ThinkSystem SR950 Sets World Record with New SPECompG Result

Performance Benchmark Result

The Lenovo ThinkSystem SR950 server has set a new 4-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 November 8, 2017, demonstrate that the ThinkSystem SR950 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 SR950 has achieved the following score:

- **SPECompG_base2012 = 40.2**

This result is the best 4-socket performance in the industry, 2.3% faster than the Huawei 2488H V5 (1), and 3.1% faster than the Cisco UCS C480 M5 (2).

Table 1. Competitive comparison

Hardware Vendor	System	Result (Base)	CPUs	Cores	Memory
Lenovo	ThinkSystem SR950 (Intel Xeon Platinum 8180, 2.50 GHz)	40.2	4	112	768 GB
Huawei	Huawei 2488H V5 (Intel Xeon Platinum 8180, 2.50 GHz)	39.3 (1)	4	112	768 GB
Cisco	Cisco UCS C480 M5 (Intel Xeon Platinum 8180, 2.50 GHz)	39.0 (2)	4	112	768 GB

The SR950 was configured as follows:

- Lenovo ThinkSystem SR950
- 4x Intel® Xeon® Platinum 8180 Processors (28 cores, 2.50GHz)
- 768 GB memory (48 x 16GB RDIMMs running at 2666MHz)
- ThinkSystem 32GB M.2 SSD
- Red Hat Enterprise Linux Server release 7.3, kernel 3.10.0-514.el7.x86_64

Results referenced are current as of November 8, 2017. To view details of this result, see:
https://www.spec.org/omp2012/results/res2017q4/omp2012-20171011-00131.html

To view all SPEC OMP2012 results, go to
https://www.spec.org/omp2012/results/

(1) Huawei result: https://www.spec.org/omp2012/results/res2017q3/omp2012-20170621-00100.html

(2) Cisco result: http://spec.org/omp2012/results/res2017q3/omp2012-20170621-00105.html

About the ThinkSystem SR950

Lenovo ThinkSystem SR950 is designed for your most demanding, mission-critical workloads, such as in-memory databases, large transactional databases, batch and real-time analytics, ERP, CRM, and virtualized server workloads.

The powerful 4U ThinkSystem SR950 can grow from two to eight Intel Xeon Scalable Family processors, and with 96 DIMM sockets, supports up to 12 TB of high-speed memory without having to replace the server enclosure or upgrade to a physically larger design. The modular design of SR950 speeds upgrades and servicing with easy front or rear access to all major subsystems to maximize server availability.

The SR950 packs numerous fault-tolerant and high-availability features into a high-density design. The SR950 offers enterprise scalability and advanced RAS features to support the most demanding mission-critical applications that require 24x7 operations. The new 4U rack optimized design reduces the space needed to support massive network computing operations and simplifies servicing.

Lenovo XClarity Controller is an all-new hardware embedded management engine common in every ThinkSystem server. XClarity Controller features an uncluttered graphical user interface, industry standard Redfish-compliant REST APIs, and enables booting in half the time of prior generation servers, with up to 6x faster firmware updates.

Lenovo XClarity Administrator is a virtualized application that centrally manages ThinkSystem servers, storage, and networking. Via reusable patterns and policies, it ramps up and scales infrastructure provisioning and maintenance. It serves as a central integration point to extend your data center management processes to physical IT. Running XClarity Integrators in external IT applications, or integrating through REST APIs, helps you further speed services provisioning, streamline IT management, and contain costs.

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 SR950 server, visit the SR950 product web page.

Related product families

Product families related to this document are the following:

- 4-Socket Rack Servers
- Mission Critical Servers
- SPEComp Benchmark Results
- ThinkSystem SR950 Server

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This document, LP0796, was created or updated on November 8, 2017.

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