



# Arm Toolchain for Embedded Professional 20.1.0 Release Notes

Version 20.1.0

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## Arm Toolchain for Embedded Professional 20.1.0 Release Notes

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This document (110448\_200100\_01\_en) was issued on 2025-07-22. There might be a later issue at <https://developer.arm.com/documentation/110448>

The product version is 20.1.0.

See also: [Proprietary notice](#) | [Product and document information](#) | [Useful resources](#)

### Start reading

If you prefer, you can skip to [the start of the content](#).

### Intended audience

This document is intended for software developers and provides an overview of the Arm Toolchain for Embedded Professional 20.1.0 release.

### Inclusive language commitment

Arm values inclusive communities. Arm recognizes that we and our industry have used language that can be offensive. Arm strives to lead the industry and create change.

We believe that this document contains no offensive language. To report offensive language in this document, email [terms@arm.com](mailto:terms@arm.com).

### Feedback

Arm welcomes feedback on this product and its documentation. To provide feedback on the product, create a ticket on <https://support.developer.arm.com>.

To provide feedback on the document, fill the following survey: <https://developer.arm.com/documentation-feedback-survey>.

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# 1. Release overview

This chapter provides an overview of the Arm Toolchain for Embedded Professional product and the Arm Toolchain for Embedded Professional 20.1.0 release.

## 1.1 Product description

Arm Toolchain for Embedded Professional (ATfEP) 20.1.0 is the first release of Arm's 7th generation C/C++ compiler for embedded systems. It completes the transition to a fully Open-Source toolchain that Arm began in 2014 with the first release of the 6th generation C/C++ compiler for embedded systems, [Arm Compiler for Embedded](#) (formerly Arm Compiler 6).

Arm Toolchain for Embedded Professional replaces key components of Arm Compiler for Embedded with equivalent Open-Source components:

Component	Arm Compiler for Embedded	Arm Toolchain for Embedded Professional
Compiler	armclang	clang
Linker	armlink	lld
Assembler	armclang integrated assembler and the armasm assembler	clang integrated assembler
ELF utility	fromelf	llvm-objdump and llvm-objcopy
Librarian	armar	llvm-ar
C Library	Arm proprietary C libraries	Open-Source C libraries

This evolution of the underlying toolchain technology might require you to make significant changes to your project when migrating to Arm Toolchain for Embedded Professional. For more information, see [the Arm Toolchain for Embedded Professional documentation](#).

If you are currently using Arm Compiler for Embedded, you should consider migrating to Arm Toolchain for Embedded Professional if your project requires any of the following:

- Support for an Arm architecture or processor launched after 2024
- The latest architecture features for AArch64 state
- Optimizations for the M-profile Vector Extension (MVE)
- Compatibility with the [Arm GNU Toolchain](#)
- Features not available in Arm Compiler for Embedded, but enabled through Open-Source LLVM and Clang technology

The features included in Arm Toolchain for Embedded Professional might be different from the features included in Arm Compiler for Embedded. For more information, see the [Product definition](#) section of the [Arm Toolchain for Embedded Professional User Guide](#).

Contact your sales representative or [submit an inquiry online](#) to find out more about licensing Arm software development tools including Arm Toolchain for Embedded Professional.

## 1.2 Release highlights

Arm Toolchain for Embedded Professional 20.1.0 is the latest release as of July 2025.

This release can be used to build for the following Arm Architectures and Processors:

Architecture	Processor Family	Standard Processors	Automotive Enhanced Processors
Armv9-A up to Armv9.6-A	Neoverse	V3, V2 N3, N2	V3AE
	Cortex	X925, X4, X3, X2 A725, A720, A715, A710, A520, A510	A720AE, A520AE
Armv8-A up to Armv8.9-A	Neoverse	V1 N1 E1	-
	Cortex	X1C, X1 A78C, A78, A77, A76, A75, A73, A72, A65, A57, A55, A53, A35, A34, A32	A78AE, A76AE, A65AE
Armv8-R AArch64	Cortex	R82	R82AE
Armv8-R	Cortex	R52+, R52	-
Armv8-M up to Armv8.1-M	Cortex	M85, M55, M52, M35P, M33, M23	-
	STAR	STAR-MC1	-
Armv7-A	Cortex	A17, A15, A12, A9, A8, A7, A5	-
Armv7-R	Cortex	R8, R7, R5, R4F, R4	-
Armv7-M	Cortex	M7, M4, M3	-
	SecurCore	SC300	-
Armv6-M	Cortex	M1, M0, M0+	-
	SecurCore	SC000	-

You might also be able to build for other Arm targets using the `-march=<name>` command-line option with appropriate `+<feature>` modifiers.

For more information, see the following sections of the [Arm Toolchain for Embedded Professional User Guide](#):

- [Compile for a specific Arm architecture or Arm processor](#)
- [-march](#)
- [-mcpu](#)
- [Product definition](#)

## 1.3 Included components

This section lists the toolchain components and different types of documentation included with Arm Toolchain for Embedded Professional 20.1.0.

Category	Component	Description
Toolchain components	clang	Compiler and integrated assembler based on LLVM and Clang technology
	lld	Linker, not to be invoked directly, but to be used via clang
	LLVM binutils, such as llvm-objdump and llvm-objcopy	ELF utilities for LLVM Toolchains
	Open-Source C libraries	Runtime support libraries for embedded systems, based on picolibc
	Open-Source C++ libraries	Libraries based on the LLVM libc++ project
User documentation	Arm Toolchain for Embedded Professional User Guide	The User Guide provides instructions and reference information to help you use the toolchain
	Arm Toolchain for Embedded Migration Guide	Provides an overview of how to migrate to Arm Toolchain for Embedded
	Release Notes	These release notes

## 1.4 Product quality

This product is a Final release quality product which is suitable for use in a production environment.

Certain features within this product are not Final release quality features or must not be used. For more information about the classification of features within this product, see the [Product definition](#) section of the [Arm Toolchain for Embedded Professional User Guide](#).

## 2. Download Arm Toolchain for Embedded Professional 20.1.0

This chapter provides information about how to download Arm Toolchain for Embedded Professional 20.1.0.

Arm Toolchain for Embedded Professional 20.1.0 is currently not available to download for standalone installation. It is only available integrated with specific releases of Arm Development Studio and Arm Development Studio Platinum Edition.

Depending on your license and entitlements, you may be able to download this release via the [Arm Product Download Hub](#) (PDH) by downloading the Linux x86\_64 or Windows x86\_64 packages for Arm Development Studio 2025.<version> or later available in:

- The `DEVST-GLD0` product code for Development Studio Gold UBL.
- The `DEVST-GLDF` product code for Development Studio Gold UBL FUSA.
- Success Kit releases with version `r2p34-00re10` and later.

For more information about obtaining a license for Success Kits, [contact Arm Sales](#).



The minimum required version of glibc for Linux x86\_64 host platforms is 2.27.

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## 3. Support

This chapter includes guidance on how to obtain support for using Arm Toolchain for Embedded Professional.

Your feedback is important to us, and you are welcome to send us defect reports and suggestions for improvement on any aspect of the product. Please contact your supplier or [open a case](#) with feedback or support issues, using your work or academic email address if possible. Where appropriate, please provide the following information:

- `clang --version` output.
- The output of running `armlm inspect`.
- The complete content of any error message that the tool produces.
- Preprocessed source code, other files, and command-line options necessary to reproduce the issue. For information on how to preprocess source code, see the [-E](#) section of the *Arm Toolchain for Embedded Professional User Guide*.



## 4. Release history

This chapter contains the history of Arm Toolchain for Embedded Professional releases.

Version	Release Date
Arm Toolchain for Embedded Professional 20.1.0	9 Jul 2025

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# Product and document information

Read the information in these sections to understand the release status of the product and documentation, and the conventions used in Arm documents.

## Product status

All products and services provided by Arm require deliverables to be prepared and made available at different levels of completeness. The information in this document indicates the appropriate level of completeness for the associated deliverables.

## Revision history

These sections can help you understand how the document has changed over time.

### Document release information

The Document history table gives the issue number and the released date for each released issue of this document.

#### Document history

Issue	Date	Confidentiality	Change
200100-01	22 July 2025	Non-Confidential	Updated Arm Development Studio download information
200100-00	9 July 2025	Non-Confidential	Initial release for toolchain integrated into Arm Development Studio

### Change history

Arm does not provide a detailed list of changes between different revisions of this document. For the release history of Arm Toolchain for Embedded Professional, refer to the *Release Notes* for each release using the [Arm Toolchain for Embedded Professional documentation index](#).

# Conventions

The following subsections describe conventions used in Arm documents.

## Glossary

The Arm Glossary is a list of terms used in Arm documentation, together with definitions for those terms. The Arm Glossary does not contain terms that are industry standard unless the Arm meaning differs from the generally accepted meaning.

See the Arm Glossary for more information: [developer.arm.com/glossary](https://developer.arm.com/glossary).

## Typographic conventions

Arm documentation uses typographical conventions to convey specific meaning.

Convention	Use
<i>italic</i>	Citations.
<b>bold</b>	Interface elements, such as menu names.  Terms in descriptive lists, where appropriate.
monospace	Text that you can enter at the keyboard, such as commands, file and program names, and source code.
monospace <u>underline</u>	A permitted abbreviation for a command or option. You can enter the underlined text instead of the full command or option name.
<and>	Encloses replaceable terms for assembler syntax where they appear in code or code fragments.  For example:  <pre>MRC p15, 0, &lt;Rd&gt;, &lt;CRn&gt;, &lt;CRm&gt;, &lt;Opcode_2&gt;</pre>
<b>SMALL CAPITALS</b>	Terms that have specific technical meanings as defined in the <i>Arm® Glossary</i> . For example, <b>IMPLEMENTATION DEFINED</b> , <b>IMPLEMENTATION SPECIFIC</b> , <b>UNKNOWN</b> , and <b>UNPREDICTABLE</b> .



We recommend the following. If you do not follow these recommendations your system might not work.



Your system requires the following. If you do not follow these requirements your system will not work.



You are at risk of causing permanent damage to your system or your equipment, or harming yourself.

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This information is important and needs your attention.

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A useful tip that might make it easier, better or faster to perform a task.

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A reminder of something important that relates to the information you are reading.

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# Useful resources

This document contains information that is specific to this product. See the following resources for other useful information.

Arm documents are available on [developer.arm.com/documentation](https://developer.arm.com/documentation).

Confidential documents are only available to licensees, when logged in. Each document link in the tables below provides direct access to the online version of the document.

Arm product resources	Document ID	Confidentiality
<a href="#">Arm Development Studio</a>	–	Non-Confidential
<a href="#">Arm Development Studio Getting Started Guide</a>	101469	Non-Confidential
<a href="#">Arm Toolchain for Embedded</a>	–	Non-Confidential
<a href="#">Arm Toolchain for Embedded Migration Guide</a>	110599	Non-Confidential
<a href="#">Arm Toolchain for Embedded Professional User Guide</a>	107976	Non-Confidential
<a href="#">Arm Toolchain for Embedded Professional documentation index</a>	KA006292	Non-Confidential
<a href="#">User-based Licensing User Guide</a>	102516	Non-Confidential