



Intel® Cluster Toolkit Compiler
Edition 3.2.2 for Windows* and Linux*
In-Depth

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Intel® Cluster Toolkit Compiler Edition 3.2.2 for Windows* and Linux*

Intel® Cluster Toolkit Compiler Edition 3.2.2 for Windows* and Linux* provides an extensive software package containing Intel® C++ and Intel® Fortran Compilers for all Intel® architectures, PLUS all the Intel® Cluster Tools that help you develop, analyze, and optimize performance of parallel applications on Linux or Windows*. By combining all the compilers and tools into one license package, Intel can provide single installation, interoperability, and support for the best-in-class tools at an incredibly low package price.

Features

Bundling Compilers and Cluster Tools for Intel® IA-32, IA-64, and Intel® 64 architectures, the Intel Cluster Toolkit Compiler Edition 3.2.2 provides Windows or Linux versions of the Intel Compilers for C++ and Fortran in addition to the Intel Cluster Tools for a software package unrivaled by any other offerings.

The Intel Cluster Toolkit Compiler Edition 3.2.2 license provides access and support for the following programs on either Windows or Linux:

- Intel® C++ Compiler 11.1 Update 3
- Intel® Fortran Compiler 11.1 Update 3
- Intel® MPI Library 3.2 Update 2
- Intel® Trace Analyzer and Collector 7.2 Update 2
- Intel® Math Kernel Library 10.2 Update 2
- Intel® MPI Benchmarks 3.2
- Intel® Debugger 11.1 Update 3 (except with Intel® MPI Library for Windows applications)

The latest releases of all the Cluster Tools have increased performance and ease-of use while improving interoperability, scalability, and the number of user options.

Intel Cluster Toolkit Compiler Edition 3.2.2 integrates your compiler of choice with the Cluster Tools, provides easy installation, and comes with extensive documentation. With a valid product serial number for the Intel Cluster Toolkit Compiler Edition, you can register and/or log on to the Intel® Software Development Products Registration Center at <https://registrationcenter.intel.com/> and download the package and updates for one year from the date of purchase. Extended support agreements are also available. See the left-side toolbar for additional support resources including community forums, compatibility, and solutions.

New in This Release

All the software tools included with Intel Cluster Toolkit Compiler Edition have undergone a major revision to give you the best parallel performance analysis tools for cluster software development.

The following list contains just a few of the many new features included in this latest version.

Intel MPI Library 3.2 Update 2

- Improved performance for MPI applications
 - Intel® MPI Library 3.2 Update 2 is faster than ever
 - Increased number of supported communicators (Linux and Windows*)
 - Linux only: Up to 1.5 times out-of-the-box performance improvement for mpirun and mpdboot
 - Up to 3 times faster startup
 - Up to ten times performance improvement in file I/O through tight parallel file system integration
- Improved usability
- Extended interoperability
- Bundled with powerful C++ and Fortran Compiler 11.1 Update 3 (Intel® Cluster Toolkit Compiler Edition 3.2.2 only)
- Linux* Standard Base (LSB) compliant RPMs
- Application support in a wider range of Intel® Cluster Ready environments

Intel Trace Analyzer and Collector 7.2 Update 2

The Intel® Trace Analyzer and Collector provides:

- Refreshed look-and-feel through internal improvements, support for:
 - Intel® Compiler Pro 11.1 Update 3
 - Intel® Cluster Toolkit Compiler Edition 3.2.2 Windows* and Linux*
 - Intel® Math Kernel Library 10.2 Update 2

Intel® Math Kernel Library 10.2

Intel Math Kernel Library (Intel MKL) version 10.2 Update 2 is a minor release and offers:

- Performance improvements
 - Many improvements in BLAS functions for Intel® Core™ i7 processors, and Intel® Xeon® processor 5300, 5400, and 5500 series

- Improved scalability of the following LAPACK functions: ?POTRF, ?GEBRD, ?SYTRD, ?HETRD, and ?STEDC divide and conquer eigensolvers
- PARDISO OOC performance has improved significantly for symmetric positive definite matrices
- Improved performance for the double precision Sobol generator for dimensions ≥ 16
- Improvements in many VML functions for Intel® Xeon® processor 5500 series and others: v(s,d)Pow, v(s,d)Ceil/Trunc/Floor, vsSin/Cos/SinCos, and vdSin/Cos/SinCos
- Improved scalability of 1D, single precision, complex FFTs and improved performance for small 3D transforms
- Usability/Interface improvements
 - Support for 64-bit integer parameters in FFTW wrappers
 - Intel MKL is now compatible with the representation of logical values in GCC 4.4.0
 - All transpose functions now have a Fortran interface

Intel MPI Benchmarks 3.2

- Extended support for:
 - Microsoft Windows HPC Server 2008*
 - Microsoft Visual Studio 2008*

See the latest MPI benchmarks at: <http://www.intel.com/software/imb>

New Compiler 11.1 Update 3 Features

Additional information on the new features of each of the Intel Compilers can be found at the following link: <http://www.intel.com/cd/software/products/asm-na/eng/compilers/284132.htm>

Technical Support

With the purchase of Intel® Software Development Products, you will receive one year of technical support and product updates from Intel® Premier Support, our interactive issue management and communication Website. This premium support service allows you to submit questions, download product updates, and access technical notes, application notes, and other documentation. For more information, visit the Intel® Software Development Products Registration Center at <https://registrationcenter.intel.com/RegCenter/Register.aspx>.

