

# TotalView 2024.1 Supported Platforms

## Versions

Interpret version information in the following ways:

- **Compilers:** Versions are given as a range, from the earliest supported version to the latest supported version, which is usually the current version. All versions within the range are supported.

Version information first lists compilers that support both C/C++ and Fortran, followed by compilers specific to one language or the other.

- **Operating Systems:** Specific supported versions are listed. If a whole number is given, all minor versions of that whole number are supported.
- **MPI Products:** No versions are given. The rule is: if a product version can be compiled with a supported compiler, that product version is supported.

## Support Notes

Support information here in the product distribution is a snapshot. For the latest information, [see the PDF version](#) on the TotalView documentation web site.

- **X Windows:** X Windows is required on all platforms to run the TotalView and MemoryScape GUIs. Systems used for remote debugging, i.e. those running only the TotalView Server, do not need X Windows installed.
- **OpenMP:** Most languages now support OpenMP. If your language supports it, and if your OpenMP code compiles successfully with one of our supported compilers, then your OpenMP is considered supported by TotalView.
- **OMPD:** A compiler that supports OpenMP 5.x is required. Currently, the only supported OMPD 5.x compiler is LLVM's Clang 12 (<https://github.com/llvm/llvm-project>). For more information on OpenMP compilers, see [OpenMP Compilers and Tools](#) on the OpenMP website.
- **CUDA debugging:**
  - **Operating systems support:** Linux x86-64, Linux PowerLE/OpenPOWER, and Linux-arm64 operating systems. Current support is for the 9.2, and 10 - 12 tool chains.
  - **NVIDIA GPUs support:** Tesla, Fermi, Kepler, Pascal, Volta, Turing, and A100 Ampere

**Notes:** 1) There is limited support for the Dynamic Parallelism feature; 2) On the NVIDIA Jetson Xavier Developer Kit, you must debug applications as root. For more information, please see ["Using the CUDA Debugger"](#) in the *TotalView User Guide*.

- **AMD ROCm debugging:**

- **Operating systems support:** Linux x86-64. Current support is for ROCm 5.4 - 6.0.

- **AMD ROCm GPUs support:** MI50, MI100, MI200, MI300 series GPUs

- Notes:**

- 1) TV 2024.1 (or later) is required for AMD GPU MI300 devices, which require ROCm 6.0.

- 2) TotalView's support for AMD ROCm GPUs depends on preliminary releases of the ROCm development kit. As new ROCm releases become available, TotalView will incorporate updates, and will also continue to add new ROCm debugging capabilities to future TotalView releases.

- **TotalView Remote Client:** The Remote Client supports debugging with TotalView on a Windows, macOS, or Linux x86 front-end system while connected to a remote back-end system. For macOS and Linux, supported front-end systems are the same as the full version of TotalView. For Windows, Windows 10 and 11 are supported.

For all systems, the front-end and back-end versions must be the same. For example, for the 2024.1 version of the TotalView Remote Client, the back-end debugger must also be version 2024.1.

- **ReplayEngine for reverse debugging:** Supported on Linux x86-64 operating systems. On other platforms, ReplayEngine buttons and menu selections are grayed out in the UI. For more information, see [Reverse Debugging with ReplayEngine](#).

Replay Engine supports the IP transport mechanism on most MPI systems. It supports communication over Infiniband using either the IBverbs or the QLogic PSM transport layers on some systems. Please see the section "Using ReplayEngine with Infiniband MPIS" in the *TotalView User Guide* for details.

- **LiveRecorder:** Debugging LiveRecorder-generated recording files up to version 7.2 of LiveRecorder is supported on Linux x86-64 operating systems.

- **Python debugging:** Python 2.7 and 3.5 - 3.11 debugging is supported on Linux x86-64 operating systems. For more information, please see "Debugging Python" in the *TotalView User Guide*.

- **C++ STL type transformations:**

RZVernal and Tioga systems:

# Platform Support

Platforms	Operating Systems	Compilers	MPI Products
Linux x86-64	Red Hat Enterprise 7.9 and 8 and CentOS 7.9, 8 (Stream), and 9 Red Hat Fedora 36, 37, and 38 Ubuntu 18.04, 20.04, and 22.04 SuSE Linux Enterprise Server 12 and 15 Rocky Linux 8	Intel oneAPI 2021 - 2023 Intel 18 -19 GNU (gcc, g++, gfortran) 4.3 - 13 PGI Workstation 11.2 - 18.10 Oracle Studio 12 NVIDIA OpenACC Clang 3.5 - 16 AMD Clang 5	Argonne MPICH Argonne MPICH2 GNU SLURM HPE MPI 2 HPE MPT Intel MPI Intel oneAPI Open MPI OSU MVAICH OSU MVAICH2 Bullx MPI IBM Platform MPI Berkeley UPC (32-bit only)
Apple (Intel) Apple (ARM64) <i>See Note 1</i>	macOS Ventura (13) macOS Sonoma (14)	Intel oneAPI 2021 - 2023 Intel 18 -19 GNU (gcc, g++, gfortran) 4.3 - 13 Apple Clang 9 - 13	Argonne MPICH Argonne MPICH2 Intel oneAPI Open MPI
Cray XT / XE/ XK / XC <i>See Note 2</i>	Cray Linux Environment (CLE)	PGI, GNU (gcc, g++, gfortran), and CCE	HPE Cray MPI
Cray EX (Shasta) <i>See Note 3</i>	HPE Cray OS (SLES)	PGI, GNU (gcc, g++, gfortran), and CCE	HPE Cray MPI
Linux PowerLE / OpenPOWER	Ubuntu 18.04 Red Hat Enterprise Linux 7.5	GNU (gcc, g++, gfortran) 4.3 - 13 NVIDIA OpenACC	Open MPI
Linux-arm64	Ubuntu 18.04, 20.04, and 22.04 Red Hat Enterprise 7.9 and 8 and CentOS 7.9, 8 (Stream), and 9	GNU (gcc, g++, gfortran) 4.3 - 13 Arm Compiler 22 NVIDIA OpenACC Clang 3 - 7	Open MPI

Platforms	Operating Systems	Compilers	MPI Products
IBM RS6000 Power AIX <i>See Notes 4 &amp; 5</i>	AIX 7.1, 7.2, and 7.3	GNU (gcc, g++, gfortran) 10, 11 IBM XLC 12.1, 13.1, 16.1 IBM Open XL 17.1 IBM XL Fortran 12.1, 13.1, 16.1	Argonne MPICH Argonne MPICH2 Open MPI PE POE
Oracle SPARC Solaris <i>See Note 4</i>	Solaris 11	GNU (gcc, g++, gfortran) 4.3 - 13 Oracle Studio 12	Argonne MPICH Argonne MPICH2 Open MPI Sun Cluster Tools

Notes are on the following page.

**Note 1:** The Classic TotalView UI requires X11. For important notes on installing TotalView on macOS, please see the section [Mac OS Installations](#) in the *TotalView Installation Guide*.

**Note 2:** Support on the XK6 platform for Cray's OpenMP Accelerator Directives and Cray's OpenACC Directives. For details, see the section ["Directive-Based Accelerator Programming Languages"](#) in the *TotalView User Guide*. ReplayEngine supports debugging MPI-based programs using Cray MPI over the Gemini Interconnect found on Cray XE (x86\_64 only) supercomputers.

**Note 3:** For details on installing and using TotalView on Cray EX (Shasta) systems, see "Running TotalView on a Cray EX (Shasta) system" in the Known Issues section of the TotalView release notes, available at <https://help.totalview.io>.

**Note 4:** Classic TotalView UI only

**Note 5:** The TotalView Message Queue Display (MQD) feature with applications using IBM MPI Parallel Environment (PE) requires the threaded version of the MPI library.