

ThinkSystem SR950 Sets World Record with New One-Node 8-Socket SPECmpiM Result

Performance Benchmark Result

The Lenovo ThinkSystem SR950 has set a new one-node 8-socket performance world record with the SPECmpiM_base2007 metric from the MPI M2007 suite of the SPEC MPI 2007 Benchmark. The SPECmpiM Benchmark suite is the industry standard to evaluate MPI-parallel, floating point, compute intensive performance across a wide range of cluster and SMP hardware.



This new benchmark result, published in a new SPEC Report on September 14, 2018, demonstrate that the ThinkSystem SR950 continues Lenovo’s leadership with outstanding performance for the server industry.

The ThinkSystem SR950 has achieved the following score (1):

- **SPECmpiM_base2007 = 53.5**

This result is the best one-node 8-socket performance in the industry, 6.3% faster than Huawei one-node 8-socket result (2).

Table 1. Comparison of results

Hardware vendor	System	Result (Base)	Cores	CPUs	Memory
Lenovo (1)	ThinkSystem SR950 (Intel Xeon Platinum 8180, DDR4-2666 MHz, HT Off, Turbo on)	53.5	224	8	1536
Huawei (2)	Huawei 8100 V5 (Intel Xeon Platinum 8180, DDR4-2666 MHz, HT Off, Turbo on)	50.3	224	8	1536

The SR950 was configured as follows for the benchmark audit:

- Lenovo ThinkSystem SR950
- 8x Intel Xeon Platinum 8180 Processors (28 cores, 2.50 GHz)
- 1536 GB memory (96x 16 GB RDIMMs running at 2666 MHz)
- 960 GB NVME SSD
- Red Hat Enterprise Linux Server 7.3, Kernel 3.10.0-514.48.5.el7.x86_64

Results referenced are current as of September 25, 2018.

(1) The Lenovo benchmark result can be found at:

<https://www.spec.org/mpi2007/results/res2018q3/mpi2007-20180828-00598.html>

(2) Huawei result: <https://www.spec.org/mpi2007/results/res2017q3/mpi2007-20170621-00537.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 SPECmpiM

The SPEC MPI 2007 benchmark suite evaluates Message-Passing Interface (MPI)-parallel, floating point, compute-intensive performance across a wide range of cluster and symmetric multiprocessing (SMP) server hardware. This suite continues the SPEC tradition of giving users the most objective and representative benchmark suite for measuring and comparing high-performance computer systems.

SPEC MPI 2007 focuses on performance of compute intensive applications using the MPI, which means this benchmark emphasizes the performance of all of the following:

- Type of processor
- Number of computer processors
- MPI Library
- Communication interconnect
- Memory architecture
- Compiler used
- Type of shared file system

The benchmark is not intended to stress other computer components such as the operating system, graphics, or the I/O system.

For more information about SPEC MPI 2007, see <https://www.spec.org/mpi2007/>.

Learn more

To learn more about solutions for compute-intensive applications, 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:

- [Mission Critical Servers](#)
- [SPECmpi Benchmark Results](#)
- [ThinkSystem SR950 Server](#)

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