

Intel® Parallel Advisor 2011 Release Notes

Installation Guide and Release Notes

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1 Introduction

Intel® Parallel Advisor 2011 (Advisor) guides developers to add parallelism to their existing C/C++ programs.

Advisor is an add-in to Microsoft Visual Studio*. The developer uses Advisor to find the most time consuming serial sections in their program, model the insertion of parallelism in these sections, determine performance characteristics of the modeled parallelism, and check for issues that would prevent the application from working when parallelized.

This document provides system requirements, installation instructions, issues and limitations, and legal information.

To learn more about this product's:

- Documentation, help, and samples, see the **Advisor Documentation** item in the Start menu program folder. Click: **Start > All Programs > Intel Parallel Studio 2011 > Parallel Studio Documentation > Advisor Documentation**.
- Technical support, including answers to questions not addressed in the installed product, please visit: <http://www.intel.com/software/products/support/>

Please remember to register your product at <https://registrationcenter.intel.com/> by providing your email address. This helps Intel recognize you as a valued customer in the support forum.

If you installed the product using an Evaluation license, and then purchased the product, you can activate your purchase using the tool at **Start > All Programs > Intel Parallel Studio 2011 > Product Activation**.

2 System Requirements

Supported Architectures and Terminology

Advisor supports the following architectures:

- **IA-32 Architecture** refers to systems based on 32-bit processors generally compatible with the Intel® Pentium® processors, (for example, Intel® Pentium® 4 processor or Intel® Xeon® processor), or processors from other manufacturers supporting the same instruction set, running a 32-bit operating system.
- **Intel® 64 Architecture** refers to systems based on IA-32 architecture processors which have 64-bit architectural extensions, for example, Intel® Core™2 processor family, running a 64-bit operating system such as Microsoft Windows* XP Professional x64 Edition or Microsoft Windows Vista* x64. If the system is running a 32-bit version of the Windows operating system, then IA-32 architecture applies instead. Systems based on AMD* processors running a 64-bit version of Windows are also supported.

Minimum System Requirements

- A PC based on an IA-32 or Intel® 64 architecture processor supporting the Intel® Streaming SIMD Extensions 2 (Intel® SSE2) instructions (Intel® Pentium® 4 processor or later, or compatible non-Intel processor)
 - Incompatible or proprietary instructions in non-Intel processors may cause the analysis capabilities of this product to function incorrectly. Any attempt to analyze code not supported by Intel® processors may lead to failures in this product.
 - For the best experience, a multi-core or multi-processor system is recommended
- 2GB RAM
- 4GB free disk space for all product features and architectures
- Microsoft* Windows XP*, Microsoft Windows Vista*, Microsoft Windows 7, Microsoft Windows Server* 2003 or Microsoft Windows Server* 2008, 32-bit or “x64” editions - embedded editions are not supported
- Microsoft Visual Studio* 2005, 2008, or 2010 Standard Edition (or higher edition) with C++ component installed - see Note 1 below.
- Application coding requirements:
 - Programming Language: C or C++ (native, not managed code) – see Note 1 below.
- To view PDF documents, you need a PDF reader, such as Adobe Reader* 6 or later

Notes:

1. Advisor supports analysis of applications built with Intel® C++ Compiler version 11.1 or higher as well as Microsoft Visual Studio 2005, 2008, and 2010 Visual C++* compilers.
2. Advisor provides samples as Microsoft Visual Studio* solutions and projects that you use to create IA-32 sample executables.

Advisor samples work with Intel® Threading Building Blocks (Intel® TBB) version 3.0. (Intel TBB is available from <http://software.intel.com/en-us/intel-tbb/>.)

To use a different version of Intel TBB you will have to change some properties in the configurations for the Intel TBB projects (and in a few cases, for the Intel® Cilk™ Plus projects, some of which use Intel TBB mutexes):

- **C++ > General > Additional Include Directories**
 - change TBB30_INSTALL_DIR to the install directory of your version (for example “TBB21_INSTALL_DIR” for the default Intel TBB 2.1 installation)
 - **Linker > General > Additional Library Directories**; change to
 - \$(TBB22_INSTALL_DIR)\ia32\vc_mt\lib
 - \$(TBB21_INSTALL_DIR)\ia32\vc8\lib – for Visual Studio 2005
 - \$(TBB21_INSTALL_DIR)\ia32\vc9\lib – for Visual Studio 2008
 - **Build Events > Post-Build Event**; in the **copy** commands, change the path to
 - \$(TBB22_INSTALL_DIR)\ia32\vc_mt\bin
 - \$(TBB21_INSTALL_DIR)\ia32\vc8\bin – for Visual Studio 2005
 - \$(TBB21_INSTALL_DIR)\ia32\vc9\bin – for Visual Studio 2008
3. Advisor samples are provided in Visual Studio 2005 format. If you open an Advisor sample’s solution file with a later version of Visual Studio, you will be prompted to convert the solution to that Visual Studio format.
 4. To use the Intel TBB project for the samples in Visual Studio 2010, you must have the latest version of Intel TBB.
 - The Language property enabling Lambda functions is not maintained from 2005 to 2010 conversion wizard. Some samples use Lambda functions in Intel TBB and Intel Cilk Plus projects. The project needs to be converted to use Intel C/C++. Then set **C/C++ > Language > Enable C++0x Support** to “Yes”.
 - For more information, see the Advisor help: **Adding Parallelism to Your Program > Adding the Parallel Framework to Your Build Environment > Adding Intel Threading Building Blocks to Your Build Environment**.

3 Installation Notes

The installation of Advisor will remove any installed versions of Intel® Parallel Advisor Lite.

If you are installing the product for the first time, please be sure to have the product serial number available so you can type it in during installation. A valid license is required for installation and use.

To begin installation:

- If you received your product as a downloadable file, double-click on the executable file to begin installation. If several different downloadable files are available (such as for different components), please read the download web page carefully to determine which file is appropriate for you.

Default Installation Folders

The default top-level installation folder for this product is:

- C:\Program Files\Intel\Parallel Studio 2011\Advisor

If you are installing on a system with a non-English language version of Windows, the name of the `Program Files` folder may be different. On Intel® 64 architecture systems, the folder name is `Program Files (X86)` or the equivalent.

This product installs into an arrangement of folders shown in the diagram below. Not all folders will be present in a given installation.

- C:\Program Files\Intel\Parallel Studio 2011\Advisor
 - bin32
 - bin64
 - config
 - documentation
 - include
 - lib32
 - lib64
 - message
 - resource
 - samples

Changing, Repairing and Removing the Product

If you want to modify, repair, or remove Advisor components, open the Control Panel and select the Add or Remove Programs applet, select **Intel Parallel Advisor 2011** and click **Change/Remove**. Follow the installation instructions.

Known Installation and Configuration Issues

- Please close Visual Studio sessions before installing, modifying, or removing Intel® Parallel Advisor 2011 from a non-administrator account. Not doing so will affect Visual Studio integration and may result in obscure error messages.
- If you have both Microsoft Visual Studio* 2005 and 2008 installed on your system and integrate Intel® Parallel Studio 2011 into both IDEs, removing the integration from one of the IDEs will remove the integrated Intel® Parallel Studio documentation from both. There are two options to restore the documentation:

First option:

1. Open the Intel® Parallel Studio command prompt: **Start > All Programs > Intel Parallel Studio 2011 > Command Prompt**. You can choose any shortcut here, for example, “IA-32 Visual Studio 2005 mode”).
2. Remove the integration for the Visual Studio version that is missing integrated help. For example, to remove the Advisor integration:

With:	Type:
Visual Studio 2005	advi-vsreg -d 2005
Visual Studio 2008	advi-vsreg -d 2008

3. Restore the integration. For example, to restore the Advisor integration:

With:	Type:
Visual Studio 2005	advi-vsreg -i 2005
Visual Studio 2008	advi-vsreg -i 2008

Second option:

1. Uninstall the product.
2. Install it again with the desired Visual Studio integration selected.

4 Issues and Limitations

Known Issues and Limitations

- Advisor may display a message that the “Project should be rebuilt” before running the data collectors. You do not need to rebuild the project prior to running the collector if you know that the project is up-to-date. This situation can occur when the project file has been modified. For instance running Intel® Parallel Amplifier 2011 or Intel® Parallel Inspector 2011 can cause this to happen, because those tools insert their results into the Visual Studio project. The project itself then appears to be modified, even though the code hasn’t changed.
- The Suitability Tool cannot accurately measure and analyze the behavior of programs with very small task times (on the order of sub-microseconds).
- If you previously installed Intel® Parallel Advisor Lite you will need to replace annotate.h files with the advisor-annotate.h provided with Intel® Parallel Advisor 2011.

- Advisor's advisor-annotate.h file includes windows.h. If you are unable to cleanly include advisor-annotate.h, see the Advisor help topic "Handling Compilation Issues that Appear After Adding advisor-annotate.h". Please contact us if you need additional help.
- When using the Visual Studio 2010 conversion wizard to convert projects to Visual Studio 2010 format, command line arguments in the project properties may be lost. If you are using Advisor samples, the command line arguments can be found in the Advisor samples documentation.
- After collecting Advisor and Intel® Parallel Amplifier 2011 (Amplifier) results, the Amplifier context menu items will appear in the context menu for Advisor. Do not select "Results Summary" from the Advisor context menu - it is actually from Amplifier and does not apply to Advisor results. Doing so may cause Visual Studio to crash.
- The Suitability Report combines all lock data into a single lock and may not have source line information for LOCK_ACQUIRE and LOCK_RELEASE annotations.
- When opening Advisor samples, Visual Studio will display a warning message related to Intel® Cilk™ Plus projects when Intel® Parallel Composer 2011 is not installed. This message may be ignored. However, Intel Cilk Plus projects will not compile without Intel® Parallel Composer 2011.
- Visual Studio 2010 may crash when an unpinned window containing two Advisor result tabs is closed.
- The Advisor context menu may be unavailable from the source editor in Visual Studio 2010. All of the Advisor capabilities can still be accessed from the **Tools** menu or the Advisor Workflow.
- If you encounter problems using F1 help for Advisor windows and dialogs on Visual Studio 2005 or 2008 systems, set: **Tools > Options > Help > Online > Try local first, then online.**
- With Visual Studio 2010 systems, to enable viewing Intel (local) help: click **Help > Manage Help Settings > Settings**, and check **I want to use local help.**
- Visual Studio may crash if you open the Advisor Workflow and:
 - A project is unloaded and reloaded.
 - You switch the compiler used.
- When using Visual Studio 2010, links in the Overall Workflow Diagram of the Advisor Help return a "topic you requested could not be found in local help" error. To work around this issue, click the Back button and use the links in the next topic Workflow Step Description to navigate to the corresponding workflow topics in Advisor help.

5 Attributions

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Libunwind

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wxWidgets Library

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/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.3, July 18th, 2005

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*/

Limxml2

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