



The Intel® Optimized High Performance Conjugate Gradient Benchmark (Intel® Optimized HPCG)

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The Intel® Optimized High Performance Conjugate Gradient Benchmark (Intel® Optimized HPCG) NOV'18 Product Summary

1. Intel® Optimized HPCG became a part of Intel® Math Kernel Library (Intel® MKL) in November 2014
2. New in Intel® MKL 2019: Support for running the HPCG benchmark on heterogeneous clusters (HPCG performance on Endeavour improved by 2.2x)
3. We provide HPCG source code using optimized Intel® MKL kernels so users can build their own benchmark executables
4. The core optimized HPCG kernels (MV, SV) are available to all customers in the Intel® MKL library
5. Several “matrix-based” optimizations are disabled in the HPCG benchmark to satisfy HPCG rules (diagonal matrix format, known constant diagonal values)



Number of systems in TOP500 HPCG list Nov'18 reported the use of Intel® MKL over the Nov'17 list

48 positions in TOP500 Nov'18 HPCG list are Intel® based clusters (79% of reported HPCG results)

26 positions in TOP500 Nov'18 HPCG list reported using Intel® MKL as Math library

