

Release Notes: GCC 4.8.4.201701-GNURX

1st of April, 2017

CyberThor Studios Ltd. is releasing the GCC 4.8.4.201701-GNURX, a cross compiler tool for Renesas RX micro-controllers.

SALIENT FEATURES

The GCC 4.8.4.201701-GNURX toolchain is based on:

- ❖ GCC 4.8.4 [released]
- ❖ Binutils 2.24 [released]
- ❖ Newlib 2.2.0 [released]
- ❖ GDB 7.8.2 [released]

The latest patches are applied to GCC, Binutils and Newlib sources.

ABOUT GCC 4.8.4.201701-GNURX

Release Version:	GCC 4.8.4.201701-GNURX
Release Date:	1 st of April, 2017
Platforms Supported:	Red Hat GNU/Linux v8.0 or later (or compatible distribution) Windows XP, Windows 7, Windows 8, Windows 10
Language:	C, C99, C++
Targets:	RX100 RX200 RX600 RX64M RX700
Object File Format:	ELF



CHANGES IN THE GCC 4.8.4.201701-GNURX

This section describes the fixes made in the GCC 4.8.4.201701-GNURX release.

GCC/Binutils:

1. *[Improvement]* - We adjusted the scheduler to get the best code size results. The new register allocation order '-morder0' is the default, the Renesas allocation order remained the same '-morder1' and the old RedHat order is available by using the '-morder2' option.
2. *[Improvement]* Smaller memory footprint of the libgcc library
3. *[Improvement]* Added snprintf support for Optlib
4. *[Bug Fix]* - We fixed the internal compiler error from cselib_recod_set and the 'Read from unwritten memory' errors caused by '-morder1'

INSTALLER and RPM:

1. The GCC 4.8.4.201701-GNURX Installer onwards supports the 'Custom Installation' and 'Default Installation' modes. The 'Default Installation' mode is set by default where the tools are installed into the default location at "C:\Program Files\GCC 4.8.4.201701-GNURX" and the user's username and activation key are silently accepted if cached in the registry.
2. The GNURX ABI (Application Binary Interface) is made available on our GNU Tools support website (<https://gcc-renesas.com>) and also provided along with Linux RPM and Windows installer.

Notes:

This installer does not provide an option to integrate the GNURX toolchain with e2 studio, as the e2 studio IDE will automatically detect the GNURX toolchain installation on start-up for integration. Alternatively, you may use the 'Toolchain Management' feature in e2 studio to achieve this.

For details on e2 studio please visit the following link below:

http://www.renesas.com/products/tools/ide/ide_e2studio/index.jsp

There is no support in this installer to integrate toolchain with the HEW IDE.



KNOWN ISSUES IN GCC 4.8.4.201701-GNURX

This section describes all known issues for this particular release:

1. In certain cases the program will time out while executing with following options:

Note: Both flags need to be accompanied by "-fno-diagnostics-show-caret -w -O1 -DSTACK_SIZE=4096 -msim -lmc" for the problem to be observed.

- a) -funroll-loops
- b) -fpeel-loops

2. An incomplete type error can be observed occasionally when using the -fpack-struct option in C++.

The combination of the flags that reproduce this problem is "-fpack-struct -fno-diagnostics-show-caret -nostdinc++ -fmessagelength=0 -std=c++11 -pedantic-errors -Wno-long-long -S -msim"



FREE SUPPORT FOR GCC 4.8.4.201701-GNURX

For free technical support, please register at
<https://gcc-renesas.com>

For your feedback and suggestions, please visit
<https://gcc-renesas.com/help/contact-us/>

