# Intel® Thread Profiler 3.1 for Windows* Release Notes

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## Overview

Intel(R) Thread Profiler is a performance tuning tool designed to help developers analyze the thread level performance of applications that use Win32*, Win64* or OpenMP* threads. Powerful filtering and grouping mechanisms pinpoint source locations that limit performance.

## Product Contents

Intel(R) Thread Profiler for Windows* to be installed on Microsoft Windows* systems.

## What's New

Improved existing features of the Thread Profiler in this release include the following:

- 32-bit and 64-bit support for Microsoft Windows* Vista*.
- Support for Dual-Core Intel(R) Xeon processor series.
- Support for Intel(R) VTune Performance Analyzer 9.0 for Windows*.
- Support for the latest Intel(R) multi-core processors, including
  - Intel(R) Core(TM) 2 Duo and
  - Intel(R) Core(TM) 2 Quad processors
- Certain user configurations will now persist for each activity result. Examples of such options include
  - custom ordering of threads in the timeline
  - which threads are ignored
  - current profile view grouping
  - color set selection
  - critical path targets
- New ability to select different stack-walking techniques to allow tradeoffs between performances and stack completeness.

- Ability to collect data from the command-line suitable for viewing in the GUI.

# System Requirements

## Microsoft Windows* systems with Pentium(R) processors

### Minimum Hardware Required

- Pentium(R) 4 processor
- 512 MB of RAM
- 300 MB of disk space

### Recommended Hardware

- Pentium(R) 4 processor supporting Hyper-Threading Technology or Intel(R) Xeon(R) processor or newer
- 2 GB of RAM

### Required Software

- Microsoft Windows* Vista* or Microsoft Windows* XP Professional, Microsoft Windows* Server 2003, or Microsoft Windows* XP Professional x64 Edition or newer
- VTune(TM) Performance Analyzer 8.0 or higher
- Microsoft Internet Explorer* 6.0 or higher
- Microsoft Visual Studio .NET 2003 or higher
- Adobe® Reader®*

  When the Intel(R) compilers are used with compiler source instrumentation (-Qtprofile), Intel(R) compiler version 9.1 or higher must be used for platforms with Intel(R) 64 architecture as well as for Itanium processor based platforms.

### Required Software for OpenMP* analysis or source instrumentation

- Intel(R) C++ Compiler for Windows* 8.1, Package ID: w_cc_pc_8.1.023 or higher
- Intel(R) Fortran Compiler for Windows* 8.1, Package ID: w_fc_pc_8.1.023 or higher

## Known Issues and Limitations

Linux* RDC is no longer part of the Windows product. Linux* RDC may be available for legacy usage. Contact customer support for more information.

While upgrading from earlier versions, please use the license file rather than the serial number.

If you are using counted FLEXlm* license files during the installation of the client applications, please make sure that either the FLEXlm* server is not running or the FLEXlm* server is running with the complete license files which are used during the installation process.

When using Intel(R) C++ Compiler for Windows* version 10.0 Beta and Intel(R) Fortran Compiler for Windows* version 10.0 Beta with Intel(R) Thread Profiler versions w_cc_b_10.0.016 and

w_fc_b_10.0.016 and higher should be used.

Intel(R) Thread Profiler for Windows* does not support Intel(R) VTune(TM) Performance Environment command line interface(vtl).

If you are interested in profiling an OpenMP* application in Intel(R) Thread Profiler outside the VTune (TM) Performance Environment, please set the KMP_FOR_TPROFILE environment variable.

Data and results from previous versions of Intel(R) Thread Profiler can still be displayed in Intel(R) Thread Profiler 3.1 for Windows* . However, projects from previous versions of Intel(R) Thread Profiler can not be modified and re-run within this 3.1 release. A new project must be created to obtain new results with this release.

This release may give incorrect data in the Profile view when double clicking on a bar if there are multiple activity results in the same view. To avoid this problem, please select at least one bar from each activity result before filtering from the context menu. Applying more than one filter will lead to incorrect data in profile view

Intel(R) Thread Profiler cannot analyze processes that are already running. You must either specify the executable as the application to launch, or specify it as a module of interest and then launch it manually when prompted.

This release of Thread Profiler supports analysis of native binaries and does not support intermediate executable representations intended for managed runtime environments.

When opening sampling results from the Timeline view, the sampling consumer may show multiple threads for each OS thread. The workaround is to open the sampling results directly (from the Tuning Browser) at least once before opening sampling results from the Timeline view.

If you analyze optimized code, the call site information may be incomplete. In particular, the top layers of your call stack may be missing.

This release does not support Unicode* file names.

This release does not support inter-process performance profiling.

Thread Profiler ignores the duration setting in any of the activity configuration dialogs.

After uninstalling Thread Profiler, the standard project wizards may not appear in the New Project dialog. In this case, restart the VTune(TM) environment to restore the standard project wizards.

After installing Thread Profiler, a known issue may cause the VTune(TM) environment to crash when closed while a Sampling Over Time view is open.

The binary instrumentation technology used by the Thread Profiler can cause some applications to change behavior or terminate abnormally. In this case, you may be able to complete the analysis after lowering the instrumentation levels of the problematic modules.

By default, the Critical Path will be generated for the entire runtime of the application. If you are interested in analyzing the performance of a specific task, locate the end of the task in the Timeline view

and right click on it. Then select the **Change Critical Path Target** option.

When using Thread Profiler to analyze applications on systems with more than 32 processors, the overhead may become excessive. If you experience excessive overhead, please contact Technical Support.

Using the back button after using the Filter and Group By option or after double clicking on a bar will corrupt the data. The data can be restored by right clicking and choosing 'Revert all changes' menu item.

If you have integrated the VTune(TM) analyzer into Microsoft* Visual Studio* 2005 on systems running Windows* 2003 Server SP1, some of the links in the On-Line Help may not work properly and a warning message may appear. To correct this problem, adjust the Security settings for Microsoft* Internet Explorer as follows:

1. In Microsoft* Internet Explorer, click on Tools, Internet Options.
2. Click the Security tab.
3. Click the Custom Level button.
4. Scroll down to the Miscellaneous section.
5. Scroll down to the "Web sites in less privileged web content zone can navigate into this zone" item and select the Prompt radio button.
6. Click OK.

When opening help topics that contain a Related Topics button link, you may see an Internet Explorer* warning message that reads: "An ActiveX control on this page might be unsafe to interact with other parts of the page. Do you want to allow this interaction?" You can safely click **Yes** to continue. This problem occurs due to registry errors caused by installing a Windows* SP. To avoid seeing the warning, you can reregister the HTML Help ActiveX control. To do this, execute the following two commands:

```
regsvr32 /u %windir%\system32\hhctrl.ocx

regsvr32 %windir%\system32\hhctrl.ocx
```

## Microsoft Windows* Analysis

If you experience problems loading Pack and Go files (.vxp) in the Microsoft Visual Studio* environment after installing the Intel(R) C++ Compiler for Windows* or Intel(R) Fortran Compiler for Windows* (versions 8.1 or higher), you can alternatively open Pack and Go files in the VTune(TM) environment.

When using Thread Profiler from within the Microsoft Visual Studio* environment, the Cancel Activity and Stop Activity commands will not shut down the process under analysis as expected.

When using Thread Profiler from within the Microsoft Visual Studio* environment, some output messages may not be generated.

If you use Microsoft* Visual Studio* 2005 or Intel® C++ Compiler for Windows* 9.1 or Intel® Visual Fortran Compiler for Windows* 9.1 integrated into Microsoft* Visual Studio* 2005 you should not remove the manifest file as it contains important information that is required for any application which is

building using the VS Studio 2005 infrastructure. If you remove manifest file then your application will not run and will not get Intel® Thread Profiler results.

The first time an Intel(R) Thread Profiler 1.0 project is opened with Intel(R) Thread Profiler 2.0 or higher, you may see a warning dialog which states: "The following were present when this file was created but are not currently present: Intel(R) Thread Profiler. There may be unexpected failures if you proceed." If this dialog appears, click **Yes** to proceed as no failures should occur.

### Microsoft Windows* OpenMP* Analysis:

- Although Get Tuning Advice (F8 or View menu) may appear to be available when viewing Intel (R) Thread Profiler results, it should not be used because it may cause the VTune(TM) environment to become unstable.
- The counts of atomic and flush directives may be wrong in the Data Editor view.
- This version does not support detailed results for OpenMP* nested parallel regions.

### Microsoft Windows* Threading API Analysis:

- For a call site that corresponds to a thread termination which was done via an implicit or explicit "return", for example, not via an API call like ExitThread(), the Source View display will point to the start of the thread procedure instead of the precise point of the return call.

# Technical Support

The product support web site ( http://support.intel.com/support/performancetools/threadprofiler/ ) contains frequently asked questions, product documentation, product errata, as well as solutions to common issues.

To receive technical support for this product or product updates, you need to register for an Intel(R) Premier Support account at the Intel(R) Registration Center ( http://www.intel.com/software/products/registrationcenter/ ).

When submitting an issue to Intel(R) Premier Support ( https://premier.intel.com/), be sure to select **Thread Profiler** from the **Product Name** drop down list.

When submitting an issue please provide the product build number. This information can be found in the **ThreadProfilerSupport.txt** file. To open this file, go to Start, Programs, Intel(R) Software Development Tools, Intel(R) Thread Profiler, View Support and Build Ids.

If your issue involves Intel(R) Thread Profiler Linux* Remote Data Collector, please include the corresponding build number from the **tpSupport.txt**. This file is located on the Linux* system in the directory where Intel(R) Thread Profiler Linux* Remote Data Collector was installed. The default installation directory is "/opt/intel/itt".

Once you have contacted us with your suggestion or problem using your Premier Support account, a technical support engineer will respond within one Intel business day.

If you have not received or have lost your Premier Support login ID or password, or are having trouble with access, please visit https://registrationcenter.intel.com/support for assistance.

# Related Products and Services

Information on Intel(R) Software Development Products is available at
http://www.intel.com/software/products.

Some of the related products include:

- Intel(R) Thread Checker can pinpoint source locations that cause deadlocks, data races and other thread safety issues in threaded programs or programs that use threaded runtimes.
- VTune(TM) Performance Analyzer enables you to evaluate how your application is utilizing the CPU and helps you determine if there are modifications you can make to improve your application's performance.
- Intel(R) Compilers are an important part of making software run at top speeds with full support for the latest Pentium(R) and Itanium(R) processors.
- Intel(R) Cluster Tools can help developers create, analyze and optimize high-performance applications on clusters of Intel(R) processor-based systems.
- Intel(R) Performance Library Suite provides a set of routines optimized for various Intel processors.
- Intel(R) Software College provides training for developers on leading-edge software development technologies. Training consists of online and instructor-led courses covering all Intel architectures, platforms, tools, and technologies.

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