Intel® Compiler Suite Professional Edition 11.1 for Linux*

Product Brief

Intel® Compiler Suite Professional Edition 11.1 for Linux*

"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

Get High Performance with Intel® Fortran Compiler and Intel® C++ Compiler Professional Edition 11.1 For Linux*

This specially priced package should be of interest to developers of Fortran applications who also need the power of the Intel® C++ Compiler. It includes both compilers; Intel® Math Kernel Library (Intel® MKL) offering optimized math processing functions; Intel® Integrated Performance Primitives (Intel® IPP) offering high-performance multimedia, data processing, and communications functions; and Intel® Threading Building Blocks (Intel® TBB), the award-winning C++ template library that abstracts threads to tasks creating reliable, portable, and scalable parallel applications. Try it and see for yourself. Download an eval copy right now.

Professional Edition Components

The Intel® Compiler Suite Professional Edition 11.1 for Linux* creates a solid foundation for building robust, high performance parallel code. Package contents:

Intel® Visual Fortran and Intel® C++ Compilers for Linux

Each compiler delivers advanced capabilities for development of application parallelism and winning performance for the full range of Intel® processor-based platforms. Each includes advanced optimization and multithreading features as well as automatic processor dispatch, vectorization, and loop unrolling.

Intel Math Kernel Library (Intel MKL)

This library allows you to boost application performance with a set of parallelized, highly optimized, thread-safe, mathematical functions for engineering, scientific, and financial applications requiring high performance on Intel® platforms.

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)

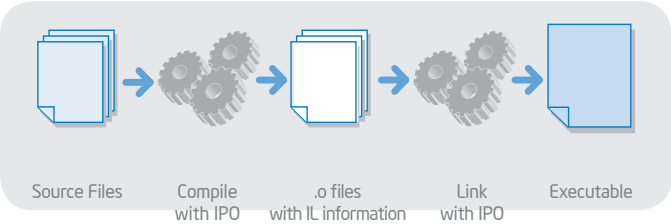
This is an extensive library of multicore-ready, highly optimized software functions for multimedia data processing and communications applications.

Intel® 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.

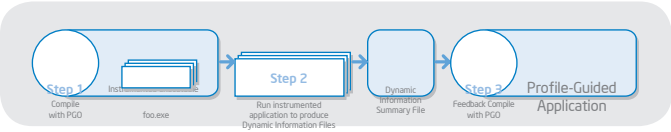
Advanced Optimization Features

- **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.
- **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

- **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

More 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.

Developer-Focused Benefits

Provides additional features from the Fortran 2003 standard, runtime uninitialized variable detection, and fast, precise control over the floating point model.

Multithreaded Application Support

OpenMP and auto-parallelization allow you to take full advantage of multicore technology, including the latest Intel® muticore processors.

Fortran Standards Support

The compiler offers additional features from Fortran 2003 including object-oriented features, type-bound procedures and operators, and interoperability features that make it easier to develop mixed-language applications.

Parallel Lint for OpenMP

Performs static analysis to check for OpenMP parallelization correctness. Helps diagnose deadlocks, data races, or potential data dependency—side effects from synchronization issues.

Parallel debugger for IA-32 and Intel® 64 architectures

Outstanding multithreaded application execution control without added complexity. Serialization of parallel region and detailed information on OpenMP constructs.

Compatibility

Intel Fortran Compiler for Linux fully supports the Fortran 95 language standard, as well as the previous standards: Fortran 90, Fortran 77, and Fortran IV. It also includes many features from the Fortran 2003 language standard, as well as numerous popular language extensions.

Intel C++ Compiler for Linux is substantially standards compliant, and includes compatibility with GCC and the GNU* tool chain. It also supports Intel® 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* 4.0.5, 5.0, Ubuntu* 8.10, 9.10, Fedora* 10.

System Requirements

Please refer to www.intel.com/software/products/systemrequirements/ regarding details on hardware and software requirements.

Support

Every purchase of an Intel® Software Development Product includes a year of support services, which provide 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 website at www.intel.com/software/products for details about our entire line of products.

Download a trial version today.
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Intel® C++ Compiler: www.intel.com/software/products/compilers/clin

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