

LLVM for Renesas RISC-V
19.1.7.202501
Release Notes

31st of January, 2025

About LLVM for Renesas RISC-V 19.1.7.202501

CyberThor Studios Ltd. is releasing the LLVM for Renesas RISC-V 19.1.7.202501, a cross compiler tool for Renesas RISC-V micro-controllers.

Release Version: LLVM for Renesas RISC-V 19.1.7.202501

Release Date: 31st of January, 2025

Platforms Supported:

- Ubuntu 20.04 or later (or compatible distribution)
- Windows 7 or later
- macOS Ventura 13.4 on Apple M1

Language: C, C++

Targets: Renesas RISC-V MCU

Object File Format: ELF

The LLVM for Renesas RISC-V 19.1.7.202501 toolchain is based on:

- LLVM 19.1.7 [released]
- Compiler-rt 19.1.7 [released]
- Libcxx 19.1.7 [released]
- Libcxx-abi 19.1.7 [released]
- Newlib 4.4.0 [released]
- GDB 12.1 [released]

LLVM for Renesas RISC-V comes with support for the latest language standards: full support for C17 and C++17 and partial support for C++20, C++23, C++2C.

The latest patches are applied to the LLVM sources.

Changes in LLVM for Renesas RISC-V 19.1.7.202501

This section describes the fixes made in the LLVM for Renesas RISC-V 19.1.7.202501 release.

1. [Improvement] Update to LLVM 19.1.7

The current release is based on the LLVM 19.1.7 sources, containing fixes and improvements compared to the previous release. For details please visit the upstream release notes:

<https://discourse.llvm.org/t/llvm-19-1-7-released/84062>

2. [Improvement] Update to newlib 4.4.0

The current release was updated to use newlib 4.4.0.

Notes

The toolchain on the Windows platform requires the presence of the x86 Microsoft Visual C++ Redistributable package for Visual Studio 2015-2022. This can be downloaded and installed from the official site:

https://aka.ms/vs/17/release/vc_redist.x86.exe

This installer does not provide an option to integrate the LLVM RL78 toolchain with e2 studio, as the e2 studio IDE will automatically detect the LLVM RL78 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:

<https://www.renesas.com/eu/en/software-tool/e-studio>

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

Known Issues in LLVM for Renesas RISC-V 19.1.7.202501

The following is a list of known issues for the tools included in the LLVM for Renesas RISC-V 19.1.7.202501 toolchain:

1. **Other issues, non-specific to RISC-V**

For better understanding regarding the status of the toolchain please visit:

<https://github.com/llvm/llvm-project/issues>

Free support for LLVM for Renesas RISC-V 19.1.7.202501

For free technical support, please register at

<https://llvm-gcc-renesas.com>

For your feedback and suggestions, please visit

<https://llvm-gcc-renesas.com/help/contact-us/>