



## Product Brief

# Intel® Math Kernel Library 10.1 for Windows\*, Linux\*, and Mac OS\* X



## The Flagship for High-Performance Computing Math Software

Intel® Math Kernel Library (Intel® MKL) is a library of highly optimized, extensively threaded math routines for science, engineering, and financial applications that require maximum performance.

### Availability

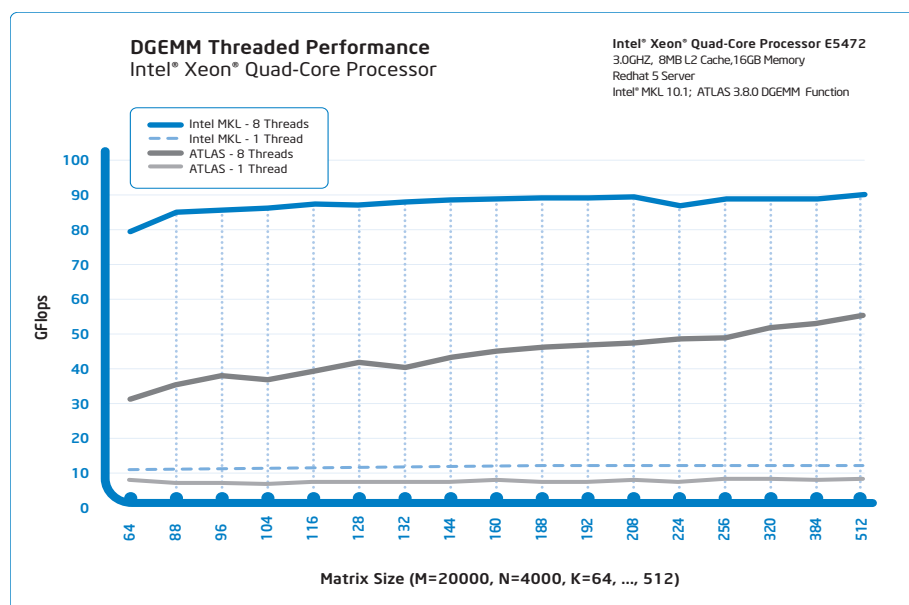
- Intel® C++ Compiler Professional Editions (Windows, Linux, Mac OS X)
- Intel® Fortran Compiler Professional Editions (Windows, Linux, Mac OS X)
- Intel® Cluster Toolkit Compiler Edition (Windows, Linux)
- Intel® Math Kernel Library 10.1 (Windows, Linux, Mac OS X)

### Functionality

- Linear Algebra—BLAS and LAPACK
- Linear Algebra—ScaLAPACK
- Linear Algebra—Sparse Solvers
- Fast Fourier Transforms
- Vector Math Library
- Vector Random Number Generators

### Features and Benefits

- Outstanding performance
- Multicore and multiprocessor ready
- Extensive parallelism and scaling
- Royalty free redistribution
- Standard APIs in C and Fortran
- World-class technical support



### BLAS and LAPACK

Intel MKL provides extremely well-tuned BLAS and LAPACK implementations that deliver significant performance leadership over alternative math libraries.

### ScaLAPACK

Intel MKL includes a highly optimized version of ScaLAPACK regardless of block size and delivers significant performance improvements over the NETLIB\* implementation.

*"By adopting the Intel MKL DGEMM libraries, our standard benchmarks timing improved between 43 percent and 71 percent..."*

Matt Dunbar  
Software Developer,  
ABAQUS, Inc.

## Fast Fourier Transforms

Intel MKL Fast Fourier Transforms are highly optimized and provide significant performance gains over alternative libraries for medium and large transform sizes.

### Features:

- Outstanding multiprocessor scaling
- Modern easy-to-use interface
- FFTW interface wrappers for current FFTW users
- Support for distributed memory systems (clusters)

