ThinkSystem SR665 Sets World Record with New SPECompG Benchmark Result

Performance Benchmark Result

The Lenovo ThinkSystem SR665 server has set a new 2-socket performance world record with the SPECompG_base2012 metric of the SPEC OMP2012 Benchmark.

This new benchmark result, published in a new SPEC report on May 6, 2020, demonstrate that the ThinkSystem SR665 continues Lenovo's leadership with outstanding performance for the server industry.

The SPEC OMP2012 Benchmark suite is the industry standard to evaluate performance using applications based on the OpenMP 3.1 standard for shared-memory parallel processing and includes 14 scientific and engineering application codes, covering everything from computational fluid dynamics (CFD) to molecular modeling to image manipulation.

The ThinkSystem SR665 has achieved the following score:

- **SPECompG_base2012 = 41.4**

This result is the best 1-node 2-socket performance in the industry.

The SR665 was configured as follows for the benchmark audit:

- 2x AMD EPYC 7H12 (64 cores, 2.60GHz)
- 1 TB memory (16 x 64GB RDIMMs @ 3200MHz)
- ThinkSystem 1 TB SATA HDD
- SUSE Linux Enterprise Server 15 SP1, Kernel 4.12.14-195-default

Results referenced are current as of May 6, 2020.

The new Lenovo benchmark result can be found at:
https://www.spec.org/omp2012/results/res2020q2/omp2012-20200421-00193.html

About the ThinkSystem SR665

The Lenovo ThinkSystem SR665 server, now with AMD EPYC 7003 Series processors, delivers outstanding TCO for transactional database, ERP, virtualization, big data & analytics and software-defined deployments. The combination of two AMD EPYC 7003 CPUs with class-leading memory speed, storage, and GPU density, rapidly outpaces the power of prior generation two-socket servers. Lenovo's lauded system reliability, management capabilities, and security infrastructure layer on to the exceptional value that the ThinkSystem SR665 brings to the data center. With the enterprise-class AMD EPYC 7003 Series or 7002 Series processor, the world's first 7nm data center CPU, the ThinkSystem SR665 features two processors with up to an unprecedented 128 total cores with 128 PCIe Gen4 lanes to reduce bottlenecks and increase server utilization.

Compared to the previous processor generations, ThinkSystem SR665 delivers up to 2X performance and 4X floating point capability, providing faster data transfer and analytics without sacrificing memory capacity or I/O with PCIe Gen4 support and faster memory speeds up to 3200 MHz.

Key features:

- 128 cores across two processors to handle heavy-lift ERP, CRM, and virtualization workloads; provides cutting edge application efficiency in health care applications such as medical imaging, EMR, and PACS, or electronic trading platforms for financial services applications.
- Multi-GPU optimized rack server, providing support for up to 8 single-wide GPUs that offer 200% more workload acceleration in AI Inference, and virtualized desktop infrastructure (VDI).
- Support for up to 32 NVMe solid-state drives; when paired with high speed networking, make the system an excellent choice for workloads that need large amounts of low-latency high-bandwidth storage, including virtualized clustered SAN solutions, software-defined storage (SDS), and applications leveraging NVMe over Fabrics.

About SPEC OMP2012

The SPEC OMP benchmark 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 which includes power measurement.

The benchmark includes 14 scientific and engineering application codes, covering everything from computational fluid dynamics (CFD) to molecular modeling to image manipulation. The optional energy consumption measurements are based on the SPEC Power and Performance Benchmark Methodology, which provides details on how to integrate a power metric into standardized benchmarks.

SPEC OMP focuses on compute intensive performance, which means an emphasis of the performance of the following hardware and software:

- Processor
- Memory architecture
- Parallel support libraries
- Compilers

For more information about SPEC OMP 2012, go to
https://www.spec.org/omp2012/

Learn more

To learn more about solutions for high performance applications that use shared-memory parallel processing, please contact your Lenovo Sales Representative.

To find out more about SPEC, visit https://www.spec.org

To learn more about the Lenovo ThinkSystem SR665 server, visit the SR665 product web page: https://www.lenovo.com/us/en/data-center/servers/racks/ThinkSystem-SR665-Server/p/77XX7SR552S

Related product families

Product families related to this document are the following:

- 2-Socket Rack Servers
- SPEComp Benchmark Results
- ThinkSystem SR665 Server

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