Intel® Fortran Compiler Professional Edition 11.1 for Linux*

Product Brief

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Get High Performance with Intel® Fortran Compiler Professional Edition 11.1 for Linux*

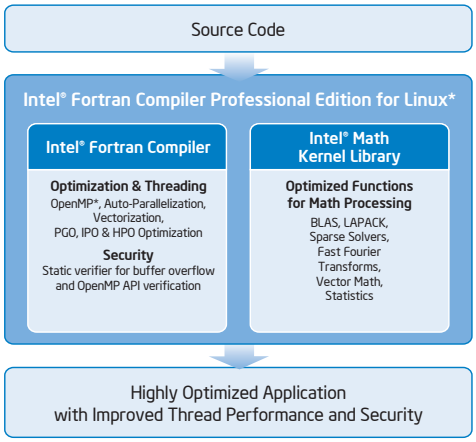
The Intel® Fortran Compiler Professional Edition 11.1 delivers advanced capabilities for development of application parallelism and winning performance for the full range of Intel® processor-based platforms. It includes the compiler's breadth of advanced optimization, multithreading, and processor support, as well as automatic processor dispatch, vectorization, and loop unrolling. It also includes optimized math processing functions in the Intel® Math Kernel Library (Intel® MKL). Try it and see for yourself. Download an eval copy right now.

Professional Edition Components

Intel Fortran Compiler Professional Edition 11.1 creates a solid foundation for building robust, high performance parallel code. It combines the Intel Fortran Compiler with the following:

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® Debugger

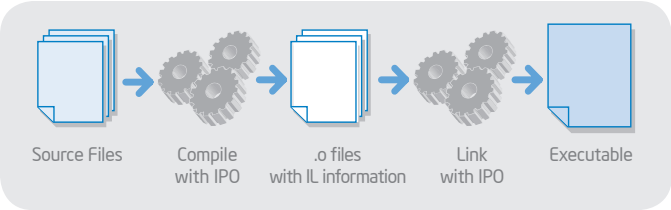
The debugger improves the efficiency of the debugging process on code that has been optimized for Intel® architecture and includes new threaded code debugging features and a new GUI.

Intel® Compiler Suite Professional Edition for Linux

This suite includes all the features of the Intel Fortran Compiler Professional Edition, with the Intel C++ Compiler for Linux, Intel® Threading Building Blocks, and Intel® Integrated Performance Primitives for a more complete solution at significant savings.

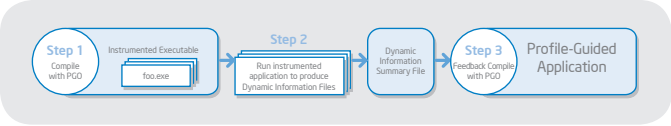
Advanced Optimization Features

- **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 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, run-time 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.

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.

System Requirements

Please refer to www.intel.com/software/products/systemrequirements/ for 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

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

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"The Intel compiler generated faster code than other compilers for most of our tests on both IA-32 and x86_64 platforms, which helps us deliver the performance our customers demand. It is the only compiler we've seen that is able to perform multifile interprocedural analysis (-ipo) with library archive (.a) files. Intel's web-based Premier Support is the best customer support interface that we've used."§

Marc Rieffel
Senior Manager, Research and Development
Paracel

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