for pc386 *make all* fails after executing bootstrap and configure by

```
./rtems/configure --target=i386-rtems4.11 --enable-rtemsbsp=pc386 --enable-tests=samples --disable-posix
```

at entering `.../samples/hello` with *undefined reference to pthread_mutex_trylock* and *undefined reference to pthread_mutex_unlock*

When commenting lines 869-874, 891-892, 899-901 in `development/rtems/src/rtems/c/src/lib/libbsp/i386/pc386/console/fb_vesa_rm.c` the build succeeds.

```

860 rtems_device_driver
861 frame_buffer_open(
862   rtems_device_major_number major,
863   rtems_device_minor_number minor,
864   void *arg
865 )
866 {
867   printk( FB_VESA_NAME " open device\n" );
868
869   //if (pthread_mutex_trylock(&vesa_mutex) != 0)
870   //{
871     // printk( FB_VESA_NAME " could not lock vesa_mutex\n" );
872
873     // return RTEMS_UNSATISFIED;
874   //}
875
876   return RTEMS_SUCCESSFUL;
877 }
878 }
879
880 /*
881  * fb_vesa device driver CLOSE entry point
882  */
883 rtems_device_driver
884 frame_buffer_close(
885   rtems_device_major_number major,
886   rtems_device_minor_number minor,
887   void *arg
888 )
889 {
890   printk( FB_VESA_NAME " close device\n" );
891   //if (pthread_mutex_unlock(&vesa_mutex) == 0)
892   //{
893     /* restore previous state. for VGA this means return to text mode.
894      * leave out if graphics hardware has been initialized in
895      * frame_buffer_initialize() */
896
897     printk(FB_VESA_NAME ": close called.\n" );
898     return RTEMS_SUCCESSFUL;
899   //}
900
901   //return RTEMS_UNSATISFIED;
902 }
    
```

#2369	fixed	General	Nick Withers	Nick Withers <nick.withers@...>
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Summary [PowerPC Book E] Invalid mftb instruction in `_CPU_Counter_read()`

Description `_CPU_Counter_read()`, called e.g., when RTEMS profiling is enabled, attempts to use the `mftb` instruction to access the time base. This instruction does not exist on Book E processors (such as the e500 used in the MVME3100) and causes an exception on those architectures.

At least RTEMS profiling therefore does not work at least with the `mvme3100` BSP.

This...:

```

diff -git a/cpukit/score/cpu/powerpc/rtems/score/cpu.h b/cpukit/score/cpu/powerpc/rtems/score/cpu.h
index 06cab2c..45298a4 100644
--- a/cpukit/score/cpu/powerpc/rtems/score/cpu.h
+++ b/cpukit/score/cpu/powerpc/rtems/score/cpu.h
@@ -842,7 +842,7 @@ static inline CPU_Counter_ticks _CPU_Counter_read( void )
 /* Use Alternate Time Base */
 _asm__ volatile( "mfspr %0, 526" : "=r" (value) );
 #else
 - _asm__ volatile( "mftb %0" : "=r" (value) );
 + _asm__ volatile( "mfspr %0, 268" : "=r" (value) );
 #endif

return value;
    
```

...sorts it out on the `mvme3100` and I don't *think* will break anything for other BSPs (I believe SPR 268 is always valid).

I wonder if we wouldn't be better off using `PPC_Get_timebase_register()`, though, which also checks the upper 32-bits of the timebase? Maybe that doesn't matter for the cases where `_CPU_Counter_read()` is called?

#2373	fixed	bsps	Joel Sherrill	Sebastian Huber
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Summary PowerPC BSPs that do not build

Description This is a 4.11 branching blocker!!

powerpc-br_uid powerpc-hsc_cm01 powerpc-mpc8309som powerpc-mpc8313erdb powerpc-mpc8349eamds

See <https://lists.rtems.org/pipermail/users/2015-July/029230.html>

#2374	fixed	RSB	Chris Johns	Chris Johns
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Summary RSB builds 3rd party packages as Canadian Cross (Cxc) packages

Description The RSB builds the NetSMP package as Canadian Cross (Cxc) so does not install the built package. Cxc packages are not installed because they have prefix paths that may not exist on a build machine plus what is built is not for the build machine so installing is disabled.

Fixing the Cxc logic in the RSB results in the Cxc of ming32 built on FreeBSD to fail.

#2378	fixed	General	Joel Sherrill	Joel Sherrill
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Summary ampolish3 script can't always find perl

Description Posted to devel@ <https://lists.rtems.org/pipermail/devel/2015-July/011984.html>

```

diff -git a/ampolish3 b/ampolish3 index aaa9757..23c2855 100755 --- a/ampolish3 +++ b/ampolish3 @@ -1,4 +1,4 @@ -#! /usr/bin/perl -w +#! /usr/bin/env perl
# # Copyright (C) 2005, 2006 Ralf Cors<C3><A9>pius, Ulm, Germany #
    
```

#2379	fixed	General	Joel Sherrill	Joel Sherrill
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Summary Ensure ada-tests build

Description There is a compile error in `ada-tests/support/init.c`.

#2380	fixed	Documentation	Joel Sherrill	Joel Sherrill
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Summary Incorrect title for C User's Guide in info output

Description I usually read RTEMS document in Info file format, and I found that C Users' Guide is not correctly set for its dir entry, and hence couldn't be found after 'make install'. This is just a one line fix as follows:

In `doc/user/c_user.texi`:

```

.* RTEMS C User: (C Users Guide). The C User's Guide. +* RTEMS C User: (c_user). The C User's Guide.
    
```

After this fix, configure with `--enable-docs` and `make install`, C Users' Guide can be found by Emacs Info reader without modifying dir entry. Thanks.

#2384	fixed	filesystem	Nick Withers	Nick Withers <nick.withers@...>
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Summary [PATCH] [NFS client] Respect $2^{32} - 1$ B NFSv2 maximum file size

Description The RTEMS NFS (v2) client in at least 4.11 and master does not range check `off_t` values before assigning them into NFSv2's on-the-wire 32-bit unsigned file offset field.

Reads from and writes to an offset at or above 4 GiB will currently silently be remapped to the mod 2^{32} location (on two's complement machines at least).

The attached patch checks for negative offsets [1] and out of `[0 - UINT32_MAX)`-range access in `nfs_file_read()`, `nfs_file_write()` and `nfs_file_truncate()`. It doesn't touch the `lseek()` implementation, so an `lseek()` past NFSv2 range will still "succeed" - a subsequent read or write there won't. I think this is POSIX-compliant [2], however.

[1] Perhaps unnecessary if it's impossible for a negative offset to be obtained without e.g., an application user twiddling things they shouldn't? lseek() at least does correctly error on obtaining negative offsets

[2] e.g., <http://pubs.opengroup.org/onlinepubs/009695399/functions/lseek.html> doesn't explicitly seem to require lseek() to fail for out-of-range offsets that aren't negative, and it mustn't do a resize itself

#2402	fixed	General	Sebastian Huber	Sebastian Huber <sebastian.huber@...>
Summary	pthread_cancel() invalidates the thread identifier			
Description	A thread that calls pthread_cancel() is no longer able to do a pthread_join() afterwards. This problem appears in a least one GCC test case (libstdc++-v3/testsuite/30_threads/thread/native_handle/cancel.cc).			
#2405	fixed	General	Martin Galvan	Martin Galvan <martin.galvan@...>
Summary	CppCheck? errors being reported throughout the code			
Description	<p>I performed a run of <code>cppcheck --enable-all</code> on the git master and the following items were reported as 'error':</p> <pre>[c/src/lib/libbsp/shared/umon/umon.h:21]: (error) Invalid number of character ({} when these macros are defined: '_cplusplus'. [cpukit/libmisc/dumpbuf/dumpbuf.c:69]: (error) Undefined behavior: Variable 'line_buffer' is used as parameter and destination in s(n)printf(). [cpukit/libmisc/dumpbuf/dumpbuf.c:76]: (error) Undefined behavior: Variable 'line_buffer' is used as parameter and destination in s(n)printf(). [cpukit/libnetworking/rtems/rtems_dhcp.c:401]: (error) Common realloc mistake: 'dhcp_hostname' nulled but not freed upon failure [cpukit/posix/include/rtems/posix/ptimer.h:33]: (error) Invalid number of character ({} when these macros are defined: '_cplusplus'. [cpukit/rtems/include/rtems/rtems/dpmmemimpl.h:104]: (error) Invalid number of character ({} when these macros are defined: '_cplusplus'. [tools/cpu/nios2/memory.c:99]: (error) Uninitialized variable: memory [tools/cpu/nios2/ptf.c:582]: (error) Memory leak: new_prefix</pre> <p>Notice I ran cppcheck mostly on the modules I'm currently using (that means most BSPs weren't checked). Some other errors may show up when running it on the entire source.</p>			
#2410	fixed	General	Martin Galvan	Martin Galvan <martin.galvan@...>
Summary	rtems_dhcp.c fails to compile ("free" requires an extra argument)			
Description	<p>When trying to compile rtems_dhcp.c, compilation will fail with the following error:</p> <pre>././././././trunk/c/src/./././cpukit/libnetworking/rtems/rtems_dhcp.c:408:32: error: macro "free" requires 2 arguments, but only 1 given free (dhcp_hostname);</pre>			
#2411	fixed	General	Martin Galvan	Martin Galvan <martin.galvan@...>
Summary	dumpbuf.c compiles with warnings			
Description	<p>Compiling dumpbuf.c causes the following warning to be issued multiple times:</p> <pre>warning: pointer targets in passing argument 1 of 'snprintf' differ in signedness [-Wpointer-sign]</pre> <p>This seems to happen because <code>line_buffer</code> is declared as <code>unsigned</code>.</p>			
#2416	fixed	General	Marcos Diaz	Marcos Diaz <marcos.diaz@...>
Summary	Beaglebone: bsp.h missing clobber in inline assembly.			
Description	flush_data_cache uses R0 directly but doesn't list it as a clobbered register. Compiling with -O3 made this code break, since the function that calls flush_data_cache already uses r0.			
#2418	fixed	General	Sebastian Huber	Chris Johns
Summary	rtems_waf: SMP support is broken			
Description	<p>waf configure --prefix=/opt/rtems-4.12 --rtems=/opt/rtems-4.12 --rtems-tools=/opt/rtems-4.12 --rtems-bsps=arm/altcycv_devkit_smp --rtems-version=4.12 leads to</p> <p>Checking for RTEMS headers : no One of the tests has failed, see the config.log for more information (complete log in /scratch/git-rtems-libs/build/config.log) due to Checking for RTEMS headers ==> #include <rtems.h></p> <pre>int main() { return 0; }</pre> <p><== [1/2] [32mcxx: build/conf_check_43c32d88444a1ba1e9b68cfe1006373a/test.cpp -> build/conf_check_43c32d88444a1ba1e9b68cfe1006373a/testbuild/test.cpp.1.o [0m [/opt/rtems-4.12/bin/arm-rtems4.12-g++ '-grtems', '-B/opt/rtems-4.12/arm-rtems4.12/lib/', '-B/opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/', '-specs', 'bsp_specs', '-march=armv7-a', '-march=armv7-a', '-mthumb', '-mthumb', '-mcpu=neon', '-mfloat-abi=hard', '-mfloat-abi=hard', '-mtune=cortex-a9', '-mtune=cortex-a9', '-.test.cpp', '-c', '-o', '.test.cpp.1.o'] err: In file included from /opt/rtems-4.12/lib64/gcc/arm-rtems4.12/5.2.1/include/c++/atomic:38:0, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/score/cpustdatomic.h:32, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/score/cpuatomic.h:12, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/score/atomic.h:20, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/score/thread.h:24, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/score/heap.h:22, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/rtems/types.h:26, from /opt/rtems-4.12/arm-rtems4.12/altcycv_devkit_smp/lib/include/rtems/rtems.h:31, from ./test.cpp:1:</p> <pre>/opt/rtems-4.12/lib64/gcc/arm-rtems4.12/5.2.1/include/c++/bits/c++0x_warning.h:32:2: error: #error This file requires compiler and library support for the ISO C++ 2011 standard. This support is currently experimental, and must be enabled with the -std=c++11 or -std=gnu++11 compiler options. #error This file requires compiler and library support for the \</pre>			
#2435	fixed	General	Ben Gras	Sudarshan Rajagopalan <sudarshan.rajagopalan@...>
Summary	gpio functions in bsp name improvement			
Description	<p>Fixes GPIO APIs Naming Convention and Comments.</p> <p>Thanks to Sudarshan Rajagopalan <sudarshan.rajagopalan@...> for reporting this and the patch. Slightly revised patch will follow that auto-closes this bug.</p> <p>This change renames these gpio-specific functions:</p> <pre>rtems_bsp_enable_interrupt rtems_bsp_disable_interrupt rtems_bsp_select_specific_io</pre> <p>to</p> <pre>rtems_gpio_bsp_enable_interrupt rtems_gpio_bsp_disable_interrupt rtems_gpio_bsp_select_specific_io</pre>			
#2437	fixed	General	Ben Gras	Ben Gras <beng@...>
Summary	if pax is not found by configure, the tests fail to build un-gracefully.			
Description	<p>If pax is not found by configure, the empty PAX variable is used in e.g. this line:</p> <pre>\$(PAX) -w -f \$@ \$<</pre> <p>Causing the 'w' command to be invoked:</p> <pre>21:37:25 up 6 min, 3 users, load average: 1.90, 1.14, 0.49</pre> <pre>USER TTY LOGIN@ IDLE JCPU PCPU WHAT ././././././tools/build/rtems-bin2c -C dl.tar dl-tar.c ././././././tools/build/rtems-bin2c -H dl.tar dl-tar.h cannot open dl.tar for reading cannot open dl.tar for reading make[6]: * [dl-tar.c] Error 1 make[6]: * Waiting for unfinished jobs... make[6]: * [dl-tar.h] Error 1 make[6]: Leaving directory /home/beng/development/rtems/b-beagle/arm-rtems4.11/c/beagleboneblack/testsuites/libtests/dl01' make[5]: * [all-local] Error 1 make[5]: Leaving directory /home/beng/development/rtems/b-beagle/arm-rtems4.11/c/beagleboneblack/testsuites/libtests' make[4]: * [all] Error 2 make[4]: Leaving directory /home/beng/development/rtems/b-beagle/arm-rtems4.11/c/beagleboneblack/testsuites/libtests' make[3]: * [all-recursive] Error 1 make[3]: Leaving directory /home/beng/development/rtems/b-beagle/arm-rtems4.11/c/beagleboneblack/testsuites' make[2]: * [all-recursive] Error 1 make[2]: Leaving directory /home/beng/development/rtems/b-beagle/arm-rtems4.11/c' make[1]: * [all-recursive] Error 1 make[1]: Leaving directory /home/beng/development/rtems/b-beagle/arm-rtems4.11/c' make: * [all-recursive] Error 1</pre> <p>I am preparing a proposed fix that fails more gracefully in the configure phase.</p> <p>Thanks to several reporters of this problem, most recently Debajyoti Majumdar and Claudio Scordino, while trying to build the tests with the Beagle BSP.</p>			
#2438	fixed	libdl	Patrick Gauvin	Chris Johns
Summary	ARM cache problem after libdl load			
Description	<ul style="list-style-type: none"> • RTEMS Version: Branch "4.11", commit edf77328c1813e15a293841dd33995fb11bd4bec • System type: ARM Cortex-A9, Xilinx Zynq 7020, xilinx_zynq_zedboard BSP 			

- **Compiler toolchain version:** GCC 4.9.3, Newlib 2.2.0.20150423, Binutils 2.24
- **RTEMS configure options:** `--target=arm-rtems4.11 --enable-rtemsbsp="xilinx_zynq_a9_qemu xilinx_zynq_zedboard" --enable-posix --prefix=$HOME/development/rtems/4.11 --enable-tests`
- **Code used to reproduce:** `testsuites/libtests/dl01`

Expected Behavior

Successful execution of the loaded function from dl-01.o. Note that the dl01 example runs successfully in QEMU with the xilinx_zynq_a9_qemu BSP.

Actual Behavior

System crash on execution of loaded code. After the first branch is taken to loaded code (dl-load.c:54), GDB indicates that the processor is executing instructions at the correct address, but they do not behave as expected, eventually leading to the system rebooting.

After discussion on the users mailing list, it was found that flushing the data cache and invalidating the instruction cache before calling the loaded function resulted in its successful execution. This was tested by adding the following at dl-load.c:54:

```
rtems_cache_flush_entire_data();
rtems_cache_invalidate_entire_instruction();
```

#2440	fixed	build	Sebastian Huber	
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Summary: `rtems_waf`: Install is broken for version != 4.11

Description: "waf install" is broken for version != 4.11 due to use of hard-coded `default_version = '4.11'` in `rtems.py`.

#2465	wontfix	Documentation	Joel Sherrill	Chris Johns
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Summary: Update Hello World Instructions to include MSYS2

Description: A ticket to prod Chris into adding to the (GSOC Getting Started) MSYS2 instructions. This needs to be done in time for Google Code-In.

#2495	fixed	RSB	Joel Sherrill	Chris Johns
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Summary: RSB 4.11 tool build broken

Description: Multiple targets: powerpc and i386 Multiple hosts: Ubuntu Wheezy, Debian Jessie, Fedora recent, and CentOS 6

```
+ cd /home/joel/rtems-hilo-work/rtems-source-builder/rtems/build/rtems-tools-4.11-1 + echo '=> rtems-tools-4.11-1:' + echo '==> %prep:' ++ pwd +
build_top=/home/joel/rtems-hilo-work/rtems-source-builder/rtems/build/rtems-tools-4.11-1 + rtems_tools_source=rtems-tools-4.11 + cd /home/joel/rtems-hilo-work/rtems-
source-builder/rtems/build/rtems-tools-4.11-1 + /bin/rm -rf rtems-tools-4.11 + ln -s /home/joel/rtems-hilo-work/rtems-source-builder/rtems/sources/git/rtems-tools.git + cd
rtems-tools-4.11 /home/joel/rtems-hilo-work/rtems-source-builder/rtems/build/rtems-tools-4.11-1/doi: line 85: cd: rtems-tools-4.11: No such file or directory shell cmd
failed: /bin/sh -ex /home/joel/rtems-hilo-work/rtems-source-builder/rtems/build/rtems-tools-4.11-1/doi error: building rtems-tools-4.11-1
```

#2497	fixed	General	Martin Galvan	Ben Gras
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Summary: Beaglebone Black: `rtems_gpio_bsp_disable_interrupt` disables all the GPIO interrupts

Description: While testing the BBB GPIO code we noticed `rtems_gpio_bsp_disable_interrupt` seems to disable the interrupts for all the pins, not just the one that actually caused the interrupt.

#2505	fixed	General	Ben Gras	Ben Gras
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Summary: `beagle_sdcad.sh` has hard-coded `rtems arm-rtems4.11-objcopy`

Description: (This is the script that generates an SD card image ready to boot RTEMS.) switching to the rtems 4.12 toolchain requires this:

```
+++ b/c/src/lib/libbsp/arm/beagle/simscripts/sdcad.sh
@@ -59,7 +59,7 @@ $PREFIX/bin/newfs_msdos -r 1 -m 0xf8 -c 4 -F16 -h 64 -u 32 -S 512 -s $FATSIZE -
# Prepare the executable.
base=`basename $executable`
-$PREFIX/bin/arm-rtems4.11-objcopy $executable -O binary $TMPDIR/$base.bin
+$PREFIX/bin/arm-rtems4.12-objcopy $executable -O binary $TMPDIR/$base.bin
gzip -9 $TMPDIR/$base.bin
$PREFIX/bin/mkimage -A arm -O rtems -T kernel -a 0x80000000 -e 0x80000000 -n RTEMS -d $TMPDIR/$base.bin.gz $TMPDIR/$ap
echo "setenv bootdelay 5
```

Of course I'm open to a cleaner fix.

#2508	fixed	General	Joel Sherrill	Joel Sherrill <joel@...>
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Summary: Remove LICENSE.WEBSERVER

Description: This file is for the GoAhead? webserver and no longer should be in the tree. Filing a ticket because I think this file is also on branches where the GoAhead? webserver is no longer present. We also may want to add a note to the file on the rtems.org website to indicate that this webserver was removed as of 4.11? release series. This just needs some homework and a doublecheck.

#2511	fixed	Documentation	Ralph Holmes	
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Summary: WorkSpace? wiki page

Description: A page named 'WorkSpace?' is referenced from <https://devel.rtems.org/wiki/Debugging/Start>, although the links are dead. I'm not sure whether there is supposed to be an actual page on 'WorkSpace?', or if this is just caused by [WikiFormatting](https://devel.rtems.org/wiki/Formatting).

#2512	fixed	Documentation	Tan Gemicloglu	
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Summary: RTEMSReferences automatically deleting content

Description: I've looked through the diff's for changes made to <https://devel.rtems.org/wiki/TBRWebsite/RTEMSReferences> and the page is repeatedly deleting content from the bottom of the page as more references are added. This is most likely due to the page reaching maximum page size as different versions had around the same character count (64800-) as plain text. According to <http://trac.edgewall.org/wiki/TraCIni> this size can be configured from the trac.ini file, with the [wiki] max_size variable. Another alternative is to create a separate page for each year so that it doesn't exceed the size limit.

#2525	invalid	RSB	Darshit	
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Summary: RSB Python scripts may refer to Python3

Description: The RSB python scripts all have the same shebang line:

```
#!/usr/bin/env python
```

However, on certain systems, most notably Arch Linux, the default python environment is Python3. This causes all the RSB scripts to fail. Instead, a simple approach would be to explicitly invoke the Python2 environment. All systems that ship only Python2 also have the python2 symlink.

I've attached patch I made by changing all the shebang lines to python2. With these changes, I am still unable to completely build the SPARC tools on my machine. Some more Python related issues it seems. I shall debug those and either ask for further help later, or provide a patch Do let me know if anything else is required.

#2535	fixed	shell	Nick Withers	
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Summary: Shell: printf() format specifiers do not match parameter types

Description: e.g.:

```
(void)sprintf(buf, sizeof(buf), "%llu", (long long)howmany(maxblock, blocksize));
```

#2579	fixed	General	Ralph Holmes	
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Summary: Add per-section compilation and linking support to powerpc/motorola_powerpc

Description: As per #2577, per-section compilation and linking support should be added to this BSP. Since it uses the powerpc shared linker script, this only needs to have the necessary optimisations added.

#2589	fixed	Documentation	Chris Johns	Joel Sherrill
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Summary: Update Applications Ada User's Guide

Description: Update the Applications Ada User's Guide to REST format.

#2594	fixed	Documentation	Chris Johns	
Summary	Update POSIX 1003.1 Compliance Guide			
Description	Update the POSIX 1003.1 Compliance Guide to REST format.			
#2595	fixed	Documentation	Chris Johns	
Summary	Update Filesystem Design Guide			
Description	Update the Filesystem Design Guide to REST format.			
#2645	fixed	General	Joel Sherrill	Chris Johns
Summary	RSB qemu bset issues and failure			
Description	<p>Trying to build qemu on RSB master, I got errors for qemu_version and rtems_version not being defined. I added the following lines to bare/config/devel/qemu.bset which may or may not be correct but seemed to work.</p> <pre>%define qemu_version 42d58e7c6760cb9c55627c28ae538e27dcf2f144 %define rtems_version 4.12</pre> <p>May also be broken on 4.11 branch. Did not check.</p> <pre>../source-builder/sb-set-builder --log=l-qemu.txt --prefix=/home/joel/rtems-class-201604/tools/4.12 devel/qemu</pre>			
#2646	fixed	RSB	Joel Sherrill	Chris Johns
Summary	glib cfg file is missing hash. Fails in release mode			
Description	<p>glib is missing the hash. Following patch should fix it. Found on master, likely impacts all branches.</p> <pre>diff -git a/bare/config/devel/glib-2.39.3-1.cfg b/bare/config/devel/glib-2.39.3-1.cfg index 405e511..ab289db 100644 --- a/bare/config/devel/glib-2.39.3-1.cfg +++ b/bare/config/devel/glib-2.39.3-1.cfg @@ -11,6 +11,7 @@ %define glib_version_major 2.39 %define glib_version_minor 3 %define glib_version %{glib_version_major}.%{glib_version_minor} +%hash md5 glib-%{glib_version}.tar.xz c8ddc045e12cfafdea607c138f3f8429 # # The GLib build instructions. We use 2.x.x Release 1.</pre>			
#2721	fixed	General	Sebastian Huber	Sebastian Huber <sebastian.huber@...>
Summary	sem_init() does not honour SEM_VALUE_MAX			
Description	sem_init() succeeds even if the initial value exceeds SEM_VALUE_MAX.			
#2731	fixed	General	David Binderman	Gedare Bloom <gedare@...>
Summary	rtems/c/src/lib/libbsp/arm/raspberrypi/console/console_select.c:98: (warning) Found calculation inside sizeof().			
Description	<p>Source code is</p> <pre>if (strcmp(opt, "fbcons", sizeof("fbcons") - 1) == 0) {</pre> <p>Maybe better code</p> <pre>if (strcmp(opt, "fbcons", sizeof("fbcons") - 1) == 0) {</pre>			
#2756	fixed	filesystem	snob-wolpik	
Summary	MSDOS_MAX_DIR_LENGTH typo			
Description	<p>MSDOS_MAX_DIR_LENGTH -> MSDOS_MAX_DIR_LENGTH</p> <pre>\$ ack LENGTH msdos.h 239:#define MSDOS_MAX_DIR_LENGTH 0x200000 /* 2,097,152 bytes */ msdos_create.c 193: fat_fd->size_limit = MSDOS_MAX_DIR_LENGTH; msdos_initsupp.c 100: fat_fd->size_limit = MSDOS_MAX_DIR_LENGTH; msdos_misc.c 391: fat_fd->size_limit = MSDOS_MAX_DIR_LENGTH; 584: fat_fd->size_limit = MSDOS_MAX_DIR_LENGTH; 653: fat_fd->size_limit = MSDOS_MAX_DIR_LENGTH;</pre> <p>P.S. Goes unnoticed since original 2002 commit.</p>			
#2772	duplicate	cpukit	Kuan-Hsun Chen	
Summary	Enhancement for more general real-time model			
Description	<p>In the current implementation, if a task period is time out, the next call of rtems_rate_monotonic_period() will only release one following job and manipulate the task period with the calling moment + the next length of period. With the assumption that implicit/constraint deadline and hard real-time model, the above mechanism is okay.</p> <p>However, it is not applicable for more general task models, e.g., soft real-time task, arbitrary deadline, mixed-criticality system [1-4]. It is in fact changing the behaviour of periodic/sporadic tasks, where the task period becomes unpredictable and shifted. Also, there maybe more than one postponed instances due to the preemption.</p> <p>Although there is no standard requirement in reality for deadline misses, with this enhancement, the postponed jobs will be released with the correct number without shifting the periodicity of tasks. In fact, this way of handling is already widely considered in academia from 90s [2] until now [3] or even on multicores as well [4].</p> <p>I refine the following four files and handle this requirement individually. The overhead seems to me negligible. cpukit/rtems/include/rtems/rtems/ratemon.h cpukit/rtems/include/rtems/rtems/ratemonimpl.h cpukit/rtems/src/ratemontimeout.c cpukit/rtems/src/ratemonperiod.c</p> <p>I believe this patch is good for further use in more general real-time task models. This enhancement only affect those timeout cases without changing any behaviour in normal cases. To demonstrate the differences, a heuristic example is prepared in testsuites/sptests/sprmsched01 to show the benefit of the enhancement:</p> <p>Given two tasks with implicit deadline that task deadline is equal to its period. Task 1 period is 10000 ticks, whereas task 2 is 2000 ticks. Task 1 has the execution time 6000 ticks, and task 2 has 1000 ticks. Assume Task 1 has a higher priority than task 2. Task 1 only executes 2 times. In the expected result, we can observe that the postponed jobs are continuously released till there is no postponed job left, and the task period will still keep as it is. (Job 3-7 in task 2 are postponed jobs)</p> <p>[1] Buttazzo et al., Soft Real-Time Systems: Predictability vs. Efficiency, Springer 2005, http://www.springer.com/gp/book/9780387237015 [2] Lehoczky et al., Fixed priority scheduling of periodic task sets with arbitrary deadlines, RTSS 1990, http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=128748 [3] Georg von der Brüggen et al., Systems with Dynamic Real-Time Guarantees in Uncertain and Faulty Execution Environments, RTSS'16, accepted. [4] Huang et al., Response time bounds for sporadic arbitrary-deadline tasks under global fixed-priority scheduling on multiprocessors, RTNS 2015, http://dl.acm.org/citation.cfm?doid=2597457.2597459</p>			
#2785	fixed	cpukit	Alexander Krutwig	Sebastian Huber
Summary	ioctl extension for termios			
Description	The termios driver shall be extended that I/O control commands can be handled.			
#2801	fixed	General	Tim Cussins	Tim Cussins <timcussins@...>
Summary	Invalid configuration option used in virtex bsp headers			
Description	virtex4 and virtex5 bsp headers (bsp.h) define CONFIGURE_INTERRUPT_STACK_MEMORY, which causes confdefs.h to choke.			
#2812	fixed	Documentation	Joel Sherrill	Chris Johns
Summary	Remove Texinfo Documentation			
Description	<p>With the converted documentation now suitable for public distribution and the new Sphinx documentation being the official documentation source, the Texinfo documentation source in the development tree needs to be removed.</p> <p>The patch is against the master but should apply easily to 4.11. Patch is too large to attach. Placed it at:</p> <p>ftp://ftp.rtems.org/pub/rtems/people/joel/patches/0001-Remove-texinfo-format-documentation.-Replaced-by-Sph.patch.xz</p> <p>Chris, please apply and commit to 4.11 and master when it makes sense in the 4.11 release sequence. Then close this ticket.</p>			

Thanks.

#2813	fixed	General	Joel Sherrill	Chris Johns
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Summary	4.11.0 has incorrect version information			
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Description	The version info in the tarball is wrong. We need to review Makefile.maint and make sure we are doing similar actions. The version.m4 files definitely need to be updated.			
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Last modified on Mar 23, 2017, 4:18:04 AM

tags
4.11 4.11.1 release

4.11.0 (16 November 2017)

Statistics

Total	0
Fixed	0
Invalid	0
Works for me	0
Duplicate	0
Won't fix	0

Distribution

Summary

No results

Details

Ticket	Resolution	Component	Reporter	Owner
No tickets found				

tags
4.11 4.11.0 release

Last modified on Mar 23, 2017, 4:16:22 AM