
Intel(R) Trace Analyzer and Collector for Linux* OS Release Notes

Overview

The Intel(R) Trace Collector is a low-overhead tracing library that performs event-based tracing in applications. You can analyze the collected trace data for performance hotspots and bottlenecks. The product is completely thread safe and integrates with C/C++, FORTRAN and multithreaded processes with and without MPI. It supports binary instrumentation and fail-safe mode.

Additionally it can check for MPI programming and system errors.

The Intel(R) Trace Analyzer provides a convenient way to monitor application activities gathered by the Intel Trace Collector through graphical displays.

You can view the desired level of detail, quickly identify performance hotspots and bottlenecks, and analyze their causes. The Intel Trace Analyzer is available on Linux* OS and Microsoft* Windows* XP OS .

Bundled together, the Intel(R) Trace Analyzer and Collector provide optimized analysis and visualization capabilities. Together they offer fast graphical rendering of complex profiling data and they easily scale up to hundreds of processes.

What's New

New Features and Benefits in versions 7.2:

- Correctness checking reports now available in the Intel Trace Analyzer GUI
- Intel(R) Compiler 11.0 support
- Migration to Qt 4.x

New Features and Benefits in versions 7.1.1:

- Intel Trace Collector configuration assistant GUI utility
- Improved functionality of binary instrumentation (itcpin) on Microsoft* Windows Compute Cluster Server* OS

New Features and Benefits in versions 7.1:

- Intel Trace Collector on Microsoft* Windows Compute Cluster Server* OS

- Distributed memory checking
- Command line interface for the Intel Trace Analyzer
- Improved statistics gathering with Intel Trace Collector

Key features

This release of the Intel(R) Trace Analyzer and Collector supports the following major features:

- Advanced GUI: user-friendly interface, high-level scalability, support of structured trace file (STF) trace data, runs on Linux* and Microsoft* Windows*
- Aggregating and Filtering: detailed views of runtime behavior grouped by functions or processes
- MPI Communicator: display of communication metrics for an arbitrary time interval for MPI
- Fail-Safe Tracing: improved functionality on prematurely terminated applications with deadlock detection
- Intel(R) MPI Library Interface: support of tracing on internal MPI states, support of MPI-IO
- Correctness checking: check for MPI and system errors at run-time
- ROMIO: extended support of MPI-2 standard parallel file I/O
- Binary instrumentation on the IA32 and Intel(R) 64 architectures
- Comparison feature: compare two trace files and/or two regions (in one or two trace files)
- Counter Timeline: analyze counter data collected through provided PAPI and OS modules or through manual use of Intel Trace Collector API
- Integrated online help for the Intel Trace Analyzer

Product Contents

This Product package contains the following components:

The Intel(R) Trace Analyzer and Collector for Linux*

Documentation for the Intel(R) Trace Analyzer and Collector can be found at <installation_directory>/doc. The ITA_Reference_Guide.pdf includes a tutorial introduction for the Intel Trace Analyzer and the ITC_Reference_Guide.pdf

documents the Intel Trace Collector.

The Intel Trace Analyzer comes with an online help system (html) while the Intel Trace Collector provides man pages on Linux*.

NOTES: Adobe Acrobat Reader* or another pdf reader such as xpdf is required to view the product documentation.

Third-party sources of the components of the Intel Trace Analyzer and Collector, for example those released under GPL, may be downloaded from <ftp://ftp.ikn.intel.com/pub/opensource>.

Installation

Linux Systems:

To install the Intel Trace Analyzer and Collector, execute 'install.sh'. You will be prompted for an installation directory which defaults to /opt/intel/itac/7.2.<package#>. You will also be asked to select components from a list which you want to be installed and for which MPI implementation the default paths should be set. It is recommended to use identical install paths on all nodes, through appropriate mounting or creating multiple copies. Please refer to the built-in help pages (--help) to get more information about the installer.

After installation, read the documentation in '<installation_directory>/doc'.

Prior to using the Intel Trace Analyzer and Collector, you should source <installation_directory>/bin/itacvars.[c]sh to set the appropriate environment variables for smooth functioning of the software. Read the user guide for details on how to switch between different MPI implementations.

To invoke the Intel(R) Trace Analyzer execute '<installation_directory>/bin/traceanalyzer'.

Microsoft* Windows* Operating Systems:

To install the Intel(R) Trace Analyzer and Collector double-click the installer file setup.exe and follow the instructions given during the installation. You will be asked for the location of your license file and for components to be installed. For your convenience the installer also offers you to register the

Trace Analyzer with trace files created by the Trace Collector (*.stf).

After installation, read

'<installation_directory>/doc/ITC_Reference_Guide.pdf' and
'<installation_directory>/doc/ITA_Reference_Guide.pdf'.

Prior to using the Intel Trace Collector, you should source
<installation_directory>/bin/itacvars.bat to set the appropriate environment
variables for smooth functioning of the software.

You can invoke Intel Trace Analyzer via its entry in the Start Menu, or by
double-clicking '<installation_directory>/bin/traceanalyzer.exe', or by
executing it from a command shell. If registered, double-clicking tracefiles
(*stf) opens them with the Intel Trace Analyzer.

Installing the license

The Intel Trace Analyzer and Collector uses Macrovision Corporation FLEXIm*
electronic licensing technology. License management is transparent to the user.
During the installation you will be prompted for a valid license, which is
required to successfully complete the installation of the Intel Trace Analyzer
and Collector. On Linux* the provided scripts itacvars.sh or itacvars.csh will
ensure that the path of your license file is contained in the environment
variable INTEL_LICENSE_FILE.

Since the Intel(R) Trace Analyzer uses a time-limited license, the license file
must remain in place on the system.

Uninstalling the Intel Trace Analyzer

Linux* Systems:

To uninstall the Intel Trace Analyzer and Collector run the script
'<installation_directory>/uninstall.sh'.

Microsoft* Windows* Operating Systems:

Uninstalling the Intel Trace Analyzer is done in the usual way via the
Start->Settings->Control Panel->Add or Remove Programs menu selection. Choose

the Intel Trace Analyzer and select Remove.

Note: Uninstalling the Intel Trace Analyzer will remove the software components while keeping the license file and other files in <installation_directory> which may have been created by you. It may also not reset its entry in the INTEL_LICENSE_FILE environment variable.

The Intel Trace Analyzer and Collector software and licenses can coexist with previous versions.

Known Limitations:

The Intel Trace Analyzer may get into an undefined state if too many files are opened at the same time.

Certain versions of ld (for example the ones distributed with Red Hat Enterprise Linux* 3 and 4) have problems linking with the Intel Trace Collector shared libraries. As a workaround you can use the static libraries or specify the following options to ld: "-Wl,--allow-shlib-undefined -Wl,--noinhibit-exec" which will result in a correct binary.

In some cases symbols information may appear incorrectly in the Intel Trace Analyzer if you discarded symbols information from object files.

MPI Correctness Checking is available for the Intel(R) MPI Library only.

Binary instrumentation (itcpin) is not supported on SGI MPT*.

The Intel Trace Collector for Microsoft* Windows* CCS OS has the following limitations compared to Version for Linux* OS:

- no distributed memory checking
- itcpin is not supported if the "McAfee Host Intrusion Prevention"* antivirus software is active

Please read the Reference Guides for details.

System Requirements:

Supported Hardware

Systems based on the IA-32 architecture:

- A system based on the Intel(R) Pentium(R) 4 processor
- Intel(R) Xeon(R) processor recommended
- 2 GB of RAM (4 GB of RAM recommended)
- 1 GB of free hard disk space

Systems based on the Intel(R) 64 architecture:

- Intel(R) Xeon(R) processor
- Intel(R) Core(TM) 2 Duo processor family recommended
- 4 GB of RAM (8 GB of RAM recommended)
- 1 GB of free hard disk space

Itanium(R) 2 based systems:

- Itanium(R) 2 processor recommended
- 4 GB of RAM (8 GB of RAM recommended)
- 1 GB of free hard disk space

Supported Software

Operating Systems

Systems based on the IA-32 architecture:

- Red Hat* Enterprise Linux* 4.0, or
- Red Hat Enterprise Linux 5.0, or
- SuSE* Linux Enterprise Server* 9, or
- SuSE Linux Enterprise Server 10

Systems based on the Intel(R) 64 architecture:

- Red Hat Enterprise Linux 4.0, or
- Red Hat Enterprise Linux 5.0, or
- Fedora* 7 through 8 or
- cAos* 2, or
- CentOS* 4.6, or
- CentOS 5.1, or
- SuSE Linux Enterprise Server 9, or
- SuSE Linux Enterprise Server 10, or
- openSuSE* Linux* 10.3, or
- SGI* Propack* 5.0

Itanium(R) 2 based systems:

Red Hat Enterprise Linux 4.0, or
Red Hat Enterprise Linux 5.0, or
SuSE Linux Enterprise Server 9, or
SuSE Linux Enterprise Server 10, or
SGI Propack 5.0

MPI implementations

Systems based on the IA-32 or Intel(R) 64 architectures:

Intel(R) MPI Library 3.x
Intel(R) MPI Library 2.x
MPICH* 1.2.5

Itanium(R) 2 based systems:

Intel(R) MPI Library 3.x
Intel(R) MPI Library 2.x
MPICH* 1.2.5
SGI MPT*

Technical Support

However your feedback is very important to us. To receive technical support, you need to be registered for an Intel(R) Premier Support account on our secure web site. You can use your Intel(R) Premier Support Account for the Intel(R) Trace Analyzer and Collector to file issues/comments and recommendations for the product.

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