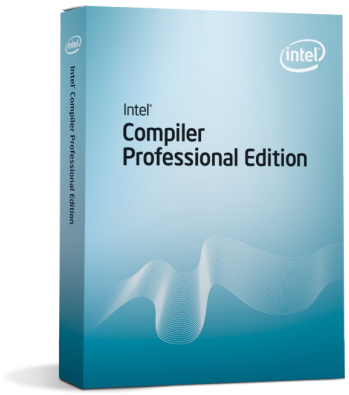
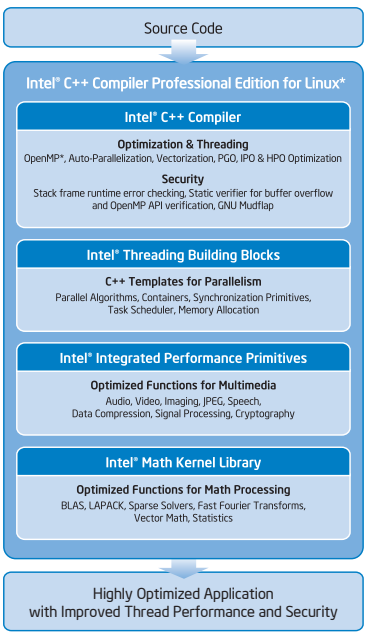
Intel® C++ Compiler 11.0 Professional Edition
for Linux*

Product Brief

Intel® C++ Compiler 11.0 Professional Edition
for Linux*





Get High Performance with Intel® C++ Compiler Professional Edition

The Intel® C++ Compiler Professional Edition delivers rapid development and winning performance for the full range of Intel® processor-based platforms. The Professional Edition not only comes with the compiler's breadth of advanced optimization, multi-threading, and processor support, including automatic processor dispatch, vectorization, and loop unrolling, it also has highly optimized C++ templates for parallelism, math processing, and multimedia libraries.

Professional Edition Components

The Intel® Professional Edition creates a strong foundation for building robust, high performance parallel code at significant price savings. It combines the Intel® C++ compiler with the following:

Intel® Threading Building Blocks (Intel® TBB)

This award winning C++ template library abstracts threads to tasks creating reliable, portable and scalable parallel applications. Intel® TBB is the most efficient way to implement parallel applications and unleash multicore platform performance.

Intel® Integrated Performance Primitives (Intel® IPP)

This is an extensive library of multicore-ready, highly optimized software functions for multimedia data processing, and communications applications.

Intel® Math Kernel Library (Intel® MKL)

This library includes optimized and scalable math routines for maximizing performance and seamlessly providing forward scaling from current to future many-core platforms.

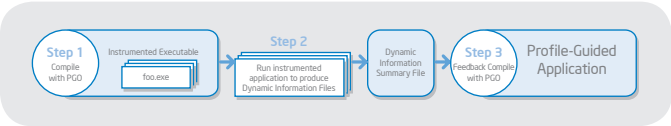
Intel® Debugger

The debugger improves the efficiency of the debugging process on code that has been optimized for Intel® architecture and includes new threaded code debugging features and a new GUI.

Advanced Optimization Features

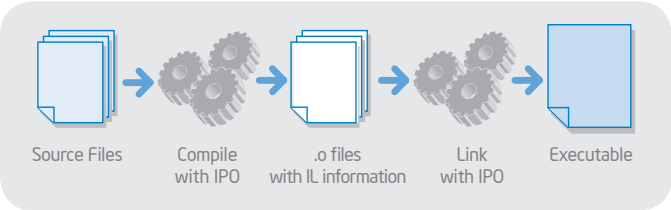
Software compiled using the Intel® C++ Compiler for Linux benefits from advanced optimization features, including:

- **High Performance Parallel Optimizer (HPO)** offers an improved ability to analyze, optimize, and parallelize more loop nests. This revolutionary capability combines vectorization, parallelization, and loop transformations into a single pass which is faster, more effective, and more reliable than prior discrete phases.
- **Automatic Vectorizer** analyzes loops and determines when it is safe and effective to execute several iterations of the loop in parallel.
- **Profile-Guided Optimization (PGO)** improves application performance by reducing instruction-cache thrashing, reorganizing code layout, shrinking code size, and reducing branch mispredictions.



The profile-guided optimization process

- **Interprocedural Optimization (IPO)** dramatically improves performance of small- or medium-sized functions that are used frequently, especially programs that contain calls within loops. The analysis capabilities of this optimizer can also give feedback on vulnerabilities and coding errors that cannot be as effectively detected by compilers that rely on front-end analysis.



The interprocedural optimization process

"Our customers were looking for lower cost solutions for delivery of video streams. The Intel C++ Compiler and Intel IPP tools allowed ImageCom to meet the customer's expectations for cost and timescales."§

Thomas Dove, CEO
Imagecom, Inc

Other Features

Open MP* 3.0

OpenMP raises the parallelism abstraction away from the API, simplifying threading and making code more portable. Previously limited to loop-based data-parallelism, the new 3.0 standard simplifies both data and task parallelism.

Eclipse* IDE Integration

This integration provides GUI operation in addition to command-line execution for the Intel® Itanium processor.

Multi-Threaded Application Support

OpenMP and auto-parallelization allow you to take full advantage of multicore technology.

Compatibility

Intel C++ Compiler 11.0 for Linux is substantially standards compliant, and includes compatibility with GCC and the GNU tool chain. It also supports Itanium 2 processors, including the dual-core Intel Itanium 2 processor.

Intel C++ Compiler for Linux also includes support for additional Linux distributions, including Debian*, Ubuntu* 8.0.4, and Fedora* 9.

System Requirements

Please refer to www.intel.com/software/products/compilers/clin for details on hardware and software requirements.

Support

Every purchase of an Intel® Software Development Product includes a year of support services, which provides access to Intel® Premier Support and all product updates during that time. Intel Premier Support gives you online access to technical notes, application notes, and documentation.

Intel® Software Development Products

Intel Software Development Products help you create the fastest software possible by offering a full suite of tools:

- Intel® Compilers
- Intel® VTune™ Performance Analyzers
- Intel® Performance Libraries
- Intel® Threading Analysis Tools
- Intel® Cluster Tools

Visit our Web site at www.intel.com/software/products for details about our entire line of products.

Download a trial version today.
www.intel.com/software/products/compilers/clin

§ Performance results and views expressed are provided by the customer, and do not necessarily reflect the views of Intel. Performance depends upon the specific computer systems, components and/or measurement methods used; your results will vary. Visit www.intel.com/sites/corporate/tradmarx.htm for more information.

0209/BLA/CMD/PDF 321477-001