



Release Note for GNU Arm Embedded Toolchain

7-2017-q4-major

Non-Confidential

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Release information

Document history

Issue	Date	Confidentiality	Change
7-2017-q4-major	18 December 2017	Non-Confidential	7-2017-q4-major Release
6-2017-q2-update	28 June 2017	Non-Confidential	6-2017-q2-update Release
6-2017-q1-update	23 February 2017	Non-Confidential	6-2017-q1-update Release
6-2016-q4-major	21 December 2016	Non-Confidential	6-2016-q4-major Release
5-2016-q3-update	28 September 2016	Non-Confidential	5-2016-q3-update Release
5-2016-q2-update	27 June 2016	Non-Confidential	5-2016-q2-update Release
5-2016-q1-update	4 April 2016	Non-Confidential	5-2016-q1-update Release

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1. Release Note for GNU Arm Embedded Toolchain 7-2017-q4-major

Release notes for GNU Tools for Arm Embedded Processors 7 - Q4 2017

This release includes the following items:

- Bare metal EABI pre-built binaries for running on a Windows host
- Bare metal EABI pre-built binaries for running on a Linux host
- Bare metal EABI pre-built binaries for running on a Mac OS X host
- Source code package (together with build scripts and instructions to setup build environment), composed of:
 - gcc : ARM/embedded-7-branch revision 255204 svn://gcc.gnu.org/svn/gcc/branches/ARM/embedded-7-branch/
 - binutils : 2.29 mainline git://sourceware.org/git/binutils-gdb.git commit b23dc97fe237a1d9e850d7cbeee066183a00630b
 - newlib and newlib-nano : git://sourceware.org/git/newlib-cygwin.git commit 76bd5cab331a873ac422fdcb7ba5fe79abea94f0
 - gdb : 8.0 mainline git://sourceware.org/git/binutils-gdb.git commit b23dc97fe237a1d9e850d7cbeee066183a00630b

Note that some or all of the following prerequisites are downloaded when building from source:

- EnvVarUpdate NSIS script : <http://nsis.sourceforge.net/mediawiki/images/a/ad/EnvVarUpdate.7z>
- expat 2.1.1 : <http://jaist.dl.sourceforge.net/project/expat/expat/2.1.1/expat-2.1.1.tar.bz2>
- gmp 6.1.0 : <ftp://gcc.gnu.org/pub/gcc/infrastructure/gmp-6.1.0.tar.bz2>
- isl 0.15 : <ftp://gcc.gnu.org/pub/gcc/infrastructure/isl-0.15.tar.bz2>
- libelf 0.8.13 : <http://www.mr511.de/software/libelf-0.8.13.tar.gz>
- libiconv 1.14 : <http://ftp.gnu.org/gnu/libiconv/libiconv-1.14.tar.gz>
- mpc 1.0.3 : <ftp://gcc.gnu.org/pub/gcc/infrastructure/mpc-1.0.3.tar.gz>
- mpfr 3.1.4 : <ftp://gcc.gnu.org/pub/gcc/infrastructure/mpfr-3.1.4.tar.bz2>
- python 2.7.13 : <https://www.python.org/ftp/python/2.7.13/python-2.7.13.msi>
- zlib 1.2.8 <http://sourceforge.net/projects/libpng/files/zlib/1.2.8/zlib-1.2.8.tar.gz/download>

Minimum host requirements:

- Windows 7 32/64 bits or later (with installer and alternative zip package)
- Linux
 - Ubuntu 14.04 64 bits or later (tarball)

- Ubuntu supported releases 32 bits and 64 bits (PPA) <https://www.ubuntu.com/info/release-end-of-life>
- RHEL 7 64 bits (tarball)
- Mac OS X 10.7.3 and newer 64 bits (tarball)

Supported target OS:

- Bare metal EABI only

Features:

- All GCC 7 features, plus latest mainline features:
 - Armv8-R and Arm Cortex-R52 support

Tests:

- Targets
 - variety of Cortex-M0/M0+/M3/M4/M7/A9 boards
 - Qemu
 - Arm Fast Models
- Hosts
 - Windows 7 32/64 bits (with installer and alternative zip package)
 - Linux 64 bits
 - Ubuntu 14.04 and 16.04 (tarball and PPA)
 - RHEL 7 (tarball)
 - Mac OS X 10.7.3 (tarball)

Important changes in 7 release:

- Armv8-R and Arm Cortex-R52 support
- Fix for https://gcc.gnu.org/bugzilla/show_bug.cgi?id=69866
- GDB built with C++ enabled for Mac OS X

Known Changes and Issues:

- Thumb1 code size regression due to new register allocation:
https://gcc.gnu.org/bugzilla/show_bug.cgi?id=59535
- Multilib is now enabled with `-with-multilib-list=rmprofile` when building the toolchain from source
- Windows installer now accepts the following options when running in silent mode:
 - /P Adds the installation bin directory to the system PATH
 - /R Adds an InstallFolder registry entry for the install.