Release Notes: GNUSH v12.01

28th February 2012

KPIT Cummins Infosystems Limited is releasing the GNUSH v12.01, a cross compiler tool for Renesas SH micro-controllers.

SALIENT FEATURES:

1. The GNUSH v12.01 toolchain is based on,
   - GCC v4.6.2 [Released]
   - Binutils v2.22 [Released]
   - Newlib v1.20.0 [Released] and
   - GDB v7.3.1 [Released]

2. The latest patches are applied to gcc, binutils and newlib sources. Please visit the following link for the patches applied to the GNUSH toolchain,
   http://www.kpitgnutools.com/phpmyfaq/index.php?aktion=artikel&rubrik=002004&id=78&lang=en

ABOUT GNUSH v12.01:

Release Version:	GNUSH v12.01
Release Date:	28th February 2012
Platforms Supported:	Red Hat GNU/Linux v8.0 or later (or compatible distribution) Windows NT / 2000 / XP / Vista / Windows 7
Language:	C, C99, C++
Targets:	SH-1 SH-2 SH-2A SH-2E SH2-DSP SH-3 SH-3E SH3-DSP SH-4 SH-4A SH-4AL-DSP
Object File Format:	ELF

CHANGES IN THE GNUSH-ELF v12.01 Release:

This section describes the enhancements made and the issues fixed in the v12.01 release.

OPTLIB:

1. The LOG10, LOG and POW functions of optimized libraries generated incorrect output for SH4 Single-Only (Little Endian) and   SH4A Single-Only (Little Endian) targets.
   This bug has now been fixed.

INSTALLER:

1. Installer now supports 'Custom Installation' and 'Default Installation' modes. The "Default Installation" mode is set by default where the tools are installed into the default HEW (if found) and the user's username and activation key are silently accepted if cached in the registry.

HEW (For Windows OS only):

1. Use of the Flash Development Tool (FDT) plug-ins under HEW is deprecated. Hence, users are advised to download the latest version of the FDT application and use it independently for Flash downloads.

KNOWN LIMITATIONS IN SH-ELF:

This section describes the known limitations in this release. We intend to fix these issues in our future releases. We occasionally release maintenance packs for critical bug fixes.

Windows and GNU/Linux:

1. In newlib, the 'fmod' function fails with and without "-mrenesas" option for the following single precision targets:
   a. SH2E
   b. SH2A-Single-Only
   c. SH3E
   d. SH4-Single-Only (little endian and big endian)
   e. SH4A-Single-Only (little endian and big endian)

2. The 'ldexp' function of optimized libraries fails for SH4-Single-Only (little endian) and SH4A-Single-Only (little endian) targets.

3. Library Generator: Please visit the following link for the known issues and limitations related to this utility:
   http://www.kpitgnutools.com/phpmyfaq/index.php?aktion=artikel&rubrik=002003&id=415&lang=en

HEW (For Windows OS only):

1. The following features are currently not supported in HEW:
   a. 'Generate Makefile'
   b. Support for 'convrenesaslib' utility

2. For other limitations pertaining to the single interface for the compiler, assembler, linker and library generator, please visit the following link:
   http://www.kpitgnutools.com/phpmyfaq/index.php?aktion=artikel&rubrik=003001&id=445&lang=en

NOTE:
Windows and GNU/Linux:

1. The optimized libraries provided along with the newlib libraries in the toolchain do not require a separate download.

2. The optimized libraries ('liboptm.a' and 'liboptc.a') are not provided under GNU GPL. The source code of these optimized libraries is neither released nor available on request.

3. The "libgen" utility is not provided under GNU GPL. The source code of the "libgen" utility is neither released nor available on request.

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