



# Intel® Cluster Studio XE 2012 Release Notes

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Revision: 20111108

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## Overview

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Intel® Cluster Studio XE 2012 for Linux\* OS and Microsoft\* Windows\* Compute Cluster Server OS\* (Microsoft Windows CCS\*) accelerate parallel software development on homogenous cluster systems based on IA-32, or Intel® 64 architectures. Intel® Cluster Studio XE 2012 provides a software tools environment for doing **hybrid parallel programming** (message passing and threading). The Microsoft Windows CCS\* operating system only supports Intel® 64 architecture. In terms of the Intel® Cluster Studio XE software for Windows\* OS, consider references within this document to Microsoft Windows CCS OS, and Microsoft\* Windows\* HPC Server 2008 OS, and Microsoft\* Windows\* HPC Server 2008 R2 OS as interchangeable. The Microsoft Windows CCS, Microsoft\* Windows\* HPC Server 2008, and Microsoft Windows HPC Server 2008 R2 operating systems only support Intel® 64 architecture.

Intel Cluster Studio XE 2012 supports hybrid-parallel-programming application development using Intel® MPI Library with optimized parallel libraries, performance

analysis, and benchmarks. Intel Cluster Studio XE 2012 saves software developers time and improves execution performance on distributed computing systems.

Intel Cluster Studio XE 2012 for Linux OS and Microsoft Windows CCS OS supports crucial parts of the message-passing interface (MPI) application development process including:

- Function level instrumentation through the Intel compilers (`-tcollect` command-line option on Linux OS and `/Qtcollect` command-line option on Microsoft Windows OS)
- Parallel Debugging with Intel® Debugger 12.1 on Linux OS. Parallel debugging with Intel® Debugger on Windows OS has been discontinued beginning with the 3.2 release of Intel® Cluster Toolkit and Intel® Cluster Toolkit Compiler Edition. This has been carried forward into Intel® Cluster Studio XE.
- Intel MPI Library 4.0 Update 3 which is approaching conformity with the Message Passing Interface 2 Standard (MPI-2), enables multiple interconnect solutions with a single implementation. Intel seeks to be a software leader in MPI and open standards.
- The Intel® Trace Analyzer and Collector 8.0 Update 3 (ITAC)
  - Intel® Trace Collector 8.0 Update 3 (ITC) provides event-based tracing in cluster applications through an instrumentation library that causes low-overhead in execution. The trace information provides performance data, statistics, multi-threaded events, and automatic instrumentation of user binaries on IA-32 architectures.
  - The Intel® Trace Analyzer 8.0 Update 3 (ITA) provides visual analysis of application activities gathered by the Intel Trace Collector. This software component has been completely rewritten.
  - A message checking component of the Intel Trace Collector provides a novel MPI correctness technology which detects errors with data types, buffers, communicators, point-to-point messages and collective operations, deadlocks, and data corruption.
- Application tuning with optimized mathematical library functions from Intel® Math Kernel Library 10.3 Update 6 (Intel® MKL 10.3 Update 6) that includes ScaLAPACK\* solvers and Cluster DFTs (Discrete Fourier Transforms).
- Intel® MPI Benchmarks 3.2.3 make it easy to gather performance information about a cluster system.

When a system administrator or a user completes the Intel Cluster Studio XE 2012 installation process, there will be a file called `Doc_Index.htm` in the `doc` folder on the master node of the cluster. This file can be used as a documentation map to navigate to various information resources pertaining to the Intel Cluster Studio XE. Additional information about the exact location of `Doc_Index.htm`, and its content are further described in the [Installation Notes](#) section of this release notes document.

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## Product Contents

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Below is a table of product components, including documentation file names for those components.

Tool	Version	Manual	Revision
Intel® C++ Compiler XE	12.1	documentation_c.htm	12.1 for Linux* OS or 12.1 for Microsoft* Windows* OS
Intel® Debugger (Linux* OS only)	12.1	Doc_Index.htm	12.1 for Linux* OS only
Intel® Fortran Compiler XE	12.1	documentation_f.htm	12.1 for Linux* OS or 12.1 for Microsoft* Windows* OS
Intel® Integrated Performance Primitives	7.0 Update 5	ipp_documentation.htm	7.0 Update 5
Intel® MPI Library	4.0 Update 3	Doc_Index.html for Linux* OS Doc_Index.htm for Microsoft* Windows* CCS* OS	4.0 Update 3
Intel® Trace Analyzer and Collector	8.0 Update 3	ITA_Reference_Guide.pdf ITC_Reference_Guide.pdf	8.0 Update 3
Intel® Math Kernel Library	10.3 Update 6	mkl_documentation.htm	10.3 Update 6
Intel® MPI Benchmarks	3.2.3	IMB_Users_Guide.pdf	3.2.3
Intel® Inspector XE 2011	2011 Update 6	documentation_inspector_xe.htm	2011 Update 6
Intel® Parallel Advisor (Windows* only)	2011 Update 3	documentation_advisor.htm	2011 Update 3
Intel® Threading Building Blocks	4.0	tbb_documentation.htm	4.0
Intel® VTune™ Amplifier XE 2011	2011 Update 5	documentation_amplifier.htm	2011 Update 5

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## New Features

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### Intel® Cluster Studio XE 2012

- With one installation session, the Intel Cluster Tools installer on Linux\* OS or Windows\* OS will install:
  - o Intel® C++ Compiler XE 12.1
  - o Intel® Debugger 12.1 (For Linux\* OS only). **Note that this tool does not presently work with Intel® MPI Library 4.0.3 on Linux\* OS.**
  - o Intel® Fortran Compiler XE 12.1
  - o Intel® Inspector XE 2011 Update 6
  - o Intel® Integrated Performance Primitives 7.0 Update 5
  - o Intel® MKL 10.3 Update 6
  - o Intel® MPI Benchmarks 3.2.3
  - o Intel® MPI Library 4.0 Update 3
  - o Intel® Parallel Advisor Update 3 **(For Windows\* OS and installed only on the master node. The Intel® Parallel Advisor tool is designed strictly for a C/C++ threaded-only programming application, and is not intended for an MPI or hybrid parallel programming application. Parallel Advisor needs a pre-installation of Microsoft Visual Studio 2005, 2008, or 2010 Standard Edition (or a higher edition) with the C++ compiler component installed)**
  - o Intel® Threading Building Blocks 4.0
  - o Intel® Trace Analyzer and Collector 8.0 Update 3
  - o Intel® VTune™ Amplifier XE 2011 Update 5
  - o Visual Studio\* Shell for Intel® Visual Fortran **(For Windows\* OS and installed only on the master node)**. Intel® Cluster Studio XE 2012 for Windows\* OS, provides Visual Studio 2010 Shell. As a prerequisite, if you will be installing the included Microsoft Visual Studio 2010 Shell, additional Microsoft software may be required to be installed prior to beginning the installation of Intel® Cluster Studio XE 2012. **Microsoft .NET 4.0 Framework is required for Microsoft Visual Studio 2010 Shell. If you do not already have this installed, you can download the installer:**

[.NET 4.0 Framework 32-bit and 64-bit](#)

- Chapter 4 of the [Getting Started Guide](#) discusses Integrated Development Environments (IDEs) for Intel® Cluster Studio XE
- Chapter 13 of the [Getting Started Guide](#) provides simple steps for using Intel® VTune™ Amplifier XE
- Chapter 14 of the [Getting Started Guide](#) provides simple steps for using Intel® Inspector XE
- Chapter 15 of the [Getting Started Guide](#) provides simple steps for using Intel® Parallel Advisor (Windows\* OS only) for a C/C++ application that is a candidate for threading. **The Intel® Parallel Advisor tool is designed strictly for a C/C++ threaded-only programming application, and is not intended for an MPI or hybrid parallel programming application**

### Intel® MPI Library 4.0 Update 3 for Linux\* OS

The Intel® MPI Library 4.0 Update 3 for Linux\* OS includes the following new features compared to the Intel® MPI Library 4.0 Update 2 (see product documentation for more details):

- Performance and scalability improvements
  - o New scalable process manager mpiexec.hydra used by default in the mpirun utility

- o Shared memory optimizations for platforms with Intel® Streaming SIMD Extensions 4.2 (Intel® SSE4.2) and Intel® AES New Instructions (Intel® AES-NI). This functionality is available for both Intel® and non-Intel microprocessors, but it may perform additional optimizations for Intel microprocessors than it performs for non-Intel microprocessors
- o Dynamic connection mode for shared memory
- o Scalable hybrid UD/RDMA mode for the DAPL fabric
- o Accelerated RDMA memory registration cache
- o Dynamic queue pair (QP) creation and extensible reliable connection (XRC) mode support for the OFA fabric
- o RDMA over converged Ethernet (RoCE) support through the DAPL fabric
- o TCP scalability improvements
- o Substantially accelerated and enhanced MPI tuning utility
- Usability improvements
  - o Additional integrated performance monitoring (IPM) statistics summary format
  - o Extended debugging output control
  - o Enhanced processor information utility (cpuinfo)
  - o Bug fixes
- Extended interoperability
  - o Intel® Composer XE 2011 Update 6 support
  - o Tight integration with PBS Pro\*, LSF\*, and SLURM\* job management systems through the mpiexec.hydra process manager

#### **Intel® MPI Library 4.0 Update 3 for Windows\* OS**

The Intel® MPI Library 4.0 Update 3 for Windows\* OS includes the following new features compared to the Intel® MPI Library 4.0 Update 2 (see product documentation for more details):

- Performance and scalability improvements
  - o Shared memory optimizations for platforms with Intel® Streaming SIMD Extensions 4.2 (Intel® SSE4.2) and Intel® AES New Instructions (Intel® AES-NI). This functionality is available for both Intel® and non-Intel microprocessors, but it may perform additional optimizations for Intel microprocessors than it performs for non-Intel microprocessors
  - o Dynamic connection mode for shared memory
  - o Accelerated RDMA memory registration cache
  - o Substantially accelerated and enhanced MPI tuning utility
- Usability improvements
  - o Additional integrated performance monitoring (IPM) summary format
  - o Extended debugging output control
  - o Enhanced processor information utility (cpuinfo)
  - o Bug fixes
- Extended interoperability
  - o Intel® Composer XE 2011 Update 6 support

#### **Intel® Math Kernel Library (MKL) 10.3 Update 6**

**New in Intel® MKL 10.3 Update 6 for Linux\* OS and for Windows\* OS**

- Sparse BLAS: Added a new option to the mkl\_?csrbsr converter function allowing detection and removal of zero elements when converting from the BSR format to the CSR format
- Changed DLL loading behavior on Windows\*: Intel MKL DLLs can no longer be in separate directories on the PATH, but must all be in the same directory, with the executable or in another directory found specified in the PATH environment variable

- [Bug fixes](#)

### **Intel® Trace Analyzer and Collector 8.0 Update 3**

#### **New in Intel® Trace Analyzer and Collector 8.0 Update 3**

- Usability improvements
  - o File descriptor virtualization
  - o Secure DLL loading
  - o Experimental scalable trace file format
  - o Advanced aggregation
  - o Seek and jump function
  - o Scales up to 4K processes
- Extended interoperability
  - o Intel® Composer XE 2011 Update 6 support

### **Intel® MPI Benchmarks 3.2.3**

#### **New in Intel® MPI Benchmarks 3.2.3**

- Added command-line option "-msglog" to control the maximum allocated message length
- Microsoft\* Visual Studio\* 10 project folder support
- These new Intel® MPI Benchmark features are documented in the [Intel® MPI Benchmarks User Guide](#).

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## Resolved Issues

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Bug Number	Title of Bug Report
DPD200164528	Add ICR as supported platform to Release Notes
DPD200167019	Remove references to CLOMP in Cluster Studio documentation
DPD200196398	[INS] Temporary files clean error on second node after installation with user rights from CD
DPD200198045	[INS] - Request for Modification of "ictvars.csh" Script File to Reference C-shell Support Scripts
DPD200204317	[INS] Modify option of ICS 2012 XE installer doest work properly: when I select MPI to be removed it removes the component but leaves Start menu links for it
DPD200204422	[INS] Invalid permissions for support.txt file
DPD200204701	[OTH] Insecure permissions for sshconnectivity
DPD200204722	[INS] rollback for ICS XE 2012 leaves ITAC MPI and Composer XE 2011 uninstalled, while ARP doesnt contain ICS 2012 entry
DPD200204733	[INS] ICS XE 2012 uninstall leaves empty doc folder
DPD200204864	[INS] ICS XE 2012 can't be installed on compute nodes when install path is localized

DPD200204866	[INS] ICS XE 2012 installation creates broken link on a sub-component that was not selected for an installation
DPD200215394	[DOC] Discrepancy in support matrix for ICS 2012 and ICS XE 2012 release notes
DPD200215395	[DOC] Invalid TBB version in release notes
DPD200215396	[DOC] Invalid IPP version in release notes
DPD200215488	[DOC] Invalid minimal version of supported Intel Compiler in release notes
DPD200215553	[DOC] Outdated Ubuntu installation section in FAQ
DPD200229114	[DOC] Invalid compiler version in Release Notes
DPD200229116	[DOC] Invalid compiler installation directory in Linux Installation Guide
DPD200230502	[DOC] Invalid supported compilers list in Linux getting Started guide
DPD200229466-	[DOC] Invalid command line for Amplifier XE usage in Getting Started guide
DPD200229591	[DOC] Document discrepancy between icvars.sh and icvarsh.csh
DPD200231094	[DOC] Update Advisor and Amplifier documentation related rows in the table in Doc_Index.htm
DPD200230253	[DOC] Invalid MPI version in HelpMe_FAQ
DPD200230252	[DOC] Invalid section numbers in ICS 2012 Getting Started Guide for Linux
DPD200231025	[LGL] Incorrect Advisor product name in Linux_Getting_Started.htm
DPD200231030	[LGL] Incorrect use of Advisor product name in WinCCS_Getting_Started.htm
DPD200231052	[LGL] Incorrect use of Advisor product name in Readme.txt
DPD200231061	[DOC] Incorrect location of Release_Notes.htm mentioned in Readme.txt
DPD200231068	[DOC] Update Advisor product name and default installation directory in ICSXE_WinCCS_Install.htm

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## System Requirements

### Processor System Requirements

Intel® Pentium® 4 processor, or

Intel® Xeon® processor, or  
 Intel® Core™2 Duo processor (example of Intel® 64 architecture)

**NOTE:** It is assumed that the processors listed above are configured into homogeneous clusters.

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### Disk-Space Requirements

100 GBs of disk space (minimum)

**NOTE:** During the installation process, the installer may need up to 4 gigabytes of temporary disk storage to manage the intermediate installation files.

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### Operating System Requirements

OS Distributions	IA-32 Architecture	Intel® 64 Architecture	
		32-Bit Applications	64-Bit Applications
Intel® Cluster Ready <sup>1</sup>	N/A	N/A	S
Red Hat Enterprise Linux* 5.0	S	S	S
Red Hat Enterprise Linux* 6.0	S	S	S
SUSE Linux Enterprise Server* 10	S	S	S
SUSE Linux Enterprise Server* 11	S	S	S
Microsoft* Windows* HPC Server 2008	N/A	S	S
Microsoft* Windows* HPC Server 2008 R2	N/A	S	S

S = Supported

<sup>1</sup> Intel® Cluster Ready\* is an applications platform architecture standard for Linux\* clusters. Please convey to your users the Linux\* platform needed for your MPI application with:

This application has been verified to run correctly on Linux\* clusters which are conforming to the Intel® Cluster Ready platform architecture. Each Intel® Cluster Ready system is shipped and tested with a diagnostic tool: Intel® Cluster Checker. Intel® Cluster Checker is used to validate operability and compliance, as well as overall system health. On an Intel® Cluster Ready system, start with these commands to easily find out about diagnostic logs:

```
$ . /opt/intel/click/<version>/clickvars.sh
$ cluster-check --report
```

For more information on Intel® Cluster Ready, and on the alliance of partner vendors, please visit <http://www.intel.com/go/cluster>.

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### Memory Requirements

2 GB of RAM (minimum)

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### Intel® Professional Edition C++ Compiler and Intel® Fortran Compilers

For all of the Intel® architectures, the version number on the Intel compilers should be 11.1 or greater.

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### Adobe Reader

There are certain documents within Intel® Cluster Studio XE that require Adobe Reader for viewing. Below is a URL for downloading Adobe Reader onto your system.

<http://get.adobe.com/reader/>

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### Installation Notes

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Links are provided to documentation for doing installs on either Linux\* OS or Microsoft\* Windows CCS OS.

Intel® Cluster Studio XE 2012 for Windows OS, provides Visual Studio 2010 Shell. As a prerequisite, if you will be installing the included Microsoft Visual Studio 2010 Shell, additional Microsoft software may be required to be installed prior to beginning the installation of Intel® Cluster Studio XE 2012. **Microsoft .NET 4.0 Framework is required for Microsoft Visual Studio 2010 Shell. If you do not already have this installed, you can download the installer:**

[.NET 4.0 Framework 32-bit and 64-bit](#)

For Intel® Cluster Studio XE 2012 on Linux\* OS, the behavior of `ictvars.sh` and `ictvars.csh` is different. On Linux\* OS, `ictvars.csh` is unable to initialize

environment variables for Intel® Inspector XE and Intel® VTune™ Amplifier XE. This defect will be resolved in a future release of Intel® Cluster Studio XE. **In the meantime, if you wish to use Intel® Inspector XE and Intel® VTune™ Amplifier XE, source `ictvars.sh`.** For Bourne\* Shell on Linux\* OS, once the Intel® Cluster Studio XE environment variables referenced within the "`ictvars.sh`" file have been sourced via a `.bashrc` file, users for a given Bourne\* Shell login session can simply type:

```
. ictvars.sh ia32
```

for creating IA-32 executables. Alternatively, to restore the default Intel® Cluster Studio XE environment variable settings so as to build executables with Intel® 64 address extensions, type:

```
. ictvars.sh
```

within the Bourne\* Shell login session.

**NOTE:** The full path to `ictvars.sh` can be omitted once it has been sourced in the `.bashrc` file.

Chapter 6 of the [Installation Guide](#), which is titled "User Checklist for Linux\* OS", provides details on setting up `ictvars.sh` within Bourne\* Shell.

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## Installation and Uninstalling on Linux\* OS

To begin installation on Linux\* OS, follow the instructions provided in the [Intel® Cluster Studio XE for Linux\\* OS Installation Guide](#).

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## Installation and Uninstalling on Microsoft Windows CCS\* OS

To begin installation on Microsoft Windows CCS\* OS, follow the instructions provided in the [Intel® Cluster Studio XE for Microsoft\\* Windows\\* Compute Cluster Server OS Installation Guide](#).

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## Documentation

The documentation index file provides hyperlinks to the [Intel® Cluster Studio XE](#).

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## Known Limitations

1. There have been situations where during the installation process, `/tmp` has filled up. We recommend that you have **at least four gigabytes of free space** in `/tmp` when doing an install of the Intel® Cluster Studio XE. Also, the installer script `install.sh` has the command-line options:

```
-t [FOLDER]
```

or

```
--tmp-dir [FOLDER]
```

where *[FOLDER]* is a directory path, which can direct the use of intermediate storage to another disk partition referenced by *[FOLDER]*. *[FOLDER]* should be a non-shared storage location on each node of the cluster. Note that *[FOLDER]* should also contain **at least four gigabytes of free space**.

2. On Linux\* OS, if any software component of the Intel® Cluster Studio XE is detected as having already been pre-installed on the head node, that software component will not be processed by the cluster studio installer. There is a similar problem on Windows\* OS in the 'Modify' mode of the cluster studio installer. For Windows\* OS, if some software component of the Intel® Cluster Studio XE is pre-installed on the head node using the cluster studio installer, that software component will not be installed on the compute nodes of the cluster. For either Linux\* OS or Windows\* OS, if you already installed some of the software components on only the head node, and you want to install them on the other nodes using the cluster studio installer, you need to uninstall such components from the head node manually before starting the cluster studio installer.
3. For Linux\* OS versions of the Intel® Cluster Studio XE, the Java\* Runtime Environment is used by the Intel® Debugger graphical environment which is a Java\* application. On Linux\* OS, if during installation, the installer displays the following message with respect to the Java\* Runtime Environment (JRE):

```
Step no: 4 of 6 | Installation configuration > Missing Optional Pre-requisite
```

```
-----  
-----  
There is one or more optional unresolved issues. It is highly recommended to fix it all before you continue the installation. You can fix it without exiting from the installation and re-check. Or you can quit from the installation, fix it and run the installation again.  
-----  
-----
```

```
Missing optional pre-requisite  
-- No compatible Java* Runtime Environment (JRE) found  
-----  
-----
```

1. Skip missing optional pre-requisites [default]
2. Show the detailed info about issue(s)
3. Re-check the pre-requisites

```
h. Help  
b. Back to the previous menu  
q. Quit  
-----  
-----
```

Please type a selection or press "Enter" to accept default choice [1]:

You can resolve this issue by entering the value 2 after the prompt message for the installation state shown above. This will generate the following diagnostic information:

```
Step no: 4 of 6 | Installation configuration > Missing Optional Pre-
requisite
```

```
-----
-----
This system does not appear to have a Java* JRE version 5.0 (also
referred to as
1.5.0) installed. This may prevent operation of the Intel(R)
Debugger GUI. For
further details, please refer to the System Requirement section of
the product
Release Notes.
```

```
-----
-----
1. Finish with prerequisites and continue installation [default]
2. Back to Pre-requisite summary dialog
```

```
h. Help
b. Back to the previous menu
q. Quit
```

```
-----
-----
Please type a selection or press "Enter" to accept default choice
[1]:
```

The generated instructions will indicate that a version of the Java\* Runtime Environment is missing from your system. For the prompt message above, enter the character "q" to quit the installation process. Make sure that the Java\* Runtime Environment package is installed on your system. The directory path for where the Java\* Runtime Environment may reside might be:

/usr/java

If you cannot find the Java\* Runtime Environment library installation on your system, then visit the URL:

<http://www.java.com/en/download/>

to download the appropriate version of the Java\* Runtime Environment. After doing the download, install the Java\* Runtime Environment on your system. You may need a system administrator to help you with the installation. The Java\* Runtime Environment is used by the Intel® Debugger graphical environment which is a Java\* application.

If you have located an existing and compatible Java\* Runtime Environment library on your system, or you have proceeded to visit the URL above and

completed a download and installation, set your `PATH` environment variable to include the directory path to the Java\* Runtime Environment library. The Bourne\* and Korn\* Shell syntax for setting the `PATH` environment variable might be something like the following:

```
export PATH=/usr/java/jre1.5.0_22/bin:$PATH
```

For C Shell, the syntax for setting the `PATH` environment variable might be something like:

```
setenv PATH /usr/java/jre1.5.0_22/bin:$PATH
```

After setting the `PATH` environment variable, repeat the installation process. The message regarding the missing Java\* Runtime Environment library will disappear.

4. If you encounter a symbolic links creation error on Linux\* OS when doing the install for and upgrade from Intel® Cluster Studio to Intel® Cluster Studio XE where the symptoms are the following:
  - a. No symbolic links are created in `/opt/intel/icsxe/<version>/`
  - b. Lots of error messages in case of the distributed install which might look like the following:

```
ln: creating symbolic link `~/root/ict/ics/2012.0.028/mpi' to
~/root/ict/impi/4.0.3.008': No such file or directory
ln: creating symbolic link `~/root/ict/ics/2012.0.028/impi' to
~/root/ict/impi/4.0.3.008': No such file or directory
ln: creating symbolic link `~/root/ict/ics/2012.0.028/mpi' to
~/root/ict/impi/4.0.3.008': No such file or directory
ln: creating symbolic link `~/root/ict/ics/2012.0.028/impi' to
~/root/ict/impi/4.0.3.008': No such file or directory
```

The workaround is to put the Intel® Cluster Studio XE license into either `/opt/intel/licenses` or `${HOME}/intel/licenses` before starting the installation that is described in the Linux\* OS installation guide.

5. If you use the C/C++ memory leak programming example described in Chapter 14 of the Intel® Cluster Studio XE 2012 [Getting Started Guide](#) and issue the Intel® MPI Library/Intel® Inspector XE command-line:

```
mpirun -n 4 inspxe-cl -r inspectorxe_results -collect mi1 --
./a.out
```

and you encounter a message of the following type:

```
Inspector reports 0 issues for all processes
```

Then try running inspector with the `mi2` collector as follows:

```
mpirun -n 4 inspxe-cl -r inspectorxe_results -collect mi2 --
./a.out
```

mi1 is the Intel® Inspector XE collector that detects memory leaks. mi2 is the Intel® Inspector XE collector that detects memory problems.

6. If you use the Intel® MPI Library command `mpirun` with the Intel® Inspector XE instrumentation tool such as follows:

```
mpirun -f ./mpd.hosts -nolocal -ppn 1 -n 4 inspxe-cl -c ti2 -r
r003_{mpirank} `pwd`/inspxe_mpirank.exe inspxe-cl -c mi2 -r r000_{mpirank}
`pwd`/inspxe_mpirank.exe
```

where the above command-line is collecting two types of instrumentation data (namely `ti2` and `mi2`), and you encounter a runtime error that looks something like the following:

```
... HYDU_create_process (./utils/launch/launch.c:94): execvp error on
file r000_{mpirank} (No such file or directory)
... HYDU_create_process (./utils/launch/launch.c:94): execvp error on
file r000_{mpirank} (No such file or directory)
... HYDU_create_process (./utils/launch/launch.c:94): execvp error on
file r000_{mpirank} (No such file or directory)
... HYDU_create_process (./utils/launch/launch.c:94): execvp error on
file r000_{mpirank} (No such file or directory)
```

then either use the `mpiexec` command in lieu of the `mpirun` command:

```
mpiexec -nolocal -ppn 1 -n 4 inspxe-cl -c ti2 -r
/shared/cluster_common/inspector_test/cluster/r003_{mpirank}
`pwd`/inspxe_mpirank.exe inspxe-cl -c mi2 -r r000_{mpirank}
inspxe_mpirank.exe
```

where `/shared/cluster_common/inspector_test/cluster/r003_{mpirank}` is a shared path for collecting `ti2` instrumentation data.

Or create a Bourne\* Shell or C Shell script that contains instrumentation information that looks something like:

```
inspxe-cl -c ti2 -r
/shared/cluster_common/inspector_test/cluster/r003_{mpirank}
`pwd`/inspxe_mpirank.exe inspxe-cl -c mi2 -r r000_{mpirank}
inspxe_mpirank.exe
```

Using Bourne\* Shell syntax, the script might be called `run.sh`, where it is used with the `mpirun` command in the following manner:

```
mpirun -ppn 1 -n 4 ./run.sh
```

Also, remove the `-nolocal` command-line option, because the `-f <hosts_file>` option was not specified, and therefore all processes are started locally.

7. Intel® Cluster Studio XE 2012 for Windows\* OS requires **the creation and use of symbolic links for installation of the Intel software product components**. If you have a File Allocation Table (FAT32) file system deployed on your Windows\* OS platform, then these symbolic links cannot be created and

the integrity of the Intel® Cluster Studio XE 2012 installation will be compromised.

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## Technical Support

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Your feedback is very important to us. To receive technical support for the tools provided in this product and technical information including FAQ's and product updates, you need to register for an Intel Premier Support account at the [Registration Center](#).

**NOTE:** Registering for support varies for release product or pre-release products (alpha, beta, etc) - only released software products have support web pages at <http://software.intel.com/sites/support/>.

To register for an account, please visit the Intel® Registration Center web site at <http://www.intel.com/software/products/registrationcenter/index.htm>. If you have forgotten your password, please email a request to: [quadsupport@mailbox.intel.com](mailto:quadsupport@mailbox.intel.com). Please do not email your technical issue to this email address.

The product support web site, <http://software.intel.com/en-us/articles/intel-cluster-toolkit-support-resources/>, provides top technical issues, [FAQs & Known Issues](#), [Documentation and Training](#), and product errata.

## Submitting Issues

To submit an issue via the Intel Premier Support website, please perform the following steps:

1. Ensure that Java\* and JavaScript\* are enabled in your browser.
2. Go to <https://premier.intel.com/>.
3. Type in your Login and Password. Both are case-sensitive.
4. Click the "Submit Issues" button in the left margin.
5. Read the Confidentiality Statement and click the "I Accept" button.
6. Click on the "Go" button next to the "Product" drop-down list.
7. Click on the "Submit Issue" link in the left navigation bar.
8. Choose "Development Environment (tools, SDV, EAP)" from the "Product Type" drop-down list.
9. If this is a software or license-related issue choose "Intel(R) Cluster Studio XE" from the "Product Name" drop-down list.
10. Enter your question and complete the fields in the web-page windows that follow to successfully submit the issue.

Follow these guidelines when forming your problem report or product suggestion:

1. Describe your difficulty or suggestion. For problem reports, please be as specific as possible (for example, including compiler and link command line options), so that we may reproduce the problem. Please include a small test case if possible.
2. Describe your system configuration information. Be sure to include specific information that may be applicable to your setup: operating system, name and version number of installed applications, and anything else that may be relevant to helping us address your concern.

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