

# All About SPEC

**The Standard Performance Evaluation Corporation (SPEC)** was formed in 1988 to establish industry standards for measuring computer performance. Since then, SPEC has become the largest and most influential benchmark consortium in the world.

SPEC currently offers more than 20 industry-standard benchmarks and tools for system performance evaluation in a variety of application areas. Thousands of SPEC benchmark licenses have been issued to companies, resource centers, and educational institutions globally.

## Membership

SPEC's membership comprises more than 120 leading computer hardware and software vendors, educational institutions, research organizations, and government agencies worldwide.

Full membership provides a wide range of benefits, including free access to benchmark suites, participation in developing new benchmarks and tools, and publication of benchmark results on SPEC's web site.

For information on how to join, please contact us at [info@spec.org](mailto:info@spec.org).

## SPEC comprises four groups:

### Graphics and Workstation Performance Group (GWPG)

Develops consistent, repeatable graphics and workstation performance benchmarks in a way that reflects user experiences with popular professional applications.

### High Performance Group (HPG)

Develops benchmarks to represent high-performance computing applications for standardized, cross-platform performance evaluation using industry standard parallel programming APIs including MPI, OpenMP, OpenACC, OpenMP 4.5 and OpenCL.

### Open Systems Group (OSG)

Develops component- and systems-level benchmarks for workstations and servers running in open operating system environments. This group is responsible for many famous benchmarks including the newly upgraded SPEC CPU2017 benchmark.

### Research Group (RG)

Serves as a platform for collaborative research efforts in the area of quantitative system evaluation and analysis, fostering interactions between industry and academia.

## Results

SPEC benchmarks are used worldwide to evaluate the performance of computer systems, both physical and virtualized. Test results are published on the SPEC website, cited in research papers, used for purchasing decisions, and quoted by vendors for marketing purposes.

## Benchmarks & Tools

SPEC offers a range of comprehensive computer benchmarks and tools for performance and power measurement, benchmark development, and quantitative analysis and evaluation.

## Recent Releases/Updates

- SPEC ACCEL V1.2
- SPECapc for Maya 2017
- Chauffeur WDK V2.0
- SPEC CPU2017
- SPEC jbb2015V1.01
- SPEC SERTV2.0.1
- SPEC SFS 2014 SP2

## Coming soon

- SPECapc for PTC Creo 4
- SPECapc for 3ds Max 2017
- SPECviewperf V13
- SPECwpc V3.0
- SPECapc for SolidWorks 2017

## In development

- MPI+Accel for homogenous and heterogeneous HPC systems.
- Updates of many existing benchmarks and performance evaluation tools



Go to [www.spec.org](http://www.spec.org) for more information.





# Standard Performance Evaluation Corporation

## SPEC High Performance Group

The **High Performance Group (HPG)** of **Standard Performance Evaluation Corporation (SPEC)** develops benchmarks that represent large, real applications, in scientific and technical computing. The benchmarks use multiple industry standard parallel programming interfaces including **MPI, OpenMP, OpenACC, OpenMP 4.5 and OpenCL**.

For more information, visit <https://www.spec.org/hpg/>.

### SPEC HPG benchmarks

- **SPEC ACCEL Benchmark Suite**  
ACCEL focuses on the performance of highly parallel compute intensive applications using hardware acceleration using the OpenCL, OpenACC, and OpenMP 4.5 standards.
- **SPEC MPI Benchmark Suites**  
MPI2007 is SPEC's benchmark suite for measuring performance of compute intensive applications using the Message-Passing Interface (MPI) across a wide range of cluster and SMP hardware.
- **SPEC OMP2012 Benchmark Suite**  
OMP2012 is the successor to the OMP2001 suite and is designed for measuring performance using applications based on the OpenMP 3.1 standard for shared-memory parallel processing. The benchmark also includes an optional metric for measuring energy consumption.
- **Under Development**  
A new benchmark for homogeneous and heterogeneous HPC systems is under development, talk to a SPEC HPG member if you want to contribute.

### Free license for eligible organizations

On March 1, 2018, SPEC announced it will immediately offer benchmarks from its High Performance Group (SPEC/HPG) at no charge to qualified non-profit organizations worldwide. Visit the SPEC website for more information on <https://www.spec.org/hpgdownload.html>.

### Access the latest benchmark results

SPEC benchmarks are used worldwide to evaluate the performance of computer systems, both physical and virtualized. Test results are published on the SPEC website, cited in research papers, used for purchasing decisions, and quoted by vendors for marketing purposes. Search for the latest benchmark results at [https://www.spec.org/results\\_search.html](https://www.spec.org/results_search.html).

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