



## Product Brief

# Intel® C++ Compiler 11.0 Professional Edition for Mac OS\* X



“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.”<sup>s</sup>

Thomas Dove  
CEO  
Imagecom, Inc

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

The Intel® C++ Compiler Professional Edition for Mac OS\* X helps you unleash the potential of the new generation of Macs\* based on the latest Intel® multi-core processors.

The Professional Edition not only comes with the compiler’s breadth of advanced optimization, multi-threading, and processor support, it also has highly optimized C++ templates for parallelism, math processing, and multimedia libraries. The Intel® Professional Edition creates a strong foundation for building robust, high performance parallel code at significant price savings.

### Professional Edition Components

The Professional Edition combines a high performance Intel® C++ compiler with the following:

#### Intel® Threading Building Blocks (Intel® TBB)

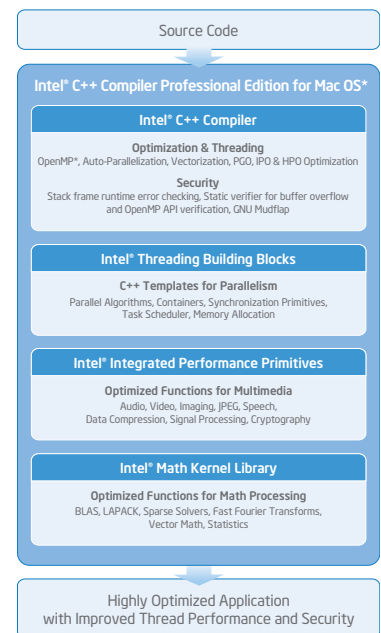
This award winning C++ template library abstracts threads to tasks creating reliable, portable and scalable parallel applications. Intel® TBB is the most efficient way to implement parallel applications and unleash multi-core platform performance.

#### Intel® Integrated Performance Primitives (Intel® IPP)

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

#### Intel® Math Kernel Library (Intel® MKL)

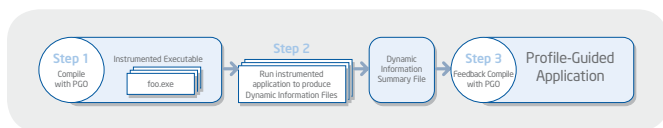
This library includes optimized and scalable math routines for maximizing performance and seamlessly providing forward scaling from current to future multi-core platforms.



## Advanced Optimization Features

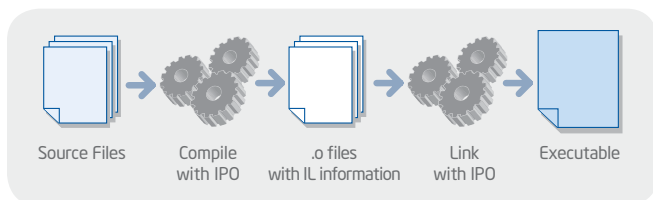
Software compiled using the Intel® C++ Compiler for Mac OS\* X benefits from advanced optimization features, including:

- **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.



### 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

- **Profile-Guided Optimization (PGO)** improves application performance by reducing instruction-cache thrashing, reorganizing code layout, shrinking code size, and reducing branch mispredictions.

## More Features

**Multi-Threaded Application Support.** OpenMP\* 3.0 and auto-parallelization allow you to take full advantage of multi-core technology.

**Support for Apple\* Frameworks.** Put this powerful Apple programming model to work on the latest Intel® multi-core processors.

## Compatibility

### Xcode\* Integration

Generate C/C++ Universal Binaries from the Xcode environment using the Intel C++ Compilers for Mac OS X and GCC for PowerPC\*, retaining compatibility with GCC 4.0. Universal Binaries are designed to ease the transition between PowerPC and Intel® architecture by combining native code for both architectures in a single compiled package.

### GCC 4.0 Interoperability

Gain source- and object-code compatibility with GNU C/C++. Alternatively, rather than switching compilers completely, build applications by compiling specific modules with the Intel C++ Compilers for Mac OS X and link them with modules compiled with GNU C.

### Standards Compliance

The Intel C++ Compiler for Mac OS X is substantially standards compliant, including support for the ANSI C/C++ standard, ISO C/C++ standard, GNU inline assembly, and C++ ABI object model.

## System Requirements

Go to [www.intel.com/software/products/compilers/cmac/sysreq.htm](http://www.intel.com/software/products/compilers/cmac/sysreq.htm) for details on hardware and software requirements.

## Support

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