

Release Notes: GCC 4.9.2.201603-GNURL78

5th of October, 2016

CyberThor Studios Ltd. is releasing the GCC 4.9.2.201603-GNURL78, a cross compiler tool for Renesas RX micro-controllers.

SALIENT FEATURES

The GCC 4.9.2.201603-GNURL78 toolchain is based on:

- ❖ GCC 4.9.2 [released]
- ❖ Binutils 2.24 [released]
- ❖ Newlib 2.1.0 [released]
- ❖ GDB 7.8.2 [released]

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

ABOUT GCC 4.9.2.201603-GNURL78

Release Version:	GCC 4.9.2.201603-GNURL78
Release Date:	5 th of October, 2016
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 4.9.2.201603-GNURL78

This section describes the fixes made in the GCC 4.9.2.201603-GNURL78 release.

GCC/Binutils:

- 1) (Improvement) Added multiple new RTL patterns (in the RTL/code generator part of the compiler) aimed to reduce the overall size of the RL78 executables.
- 2) (Bug Fix) Fixed the failed tests from the DejaGnu regression test suite when the "-free" compile option is used in conjunction with the "-lto" one.
- 3) (Improvement) Applied a fix for avoiding the generation of large code size for the conditional operator in certain cases (e.g. when testing a signed integer value for not being zero).
- 4) (Bug Fix) -fwhole-program optimization switch can be used now without (incorrectly) remove the .fvectors and .rvectors tables and the interrupt handlers from the program.
- 5) (Improvement) The compiler's decisions to call "__mulsi3" or use the "mulhu" instruction when "-mcpu-g14" is specified are now consistent.
- 6) (Improvement) Reduced the size of the "libgcc" library by employing "clrb/clrw" instructions wherever possible.
- 7) (Bug Fix) Fixed an issue in the GNU assembler that was generating spurious "L0^A" labels visible when debugging the code in e2Studio.

INSTALLER and RPM:

1. The GCC 4.9.2.201603-GNURL78 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 4.9.2.201603-GNURL78" and the user's username and activation key are silently accepted if cached in the registry.
2. The GNURL78 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 GNURL78 toolchain with e2 studio, as the e2 studio IDE will automatically detect the GNURL78 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.



FREE SUPPORT FOR GCC 4.9.2.201603-GNURL78

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/>

