



Release Note for Arm Performance Libraries

Revision 2601

Non-Confidential

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Issue 01

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Release Note for Arm Performance Libraries

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This document (109681_2601_01_en) was issued on 2026-01-20. There might be a later issue at <https://developer.arm.com/documentation/109681>

The product revision is 2601.

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

Software Developers

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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. Arm Performance Libraries 26.01.0 Release Note

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Arm conventions and proprietary notices, including confidentiality status, terminology statement, and product release status, can be found at the end of this document.

2. Contents

This release note contains the following sections:

- Release overview
- Release contents
- Get started
- Support
- Glossary
- Proprietary notices

3. Release overview

Use of Arm Performance Libraries is subject to the terms and conditions of the applicable End User License Agreement (EULA). A copy of the EULA can be found in the `license_terms` folder of your product installation.

Product description

Arm Performance Libraries for Linux contains optimized math functions, such as linear algebra and Fast Fourier Transforms, for Arm AArch64 implementations, including those with SVE. It is compatible with GCC versions 7 to 14.

Arm Performance Libraries is optimized for a number of microarchitectures. The latest information is available on the Arm Developer website:

<https://developer.arm.com/documentation/101004/latest>

Release status

This is the 26.01.0 release of Arm Performance Libraries.

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.

Release contents

The following subsections describe:

- The product parts that are delivered as part of this release.
- Any changes since the previous release.
- Any known issues and limitations that exist at the time of this release.

Deliverables

- Arm Performance Libraries 26.01.0
- Release Notes (this document)
- Documentation

Product documentation is available on the Arm Developer website:

<https://developer.arm.com/documentation/101004/latest>

Documentation and release notes might change between product releases. For the latest documentation bundle, check the product download page.

Arm tests PDFs only in Adobe Acrobat and Acrobat Reader. Arm cannot guarantee the quality of its PDFs when used with any other PDF reader. Adobe reader products are available at <https://www.adobe.com>.

3.1 Differences from previous release

The following subsections describe differences from the previous release of Arm Performance Libraries.

3.1.1 Additions and changes

In the 26.01.0 release:

- Added Arm Neoverse N3 as a new microarchitecture target.
- Support for LAPACK version 3.12.1, including:
 - ?GEMMTR routines for all types, performing matrix-matrix multiplication updating the lower or upper triangular part of the results matrix C only. This is the same as the existing ?GEMMT extension.
- Support for solving sparse triangular systems using the supernodal matrix format:
 - C interfaces added for creating supernodal matrices: `armpl_spmat_create_supernodal_*`.
 - Full documentation online and examples for both upper and lower triangular matrices provided.
 - Note that only the triangular solve operation (`armpl_spsv_exec_*`) is supported for supernodal matrices at this time.
 - This triangular solve operation is fully parallelized.
- New functionality for random number generation (RNG) functions:
 - Gamma distribution.
 - Multinomial distribution.
 - POISNORM methodology for the Poisson distribution.
- New functionality in libamath for:
 - A reproducible version of the library as a partial drop-in replacement for 3.5ULP (or default) libamath. Note this is only available on Linux.
 - This library is guaranteed to give identical results using either scalar or vector calls for supported functions.
 - Not all libamath functions are available in a reproducible manner.
 - GNU ABI symbols are not provided.
 - Full documentation is given in the Reference Guide.
 - Addition of C23 vector routines: Neon and SVE `rsqrt(f)`, `powr(f)`, `exp2m1(f)`, `exp10m1(f)`, `log2p1(f)`, and `log10p1`.
- Added a new include directory 'armpl_include':
 - This duplicates headers from 'include' renamed with an `armpl_` prefix (except FFTW headers).

- This allows for use of Arm PL headers in a qualified include path.
- Increased performance for:
 - BLAS level 3 routines: SGEMM, DGEMM, SSYMM, and DSYMM for MacOS on M4/M5 Apple silicon.
 - LAPACK routines: ?UNGQR, ?UNMQR, ?UNGLQ, and ?UNMLQ.
 - Sparse: dense-times-sparse and sparse-times-dense matrix multiplication.
- Supported compiler versions:
 - The GCC compatible releases are tested with GCC versions 7 to 14.
 - The LLVM compatible releases are tested with LLVM 21.1.
 - The NVHPC compatible releases are tested with NVHPC 25.11.

3.1.2 Resolved issues

Bug fixes in the 26.01.0 release:

- Assertion failure when attempting to detect certain NUMA topologies.
- Allocator/deallocator mismatches when running under AddressSanitizer.

3.2 Known issues

There are no known issues in the 26.01.0 release.

4. Get started

This section describes information to help you get started with accessing, setting up, and using Arm Performance Libraries.

For more information, see the Get Started information on the Arm Developer website:

<https://developer.arm.com/documentation/102620/latest>

Licensing information

Use of Arm Performance Libraries is subject to the terms and conditions of the applicable End User License Agreement (EULA). A copy of the EULA can be found in the `license_terms` folder of your product installation.

You do not require a license to use this Arm Performance Libraries package.

Prerequisites

If any of the following tools are not already installed by your Linux distribution, you must install them before installing Arm Performance Libraries:

- Python (version 3.6 or later)
- C Libraries:
 - SLES and RHEL: `glibc-devel`
 - Ubuntu: `libc6-dev`

4.1 Product download and installation

Arm delivers the files through the Arm Developer website:

<https://developer.arm.com/downloads/-/arm-performance-libraries>

See the page for download and installation instructions.

Run the product

More information about Environment Modules can be found at:

<http://modules.sourceforge.net>

1. Load the environment module.

Ensure you have access to modules, replace `/opt/arm` with `<install_location>` if necessary, and use:

```
module use /opt/arm/modulefiles
module avail
module load armpl/26.01.0_gcc
```

2. To generate an executable binary with GCC, compile your program with Arm Performance Libraries. Use:

```
gcc -I<install_dir>/include -L<install_dir>/lib <-larmpl> -lm [options] -o <binary>  
<input>
```

or

```
gfortran -I<install_dir>/include -L<install_dir>/lib <-larmpl> -lm [options] -o  
<binary> <input>
```

where:

- <-larmpl> is one of: -larmpl, -larmpl_lp64, -larmpl_ilp64, -larmpl_lp64_mp, or -larmpl_ilp64_mp.
- [options] denotes any other GCC compiler options
- <input> is the source file (or files)
- <binary> is the application executable to build

3. Run the generated binary <binary>:

```
./<binary>
```

Examples

Example code can be found at:

```
<install_location>/armpl_26.01.0_gcc/examples*
```

Multiple examples directories are provided in the installation. The suffix of the directory name indicates whether the examples inside link to the 32-bit (_lp64) or 64-bit (_ilp64) integer variants, and sequential (no suffix indicator) or OpenMP (_mp) multi-threaded variants, of Arm Performance Libraries.

The default set of examples in the 'examples' directory link to the sequential, 32-bit integers variant of Arm Performance Libraries.

You need to copy this code to a writeable directory and load Arm Performance Libraries environment module for the examples to build.

For example:

1. Copy the default 'examples' directory somewhere writeable:

```
cp -r <install_location>/armpl_26.01.0_gcc/examples ./  
cd examples
```

2. Load the correct environment modules:

```
module load armpl/26.01.0_gcc
```

3. Build the examples:

```
make
```

For more information about the Arm Performance Libraries examples, see:

<https://developer.arm.com/documentation/102620/latest/Compile-and-test-the-examples>

Uninstall

For convenience, this package includes an `uninstall.sh` script at:

```
<install_location>/arm-performance-libraries_26.01.0_gcc/uninstall.sh
```

This script attempts to uninstall all the components supplied as part of Arm Performance Libraries. However, if other packages outside of this product depend on the GCC component, GCC will not be uninstalled.

5. Support

Reference documentation for the supported routines in Arm Performance Libraries is available at:

<https://developer.arm.com/documentation/101004/latest>

If you have any issues with the installation, content or use of this release, create a post that describes your issue on the Arm Community HPC forum:

<https://community.arm.com/developer/tools-software/hpc/f/hpc-user-group>

Arm will respond as soon as possible.

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.

OS

These libraries are supported on the following Linux platforms:

- AArch64 RHEL 8 and 9
- AArch64 SLES 15 Service Pack 6
- AArch64 Ubuntu 22.04 and 24.04
- AArch64 Amazon Linux 2 and 2023

Full information about the platforms supported by Arm Performance Libraries is available on the Arm Developer website:

<https://developer.arm.com/Tools%20and%20Software/Arm%20Compiler%20for%20Linux#Supported-Devices>

6. Glossary

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Product Status

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

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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.

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
2601-01	20 January 2026	Non-Confidential	26.01 release
25071-01	7 October 2025	Non-Confidential	25.07.1 release
2507-01	3 July 2025	Non-Confidential	25.07 release
2504-02	17 April 2025	Non-Confidential	25.04.1 release
2504-01	3 April 2025	Non-Confidential	25.04 release
2410-02	16 October 2024	Non-Confidential	24.10 release
2410-01	1 October 2024	Non-Confidential	24.10 release
2404-01	4 April 2024	Non-Confidential	24.04 release
2310-01	12 October 2023	Non-Confidential	23.10 release
2304-01	19 May 2023	Non-Confidential	23.04.1 release

Issue	Date	Confidentiality	Change
2210-01	23 September 2022	Non-Confidential	22.1.0 release
2202-01	24 May 2022	Non-Confidential	22.0.2 release
2110-01	24 August 2021	Non-Confidential	21.1.0 release
2100-01	30 March 2021	Non-Confidential	21.0.0 release
2030-01	9 September 2020	Non-Confidential	20.3.0 release
2020-01	7 August 2020	Non-Confidential	20.2 release

Change history

The Change history tables describe the technical changes between released issues of this document in reverse order. Issue numbers match the revision history in [Document release information](#) on page 18.

This is the current revision of this document.

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.
<code>monospace</code>	Text that you can enter at the keyboard, such as commands, file and program names, and source code.
<code>monospace <u>underline</u></code>	A permitted abbreviation for a command or option. You can enter the underlined text instead of the full command or option name.

Convention	Use
<and>	Encloses replaceable terms for assembler syntax where they appear in code or code fragments. For example: <div>MRC p15, 0, <Rd>, <CRn>, <CRm>, <Opcode_2></div>
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.

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