

Lenovo ThinkSystem SR950 Breaks Two World Records with New TPC-E Result Performance Benchmark Result

November 8, 2017 ... Lenovo has published a new TPC-E benchmark result that has set two world records. Achieved on the powerful Lenovo ThinkSystem SR950 4U rack server, the benchmark result is:

- The best overall TPC-E performance result for *any* server configuration
- The world's best TPC-E result for four-processor (4P) price/performance.

The TPC-E benchmark is designed to enable customers to objectively measure and compare the performance and price of various On Line Transaction Processing (OLTP) and database systems.

The ThinkSystem SR950 server achieved the following score:

- **11,357.28 tpsE (transactions per second E)
@ \$98.83 USD/tpsE (1)**



This result sets two new records:

- The best performance of all TPC-E benchmark results: 29% faster than the 4P Fujitsu PRIMERGY RX4770 M3 (2) and 12% faster than the 8-processor (8P) Fujitsu PRIMEQUEST 2800E2. (3)
- The best four-processor price/performance in the industry, the first 4P result ever to be under \$100/tpsE: 15% better price/performance than the 4P Fujitsu PRIMERGY RX4770 M3 (2) and 47% better price/performance than the 8P Fujitsu PRIMEQUEST 2800E2. (3)

Including this new result, Lenovo servers now have the #1 2P (4), 4P (1), 8P (5), and overall (1, 4) TPC-E performance and price/performance results.

The SR950 achieved this record level of OLTP performance using Microsoft SQL Server 2017 Enterprise Edition and Microsoft Windows Server 2016 Standard Edition. The SR950 was configured with four Intel Xeon Platinum 8180 processors at 2.50 GHz (4 processors, 112 cores, 224 threads) and 3072 GB of Lenovo TruDDR4 memory.

This result also relied on the Lenovo Storage D1224 DAS enclosures. Six D1224 storage enclosures and over 100 SAS SSDs were used in the benchmark configuration, attached directly to the server using ThinkSystem RAID 930-8e controllers configured with RAID-5.

Results referenced are current as of November 8, 2017. To view all TPC results, visit www.tpc.org.

(1) The total solution availability for this TPC-E benchmark result is November 6, 2017. See the details for this result at <http://www.tpc.org/4081>

(2) Fujitsu PRIMERGY RX4770 M3 result details are from <http://www.tpc.org/4079>

(3) Fujitsu PRIMEQUEST 2800E2 result details are from <http://www.tpc.org/4074>

(4) The Lenovo ThinkSystem SR650 holds the #1 2P TPC-E performance result and #1 overall TPC-E price/performance result. Result details are from <http://www.tpc.org/4080>

(5) The Lenovo System x3950 X6 holds the #1 8P TPC-E performance result and #1 8P TPC-E price/performance result. Result details are from <http://www.tpc.org/4075>

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 the Lenovo Storage D1212 and D1224 Enclosures

The Lenovo Storage D1212 and D1224 Disk Expansion Enclosures offer 12 Gbps SAS direct-attached storage expansion capabilities that are designed to provide simplicity, speed, scalability, security, and high availability for small to large businesses.



The D1212 (with 3.5-inch drives) and D1224 (with 2.5-inch drives), deliver enterprise-class storage technology in a cost-effective solution with flexible drive configurations and RAID or JBOD (non-RAID) host connectivity.

About TPC-E

TPC Benchmark E (TPC-E) is an On-Line Transaction Processing (OLTP) workload designed to enable customers to objectively measure and compare the performance and price of various OLTP and database systems. TPC-E is a mixture of read-only and update intensive transactions that simulate the activities found in complex OLTP application environments.

Learn more

To learn more about solutions for database and OLTP applications, please contact your Lenovo Sales Representative.

To find out more about TPC, visit <http://www.tpc.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 Rack Servers](#)
- [Microsoft SQL Server](#)
- [ThinkSystem SR950 Server](#)
- [Direct-Attached Storage](#)
- [4-Socket Rack Servers](#)
- [TPC-E Benchmark Results](#)

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