STM32CubeIDE Release Note v1.4.0

Introduction

This release note is updated periodically to keep abreast of STM32CubeIDE evolution, problems and limitations. Check the STMicroelectronics support website at www.st.com/stm32softwaretools for the latest version. For the latest release summary, refer to Table 1.

Table 1. STM32CubeIDE v1.4.0 release summary

Type	Summary
Major release	• STM32CubeMX V6.0.0 integration • Additional support for STM32MP1 devices : OpenSTLinux 2.0 SDK & Projects support • Additional support for STM32H7 devices • Additional support for STM32G4 devices • OpenOCD support improvements

Customer support

For more information or help concerning STM32CubeIDE, contact the nearest STMicroelectronics sales office. For a complete list of STMicroelectronics offices and distributors, refer to the *www.st.com* webpage.

Software updates

Software updates and all the latest documentation can be downloaded from the STMicroelectronics support webpage at www.st.com/stm32softwaretools.

1 General information

1.1 Overview

STM32CubeIDE is an integrated development environment (IDE) based on the ECLIPSE™ framework. It is aimed at users developing embedded software in C/C++ for the STMicroelectronics STM32 products. It uses an enhanced GNU tool chain for STM32, based on *GNU Arm Embedded*. It has an integrated version of STM32CubeMX and MCUFinder, which allows easy project configuration as well as the generation of the corresponding initialization C code through a step-by-step process. Furthermore, STM32CubeIDE integrates the command-line version of STM32CubeProgrammer (STM32CubeProg) for Flash memory handling while using the ST-LINK GDB server. This allows the STM32 device programming through debug interfaces (JTAG and SWD).

STM32CubeIDE is based on the following technology, with STMicroelectronics-specific enhancements:

- ECLIPSE™ 2019-09 and CDT version 9.9.0
- GNU Tools for STM32, based on *GNU Tools for Arm Embedded Processors 7-2018-q2-update 7.3.1 20180622 (release) [ARM/embedded-7-branch revision 261907]*
- GNU GDB (GNU Tools for STM32 7-2018-q2-update.20190328-1800) 8.1.0.20180315-git
- GNU Tools for Arm Embedded Processors 7-2018-q2-update 7.3.1 20180622 (release) [ARM/embedded-7-branch revision 261907]
- GNU GDB (GNU Tools for Arm Embedded Processors 7-2018-q2-update) 8.1.0.20180315-git
- AdoptOpenJDK Runtime Environment (build 1.8.0_252, 64-bit)
- ST-LINK_gdbserver 5.6.0, supporting ST-LINK/V2 and STLINK-V3
- SEGGER J-Link GDB Server V6.80b
- Open On-Chip Debugger 0.10.0+dev-g30d1303

Windows® specific build tools:

- BusyBox v1.31.0.st_20200221-0903_longpath: `mkdir.exe`, `rm.exe`, `echo.exe`
- make-4.2.1_st_20200221-0903_longpath: `make.exe`

Linux® specific build tools:

- make-4.2.1_st_20200221-0903_longpath: `make.exe`

macOS® specific build tools:

- make-4.2.1_st_20200221-0903_longpath: `make.exe`

STM32CubeIDE supports STM32 32-bit products based on the Arm® Cortex® processor.

Note:

- *ECLIPSE is a registered trademark of the Eclipse foundation.*
- *macOS® is a trademark of Apple Inc. registered in the U.S. and other countries.*
- *Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.*

1.2 Host PC system requirements

Supported operating systems and architectures

- Windows® 7, 8, and 10: 64 bits (x64)
- Linux® (tested on Ubuntu® LTS 18.04, and Fedora® 29 and 31, 64 bits)
- macOS® 10.12 (Sierra), 10.14 (Mojave), 10.15 (Catalina)
- 4 GB of RAM recommended
- 6 GB of free hard-disk space for non OpenSTLinux developers, 15 GB for OpenSTLinux usage.

Note:
- *Ubuntu® is a registered trademark of Canonical Ltd.*
- *Fedora® is a trademark of Red Hat, Inc.*
- *All other trademarks are the property of their respective owners.*

1.3 Setup procedure

Refer to the *STM32CubeIDE installation guide* (UM2563) and *STM32CubeIDE quick start guide* (UM2553) available at *www.st.com*.

1.4 Licensing

STM32CubeIDE is delivered under the *Mix Ultimate Liberty+OSS+3rd-party V1* software license agreement (SLA0048).

The open-source and third-party software components used in the development of STM32CubeIDE and their licenses are listed in a zip file available from the product page in STMicroelectronics *www.st.com* web site.

Table 2 provides the description of the licenses of additional components in STM32CubeIDE.

Table 2. Complementary component licenses

Name	Version	License detail
STLink-USB-Driver	-	*Image V2* software license agreement (SLA0047)
STLink-USB-Driver-lib	-	*Ultimate Liberty* software license agreement (SLA0044)
ST-LINK Server	v1.3.0-4	www.gnu.org/licenses/old-licenses/gpl-2.0.en.html
jacl	1.4.1	fossies.org/linux/jacl/docs/license.html
Tcl/Java	1.4.1	tcljava.sourceforge.net/docs/website/index.html
MigLayout	v3.7	www.miglayout.com
Velocity	v2.0	velocity.apache.org/engine/2.0/license.html
slf4j	v1.7.26	www.slf4j.org/license.html
commons-io	2.5	www.apache.org/licenses
commons-lang	3.6	www.apache.org/licenses

1.5 Cross-selector data disclaimer

The information presented in the cross-reference tool is intended to help the users narrow their search of STMicroelectronics products based on similarity to other available products. The information is based on data published by other semiconductor manufacturers and might contain errors. STMicroelectronics provides the information “as is” and does not make any representations or warranties as to its accuracy or suitability for any particular purpose. STMicroelectronics recommends that the users make their purchase decision based on their review of STMicroelectronics datasheets and other product documentation. Any pricing information is an estimate for budgetary purposes only.

2 STM32CubeIDE v1.4.0 release information

2.1 New feature

- STM32CubeMX v6.0.0 integration
- Additional support for STM32MP1 devices : OpenSTLinux 2.0 SDK & Projects support
- Additional support for STM32H7 devices
- Additional support for STM32G4 devices
- OpenOCD support improvements

Important:
STMicroelectronics recommends that a new workspace is created for the work done with STM32CubeIDE v1.4.0. Existing projects made with a previous version of STM32CubeIDE must be imported and copied into the new workspace.

2.2 Fixed issues

Table 3. Main issues fixed in STM32CubeIDE v1.4.0

ID	Summary
73302	An STM32MP1 project generated with MX can now be debugged in both engineering & production modes.
79065	STM32L5 projects now generates properly when FreeRTOS is activated.
79853	Using OpenOCD with ST-LINK now checks and forces ST-LINK firmware update at debug launch.
72289	Debugging a project using ST-LINK GDB Server on a board and having multiple boards connected to the PC will now work when “Shared ST-LINK” is selected.
87084 & 47930	STM32CubeIDE serial wire viewer selecting large amounts of data to copy to the clipboard will no longer crash STM32CubeIDE.
85191	Improved sysmem.c function _sbrk

2.2 Known Problems

- Some STM32CubeMX pop-up dialogs are not opened in front of the STM32CubeIDE workbench on all OS.
- Conditional breakpoints do not work with OpenOCD.
- The project importer for SW4STM32 cannot import all settings in projects from very old versions (older than 2.0).
- Having a space or non-ASCII character in the project/workspace path or installation path is not fully supported.
- Some radio/check buttons in the debugger tab have unexpected rendering on Ubuntu 14.04.

- Some STM32CubeMX code update (MWs removal) operation does not clean out all files from the project and will need to be manually deleted.
- Hierarchical projects cannot be renamed.
- Hierarchical projects cannot be imported with the option "Copy into workspace".
- An STM32MP1 project being debugged in Cortex-M will show all peripheral registers in the SFR view, even those not managed by Cortex-M.
- Serial wire viewer configuration is not reset for STM32H7 devices on the next launch if it was terminated with record active.
- MCUFinder is unusable on GNOME on Wayland.
- The synchronization check between the entered IP address in launch configuration and IP address of the target might not match. In this situation the launch should be aborted but it is currently not caught.
- When using a proxy server and the STM32MP1 is not accessible through the server it will be required to add the IP address to the proxy bypass list.
- An MPU project being debugged in Cortex-M will show all HW IPs register in the SFR view, even the ones not managed by Cortex-M
- Restart configuration only works for FLASH projects and not for RAM projects.
- Debug configuration for L4+ is missing lowpower and watchdog selections for ST-LINK gdbserver
- OpenOCD reads incorrect values while debugging a Cortex-M4 while FreeRTOS is activated.
- Some macOS versions reports the installation image to be corrupted, this can be circumvented with the command: "*xattr -c /Applications/STM32CubeIDE.app*"
- When debugging STM32H7 dual-core devices and one core goes to sleep, ST-LINK GDB-server will report 0x05F0001. This can not be circumvented by using OpenOCD as it does not support debugging om STM32H7 dual-core devices using sleep modes.
- SWV Exception Trace log data tab displays a peripheral column which is always empty.

Revision history

Table 6. Document revision history

Date	Version	Changes
17-Jul-2020	v1.4.0	Interim Release note document. Please see the latest updated version on the website.