



Arm Debugger

Version 6.5.0

Release Note

Non-Confidential

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Issue 00

109667_6.5.0_00_en



Arm Debugger Release Note

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This document (109667_6.5.0_00_en) was issued on 2025-03-28. There might be a later issue at <https://developer.arm.com/documentation/109667>

The product version is 6.5.0.

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 for users of Arm Debugger that want to see details of the latest changes.

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.

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

The following sections describe the product and its quality status at time of release.

1.1 Product description

Arm® Debugger is a tool that supports software development on Arm® processor-based targets and Fast Models such as the supplied Fixed Virtual Platform (FVP) models.

Arm Debugger includes support for System on Chip (SoC) bring-up with platform configuration utilities using the Arm® ULINK™ and Arm® DSTREAM debug probe families. In addition, third-party physical and virtual debug probes can also be utilized, covering a wide range of hardware and software development.

The Arm Debugger tool is available in Arm® Development Studio and Arm® Keil® MDK6.

For a complete list of supported processors, see [Supported Processor Cores](#).

1.2 Product quality

These deliverables are being released under the terms of the agreement between Arm and each licensee (the “Agreement”). All planned verification and validation is complete. The release is suitable for volume production under the terms of the Agreement.

2. Arm Debugger 6.5.0 requirements

Arm Debugger 6.5.0 is compatible with the following Arm Integrated Development Environments (IDEs).

- Arm Keil MDK v6

Arm Debugger 6.5.0 is supported on the following host platforms:

- Windows 10 (x86_64)
- Windows 11 (x86_64)
- Ubuntu Desktop Edition 22.04 LTS (x86_64 and AArch64)
- Ubuntu Desktop Edition 24.04 LTS (x86_64 and AArch64)
- MacOS 12.3 and later (x86_64, AArch64 via Apple Rosetta)

3. Differences from previous release

This release of Arm Debugger contains the following changes.

- [New features](#)
- [Bug fixes](#)
- [Deprecated and removed features](#)
- [Known issues](#)

3.1 New features

Arm Debugger 6.5.0 contains the following new features and enhancements.

Processor and architecture support

Support for the following Arm processors and architectures:

- Cortex-A320
- Cache awareness for Neoverse V3 and Neoverse V3AE
- Masked watchpoint support for Armv8-A, Armv8-R and Armv9-A

Debugger functionality

- New peripheral command set. These commands manage peripheral register groups containing memory-mapped registers from a register frame.
- Delete parameter (added to the newvar command to delete variables, register aliases and register groups.
- Standalone RDDI function Debug_MemRWList() is now available for optimised batching of memory accesses in a single function call.
- Flash download stability and performance improvements.
- CMN-600/700 discovery and visualisation scripts are now supplied with the debugger. These can be found in the Configuration Database 'scripts' directory.
- Address Fast Memory Access CPU erratum for Cortex-A76, A78 and Neoverse V1.
- DSTREAM family DAP logging can now be enabled from the Arm Development Studio IDE and armdbg via the -dap-log-path option.
- DSTREAM-PT and DSTREAM-XT dashboard support for remotely monitoring probe status and configuration.
- DSTREAM-XT multiple ETR trace triggers and integrity improvements.
- DSTREAM-XT PCIe link bring-up outside of a debug connection support.

Platforms configurations

Support for debug connections to Arm Fixed Virtual Platforms v11.28.

3.2 Bug fixes

Arm Debugger 6.5.0 contains the following bug fixes.

- DSCORE-22580: PCE does not recognize Cortex-M52 variant
- DSCORE-22578: Cannot follow log of long running PCE auto-detection
- DSCORE-22215: MS-DAP debugFrom not hit when equal to entry point
- DSCORE-22205: JTAG auto-detection fails for EDA third-party probe
- DSCORE-22265: Remote debug server auto-detection fails with USB probes
- DSCORE-21953: command 'cache flush' does not clean the data to outside
- DSCORE-21498: Configuration Database Test Platforms: fails on Cyclone V configuration
- DSCORE-20963: RDDI API: Call to Debug_GetConfig() after Jtag_Connect() causes hang

3.3 Deprecated and removed features

The following functionality is either deprecated or removed.

- Ubuntu Desktop Edition 20.04 LTS (x86_64) is no longer an officially supported host platform.
- DSTREAM-HSSTP support has been removed.
- The `--interactive` `armdbg` command-line option is deprecated. An equivalent functionality is available when you use the `--debug-init-script` option with the `--script` option.

3.4 Known issues

Arm Debugger 6.5.0 has the following known issues.

- Split DWARF is not supported for DWARF 5.
- It is your responsibility to install Windows drivers for the Olimex ARM-USB FTDI/JTAG devices. Following the advice from the manufacturer, you can download the [drivers from Olimex](#).
- When connected to Cortex-R82 hardware via a debug probe, the `info memory` command shows an `0x` address space, but addresses in that space are not accessible.

Linux

udev rules for debug probe connections via USB have to be manually added to your system. Find a set of relevant rules and an installation script, `usb-install`, in `<installation_directory>/sw/debughw/drivers`.

4. Support

If you have any issues with the installation, content, or use of this release, create a ticket on <https://support.developer.arm.com>. Arm will respond as soon as possible.

You can raise queries and support issues relating to Arm Debugger on the [Arm Community website](#).



We provide support for this release of the product only to partners who have a current support and maintenance contract for the product.

A Full release of the Arm Deliverable shall have met the contractual requirement for verification and validation of the deliverable subject to any waivers agreed between Arm and the Customer.

5. Release History

Provides a brief overview of the changes in previous versions of Arm® Debugger.

6.4.0armds

- Version of Arm Debugger available in Arm® Development Studio 2024.1.

For more information, see the [Arm Debugger 6.4.0armds Release Note](#).

6.4.0

- Support for cache visualization for Cortex®-X4
- New `snapshot` command to create a snapshot of CPU state, trace data, and system memory.
- Access the DSTREAM-ST USER IO pins using the RDDI JTAG_SetConfigItems and JTAG_GetConfigItems API.
- Retrieve the debug agent JTAG clock speed using the RDDI JTAG_GetConfigItems API.

For more information, see the [Arm Debugger 6.4.0 Release Note](#).

6.3.0

- Support for Cortex-X925 and Cortex-A725.
- Support for AArch64 Linux kernel OS awareness up to 6.1.
- New controls to configure the semihosting security policy.
- `armdbg` is now capable of heterogenous multicore debug.
- Changes to the cache debug view and `cache print` command to hide invalid cache data lines.

For more information, see the [Arm Debugger 6.3.0 Release Note](#).

6.2.1

- This release of Arm Debugger contains only defect fixes that affect Arm Debugger 6.2.0.

For more information, see the [Arm Debugger 6.2.1 Release Note](#).

6.2.0

- Support for cache visualization for the Cortex-A720.
- Multiple Debug Server support.
- Support for accessing system registers using instruction encoding.

For more information, see the [Arm Debugger 6.2.0 Release Note](#).

6.1.3

- This release of Arm Debugger contains only defect fixes that affect Arm Debugger 6.1.2.

For more information, see the [Arm Debugger 6.1.3 Release Note](#).

6.1.2

- Support for the Cortex®-R82AE, Cortex-A520AE, Cortex-A720AE, and Neoverse™ V3AE processors.
- Support for Armv9.5-A, including RME Granule Protection Check 2 Extension (FEAT_RME_GPC2) and Hardware Dirty State structure visualisation (FEAT_HDBSS and FEAT_HACDBS).
- Support for debug connections to Arm Fixed Virtual Platforms v11.25.
- Support for Arm RD-1 AE platform configuration.

For more information, see the [Arm Debugger 6.1.2 Release Note](#).

6.1.1

- This release of Arm Debugger contains only defect fixes that affect Arm Debugger 6.1.0.

For more information, see the [Arm Debugger 6.1.1 Release Note](#).

6.1.0

- Support for Cortex®-M52, Neoverse™ V3, and Neoverse N3 processors.
- Support 128-bit page tables (FEAT_D128).
- Support for Armv9.5-A, including Float8 (FEAT_FP8) and Fine-Grained Write Trap EL3 (FEAT_FGWTE3).

For more information, see the [Arm Debugger 6.1.0 Release Note](#).

Previous versions of Arm Debugger

Arm Debugger was previously released as a component of Arm Development Studio.

For details of previous updates to Arm Debugger, see the [Arm Development Studio Release Note](#).

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PRE-1121-V1.0

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.

Product completeness status

The information in this document is Final, that is for a developed product.

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
0650-00	28 March 2025	Non-Confidential	Release note update for Arm Debugger 6.5.0
0640armds-00	17 December 2024	Non-Confidential	Release note update for Arm Debugger 6.4.0-armds
0640-00	17 December 2024	Non-Confidential	Release note update for Arm Debugger 6.4.0
0630-00	23 October 2024	Non-Confidential	Release note update for Arm Debugger 6.3.0
0621-00	2 August 2024	Non-Confidential	Release note update for Arm Debugger 6.2.1
0613-00	2 August 2024	Non-Confidential	Release note update for Arm Debugger 6.1.3

Issue	Date	Confidentiality	Change
0620-00	28 June 2024	Non-Confidential	Release note update for Arm Debugger 6.2.0
0612-00	7 May 2024	Non-Confidential	Release note update for Arm Debugger 6.1.2
0611-00	26 March 2024	Non-Confidential	Release note update for Arm Debugger 6.1.1
0610-00	29 February 2024	Non-Confidential	First release as new document for Arm Debugger

Change history

For information about the functional changes to Arm Debugger, see the [Release History](#) section.

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.

Typographic conventions

Arm documentation uses typographical conventions to convey specific meaning.

Convention	Use
<i>italic</i>	Citations.
bold	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, <Rd>, <CRn>, <CRm>, <Opcode_2></pre>

Convention	Use
SMALL CAPITALS	Terms that have specific technical meanings as defined in the <i>Arm® Glossary</i> . For example, IMPLEMENTATION DEFINED , IMPLEMENTATION SPECIFIC , UNKNOWN , and UNPREDICTABLE .



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.



This information is important and needs your attention.



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



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

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.

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
Arm Debugger Command Reference	101471	Non-Confidential