Intel(R) Trace Analyzer and Collector 8.1 for Windows* OS
Release Notes

Overview

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.
Intel(R) Trace Analyzer (ITA) 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.

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. The tool is available on Linux* OS and Microsoft* Windows* OS.

What's New

Intel(R) Trace Analyzer and Collector 8.1 Update 4 for Windows* OS is an update
release which includes the following new features compared to the Intel(R) Trace
Analyzer and Collector 8.1 Update 3 (see product documentation for more details):

    o Improved raw data compression
    o Experimental TIME-WINDOWS support
    o New online documentation format
    o A few bug-fixes

32 Bit Support of Intel(R) MPI Library & Intel(R) Trace Analyzer and Collector:
Inclusion of 32-bit binaries in the Intel(R) MPI Library and Intel(R) Trace Analyzer
and Collector products is being deprecated. If 32-bit support is required,
we advise that you remain on Intel(R) MPI Library version 4.1 Updates and Intel(R) Trace
Analyzer and Collector version 8.1 Updates, which continue to include 32-bit binaries.
The Intel(R) MPI Library 5.0 Beta and Intel(R) Trace Analyzer and Collector 9.0 Beta
releases will not include 32-bit binaries. Many developers have already migrated to
64-bit implementations of both their applications and of Intel libraries and tools.
If you have concerns about this deprecation, please send us feedback by submitting
an issue at the Intel(R) Premier Customer Support site (http://premier.intel.com) as
soon as possible with your contact information.

Intel(R) Trace Analyzer and Collector 8.1 Update 3 for Windows* OS is an update
release which includes the following new features compared to the Intel(R) Trace
Analyzer and Collector 8.1 Update 2 (see product documentation for more details):

- Usability improvements
    o New Trace Map
    o All timeline settings in the Preferences dialog box
    o Context-sensitive help
    o A few bug-fixes

Intel(R) Trace Analyzer and Collector 8.1 Update 2 for Windows* OS is an update
release which includes the following new features compared to the Intel(R) Trace
Analyzer and Collector 8.1 Update 1 (see product documentation for more details):

- Usability improvements
    o New toolbar
    o Event Timeline settings in the Preferences dialog
    o New icons in the menu
    o A few bug-fixes

Intel(R) Trace Analyzer and Collector 8.1 Update 1 for Windows* OS is an update
release which includes the following new features compared to the Intel(R) Trace
Analyzer and Collector 8.1 (see product documentation for more details):

- Usability improvements
    o Welcome Page functionality
    o New Preferences dialog
    o Added cache creation progress bar
    o Visual appearance enhancement
    o Improved stability
    o MPI_Pcontrol support

Intel(R) Trace Analyzer and Collector 8.1 for Windows* OS is an update
release which includes the following new features compared to the Intel(R) Trace
Analyzer and Collector 8.0 Update 3 (see product documentation for more details):

- Usability improvements
    o New interactive help system with support for non-ASCII
      installation path
- Extended interoperability
    o Intel(R) Composer XE 2013 support

Intel(R) Trace Analyzer and Collector 8.0 Update 3 for Windows* OS is an
update release which includes the following new features compared to the
Intel(R) Trace Analyzer and Collector 8.0 Update 2
(see product documentation for more details):

- Usability improvements
    o File descriptor virtualization
    o Secure Dynamic Link Libraries* (DLL) loading
    o Experimental scalable tracefile format
    o Advanced aggregation
    o Seek and jump function
- Extended interoperability
    o Intel(R) Composer XE 2011 Update 6 support

The Intel(R) Trace Analyzer and Collector 8.0 Update 2 for Windows* OS is an
update release which includes the following new features compared to the

Intel(R) Trace Analyzer and Collector 8.0 Update 1
(all new feature details are listed below; other documents are unchanged):

- Enhanced security options
    o Secure DLL Loading mode. See more details in the Special Features
      and Known Issues topic
    o Intel Trace Analyzer and Collector executables are signed
- Usability improvements
    o Improved MPI correctness checking trace file creation
    o Fixes to the cache creation process in CLI mode
    o Fixes to the trace merging function
- Extended interoperability
    o Intel(R) Composer XE 2011 Update 4 support

The Intel(R) Trace Analyzer and Collector 8.0 Update 1 for Windows* OS is an
update release which includes the following new features compared to the
Intel(R) Trace Analyzer and Collector 8.0
(see product documentation for more details):

- Higher scalability :
    o Reducing the time spent in application code through merge separation
    o Decrease in trace load time due to the introduction of intermediate
      (summary) data reads during startup
- Greater usability :
    o New Installer technology intergration plus the introduction of a
      a new Intel(R) Trace Analyzer FLEXlm* module
- More support :
    o Intel(R) Compiler XE 12 Beta

The Intel(R) Trace Analyzer and Collector 8.0 for Windows* OS boasts the
following new features compared to previous versions (see product documentation
for more details):

- Application Imbalance diagram for simplified application analysis
- Addition of an Ideal Interconnect Simulator (IIS) to understand application
  balance
- Custom Plug-in Framework (CPF) to simulate application behavior over
  different interconnects
- Intel(R) Trace Analyzer Projects to save working environment

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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* OS
  and Microsoft* Windows* OS
- 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
  Performance Application Programming Interface (PAPI) and OS modules
  or through manual use of Intel Trace Collector API
- Integrated online help and a separate command line interface for the
  Intel Trace Analyzer

Product Contents

This Product package contains the following components:

The Intel(R) Trace Analyzer and Collector

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* OS.

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

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 which components should
be installed. For your convenience, the installer also offers you to register
the Trace Analyzer with the trace file extension created by the Intel Trace
Collector (*.stf).

After installation, read
'<installation_directory>/doc/ITC_Reference_Guide.pdf' and
'<installation_directory>/doc/ITA_Reference_Guide.pdf'.

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

Installing the License

Intel Trace Analyzer and Collector uses Macrovision Corporation FLEXlm*
electronic licensing technology. License management is transparent to you.
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* OS, the provided scripts itacvars.sh or itacvars.csh
ensures that the path of your license file is contained in the environment
variable INTEL_LICENSE_FILE.

Keep the license file on the system because the Intel(R) Trace Analyzer uses a
time-limited license.

Uninstalling the Intel Trace Analyzer

Linux* Operating Systems:

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

To uninstall the Intel Trace Analyzer and Collector in the GUI-mode,
enter the following command:
./uninstall.sh --gui-mode

Microsoft* Windows* Operating Systems:

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

Note: Uninstalling the Intel Trace Analyzer and Collector 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.

Special Features and Known Issues

With the TIME-WINDOWS option, the time interval of the resulting trace file may be different from the time interval specified in the configuration file.

Before running itcpin with VTmc library, set VT_PCTRACE to 0.

Tracing of the MPI application, which calls the MPI_Comm_spawn function, is not supported by the current version of the Intel Trace Collector.

The Intel Trace Analyzer and Collector for Windows* OS provides enhanced security options. Use HKEY_LOCAL_MACHINE\Software\Intel\ITAC registry key to define the following registry entries:
 - SecureDynamicLibraryLoading enables the dynamic library loading enhanced security mode. Set the value to enable|yes|on|1. This option is disabled by default.
 - VT_MPI_DLL and VT_FMPI_DLL specify the MPI library path to be used in the dynamic library loading enhanced security mode.
 - SecurePath specifies additional secure paths to be used in the dynamic library loading enhanced security mode: paths must be separated with semicolumn (';'). This option is useful when static tracing library VT*.lib is linked into the executable.
NOTE: the VT_MPI_DLL and VT_FMPI_DLL environment variables have no effect in the dynamic library loading enhanced security mode. See the Intel(R) Trace Analyzer and Collector for Windows* OS Reference Manual for more details on these variables.

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

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.

Microsoft* Internet Explorer* internet browser version 7.0 may crash on Japanese localized version of the Microsoft* Windows Server* OS 2008 on the attempt to display Intel Trace Analyzer html documentation. Please use newer versions.

The Intel Trace Collector for Microsoft* Windows* 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

See the Reference Guides for details.

System Requirements

Supported Hardware

    Systems based on Genuine IA-32 processors:

A system based on the Intel(R) Pentium(R) 4 processor or higher
Intel(R) Core(TM) i7 processor recommended
1 GB of RAM per core
2 GB of RAM per core recommended
1 GB of free hard disk space

Systems based on Genuine Intel(R) 64 processors:
Intel(R) Core(TM) processor family or higher
Intel(R) Xeon(R) 5500 processor series recommended
1 GB of RAM per core
2 GB of RAM per core recommended
1 GB of free hard disk space

Supported Software

Operating Systems

Systems based on the IA-32 architecture:
Microsoft* Windows 7*

Systems based on the Intel(R) 64 architecture:
Microsoft* Windows HPC Server* 2008 R2
Microsoft* Windows Server* 2008 R2
Microsoft* Windows 7*

MPI implementations

Intel(R) MPI Library 3.x
Intel(R) MPI Library 4.x

Technical Support

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.

This package is supported through Intel(R) Premier Support. Direct customer
support requests at:
https://premier.intel.com

General information on the Intel(R) Software Development Products support offerings
may be obtained at:
http://www.intel.com/software/products/support

Intel(R) Trace Analyzer and Collector home page can be found at:
http://www.intel.com/go/traceanalyzer

Intel(R) Trace Analyzer and Collector support web site,
http://software.intel.com/en-us/intel-trace-analyzer
provides top technical issues, frequently asked questions, product

documentation,and product errata.

Requests for licenses can be directed to the Intel(R) Software Development Products
Registration Center at:
      http://www.intel.com/software/products/registrationcenter

Before submitting a support issue, see the Intel(R) Trace Analyzer and Collector
for Windows* OS Getting Started Guide for details on post-install testing to
ensure that basic facilities are working.

When submitting a support issue to the Intel(R) Premier Support, please provide
specific details of your problem, including:
    - The Intel(R) Trace Analyzer and Collector package name and version
      information
    - Host architecture (for example, IA-32 or Intel(R) 64 architecture)
    - Compiler(s) and versions
    - Operating system(s) and versions
    - Specifics on how to reproduce the problem. Include makefiles,
      command lines, small test cases, and build instructions.

You can obtain version information for the Intel(R) Trace Analyzer and Collector
package in the file itacsupport.txt.

Submitting Issues

- Go to https://premier.intel.com
- Log in to the site. Note that your username and password are case-sensitive.
- Click on the "Submit Issue" link in the left navigation bar.
- Choose "Development Environment (tools,SDV,EAP)" from the "Product Type"
  drop-down list. If this is a software or license-related issue, choose
  the "Intel(R) Trace Analyzer & Collector, Windows*" option from
  the "Product Name" drop-down list.
- Enter your question and complete the fields in the windows that follow to
  successfully submit the issue.

Note: Notify your support representative prior to submitting source code
where access needs to be restricted to certain countries to determine if this
request can be accommodated.

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