ThinkSystem SR950 Sets World Record with New One-Node 4-Socket SPECmpiM Result

Performance Benchmark Result (withdrawn product)

The Lenovo ThinkSystem SR950 has set a new one-node 4-socket performance world record with the SPECmpiM_base2007metric 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 = 35.1**

This result is the best one-node 4 socket performance in the industry, 195% faster than Intel one-node 4-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)	35.1	112	4	768
Intel (2)	Endeavor (Intel Xeon E7-8890 v3, 2.50 GHz, DDR4-2133 MHz, SMT on, Turbo on)	18	72	4	512

The SR950 was configured as follows for the benchmark audit:

- Lenovo ThinkSystem SR950
- 4x Intel Xeon Platinum 8180 Processors (28 cores, 2.50 GHz)
- 768 GB memory (48x 32 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/mpi2007-20180828-00599.html

(2) Intel benchmark result: https://www.spec.org/mpi2007/results/res2015q2/mpi2007-20150526-00490.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:

- Large Memory Capacity Servers
- SPECmpi Benchmark Results
- ThinkSystem SR950 Server

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION ”AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2026. All rights reserved.

This document, LP0975, was created or updated on September 25, 2018.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
  https://lenovopress.lenovo.com/LP0975
- Send your comments in an e-mail to:
  comments@lenovopress.com

This document is available online at https://lenovopress.lenovo.com/LP0975.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at https://www.lenovo.com/us/en/legal/copytrade/.

The following terms are trademarks of Lenovo in the United States, other countries, or both:
Lenovo®
ThinkSystem®
XClarity®

The following terms are trademarks of other companies:

Intel®, the Intel logo and Xeon® are trademarks of Intel Corporation or its subsidiaries.

Linux® is the trademark of Linus Torvalds in the U.S. and other countries.

SPEC® and SPEC MPI® are trademarks of the Standard Performance Evaluation Corporation (SPEC).

Other company, product, or service names may be trademarks or service marks of others.