

Intel® Cilk++ SDK

Release Notes

Installation Guide and Release Notes
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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/> 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

For an explanation of architecture names, see <http://software.intel.com/en-us/articles/intel-architecture-platform-terminology/>

- 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\cilkeexamples.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 (64-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/>.
- Yasm is Copyright (c) 2001-2008 Peter Johnson and other Yasm developers.

Yasm developers and/or contributors include:

- Peter Johnson
- Michael Urman
- Brian Gladman
- Stanislav Karchebny
- Mathieu Monnier
- Anonymous "NASM64" developer
- Stephen Polkowski
- Henryk Richter
- Ben Skeggs

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