1 Introduction

Intel® Cilk++ SDK provides an environment for developers to add parallelism to new or existing C++ programs.

This document provides system requirements, installation instructions, issues and limitations, as well as legal information. The Intel Cilk++ SDK includes support for building 32-bit parallel applications for the Microsoft Windows* OS using the Microsoft Visual Studio* compiler, and for building 32-bit and 64-bit parallel applications for the Linux* OS using the GCC* compiler.

To learn more about the Intel Cilk++ SDK, including technical white papers and forum discussions, visit the [http://whatif.intel.com/](http://whatif.intel.com/) Support Forum.

2 What’s new

This Intel Cilk++ SDK release is functionally similar to the Cilk++ 1.10 kit previously released by Cilk Arts, Inc. The documentation and license information has been updated.

3 System Requirements


- A PC based on an IA-32 or Intel® 64 architecture processor (Intel® Pentium® 3 processor or later, or compatible non-Intel processor). For the best experience, a multi-core or multi-processor system is recommended.
To use the Intel Cilk++ SDK to build applications for the Microsoft Windows* OS:
- Microsoft Windows XP*, Microsoft Windows Vista*, Microsoft Windows Server* 2003 or Microsoft Windows Server* 2008, 32-bit or “x64” editions - embedded editions are not supported
- Microsoft Visual Studio* 2005 or 2008 with C++ component installed.
- Microsoft Visual Studio 2008 Express* does not support add-ins but will work with the command-line tools in the SDK. The Intel Cilk++ SDK is compatible with Visual Studio 2005 with Service Pack 1 or later. This version does NOT work with Microsoft Visual Studio 2005 Express*.

To use the Intel Cilk++ SDK to build applications for the Linux* OS:
- The compiler in this SDK is built on version 4.2.4 of the GNU Compiler Collection (gcc) and requires the same environment as that version of gcc, including a linker and assembler typically installed into /bin/utils.

To view PDF documents, you need a PDF reader, such as Adobe Reader* 6 or later

### 4 Installation Notes

#### Installing on Microsoft Windows* Systems

**Installation options**

During installation, you will select one directory to contain the program files and a second directory to contain the samples. The samples are installed separately.

In this section, we will use the following names:

- INSTALLDIR — the directory that will hold the program files after installation (by default, "%ProgramFiles%\Intel\Cilk")
- EXDIR — the directory that will hold the samples after installation (by default, "%USERPROFILE%\Documents\Cilk++ Examples")

**Installation steps**

You must have Administrator privileges to install the Intel Cilk++ SDK.

Exit any open instances of Microsoft Visual Studio before installing or uninstalling the Intel Cilk++ SDK.

Uninstall any previous versions of the SDK, including previous version of the Cilk Arts Cilk++ product (see Uninstalling On Microsoft Windows Systems).

The Intel Cilk++ SDK for Windows* OS is distributed as a Windows* Installer package. Begin installation by double-clicking on cilk.msi. The installation may take several minutes.

Select INSTALLDIR when prompted
After installing, close and restart any command shell windows to ensure that the environment changes made during installation are in effect.

Install the Cilk++ examples by double-clicking on `INSTALLDIR\cillexamples.msi`. This allows you to select a path for the example files and projects based on your development environment preferences.

Select `EXDIR` when prompted.

**Files installed**

Most of the files will be installed in `/INSTALLDIR/*`.

Additional files will be installed in the Visual Studio directories to provide Cilk++ integration with Visual Studio.

The Cilk++ examples will be installed in `/EXDIR/*`.

**Uninstalling on Microsoft Windows Systems**

You can uninstall both the Intel Cilk++ SDK and the Intel Cilk++ SDK Examples using the Windows Control Panel.

- **Windows XP:** Add or Remove Programs in the Windows Control Panel.
- **Windows Vista:** Use either Programs | Uninstall a program or Programs -> Programs and Features in the Control Panel.

Modified files will not be removed when you uninstall. You may want to delete the Intel Cilk++ SDK Examples installation directory to remove any files that were modified or created when building the examples.

**Installing on Linux* Systems**

**Installation options**

The Intel Cilk++ SDK for Linux* OS is distributed in two packages—one for IA-32 architecture (32-bit) and one for Intel 64 architecture (564-bit) systems. Each package can produce either 32-bit or 64-bit executables. We recommend that you select the package to match your Linux* installation. Note that the 64-bit package can only be installed on Intel 64 systems.

The Intel Cilk++ SDK for Linux* OS is distributed as a compressed tar file package. The file name contains the build number and target architecture. For example:

- `cilk_7007-x86_64.release.tar.gz` contains build 7007 for the 64-bit Intel 64 architecture.
- `cilk_7007-i686.release.tar.gz` contains build 7007 for the 32-bit IA-32 architecture.

In this section, we will use the following names:

- `cilk_XXX.tar.gz` — the selected package
SRCDIR — the directory that holds the package prior to installation
INSTALLDIR — the directory that contains the files after installation (by default, /usr/local)

**Installation steps**
To install into a shared, system-wide location, enable root privileges
   su (optional)
Select a package (32 or 64-bit) and download or copy the appropriate cilk_XXX.tar.gz package to a convenient location (SRCDIR)
   cp cilk_XXX.tar.gz SRCDIR
Change your working directory to the installation directory
   cd INSTALLDIR
Install the Intel Cilk++ SDK
   tar -xzf SRCDIR/cilk_XXX.tar.gz
Set the PATH environment variable
   PATH=INSTALLDIR/cilk/bin:$PATH

**Files installed**
The programming tools and libraries will be installed in /INSTALLDIR/cilk/bin. The tools include the cilk++ compiler as well as new versions of the gcc tools: c++, cpp, g++, gcc, and gdb.
The samples will be installed in /INSTALLDIR/cilk/examples.

**Installing on Linux* systems**
To uninstall the Intel Cilk++ SDK on Linux systems, simply remove the installation directory from your system.

5  **Issues and Limitations**
To obtain more detailed information, please visit the Whatif forum at www.intel.com/whatif.

- This version of the Intel Cilk++ SDK does not support 64-bit Windows* applications.

6  **Attributions**
This section provides the following attributions (legal information) used in the Intel Cilk++ SDK.

- This work has been supported in part by DARPA contract W31P4Q-08-C-015.
- This work has been supported in part by the NSF under grant IIP-0712243.
- Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Government.
• The GCC* components are distributed under the GNU General Public License (GPL); the GPL may be viewed at: http://www.gnu.org/copyleft/gpl.html. Source code for the gcc-based Cilk++ compiler is available at: http://sourceforge.net/projects/cilk/.

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