ThinkSystem SR655 V3 Sets 3 World Records with New TPC-E Benchmark Result

Performance Benchmark Result

Lenovo has published a new TPC-E benchmark result that has set three new world records. The result has been achieved on the powerful Lenovo ThinkSystem SR655 V3 server. The benchmark results are:

- The world's #1 overall TPC-E result for performance
- The world's best TPC-E result for performance on 1-processor systems
- The world's best TPC-E price/performance on 1-processor systems

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

The ThinkSystem SR655 V3 server achieved the following score (1):

- **13,000.00 tpsE (transactions per second E) @ $74.09 USD/tpsE**

This result is the highest TPC-E performance result ever published:

- 64.75% faster than the previous generation 1-processor system (2)
- 7.84% faster than HPE's recent 1P, 96-core result at 6.15% better price/performance (3)

Including this new result, Lenovo servers have the #1 1P (1), 2P (5,6), 4P (4), and overall (1,6) TPC-E performance and price/performance results.

The SR655 V3 achieved this record level of OLTP performance using the following configuration:

- 1x AMD EPYC 9654 96-core processor at 2.4GHz (1 processor, 96 total cores, 192 total threads)
- 1536 GB of Lenovo TruDDR5 memory
- Microsoft SQL Server 2022 Enterprise Edition
- Microsoft Windows Server 2022 Standard Edition

This result also relied on Lenovo Storage D1224 DAS enclosures. Six D1224 storage enclosures and 126 SAS SSDs were used in the benchmark configuration, attached directly to the server using six ThinkSystem RAID 940-8e controllers configured with RAID-5.

Results referenced are current as of May 24, 2023. To view all TPC results, visit www.tpc.org.

(1) The total solution availability for this TPC-E benchmark result is May 24, 2023. See the details for this result at http://tpc.org/4093.

(2) Lenovo ThinkSystem SR655 with one AMD EPYC 7763 64-core processor at 2.45 GHz (1/64/128). Result details are from http://tpc.org/4089.

(3) HPE ProLiant DL345 Gen11 with one AMD EPYC 9654P 96-core processor at 2.4 GHz (1/96/192). Result details are from http://tpc.org/4092.

(4) The Lenovo ThinkSystem SR860 V2 with four Intel Xeon Platinum 8380H processors at 2.90GHz (4/112/224) is the #1 4P TPC-E performance result and the #1 4P TPC-E price/performance result. Result details are from http://tpc.org/4087.

(5) The Lenovo ThinkSystem SR650 V3 with two Intel Xeon Platinum 8490H processors at 1.90 GHz (2/120/240) is the #1 2P TPC-E performance result. Result details are from http://tpc.org/4091.

(6) The Lenovo ThinkSystem SR665 with two AMD EPYC 72F3 8-core processors at 3.70 GHz (2/16/32) is the #1 overall TPC-E price/performance result and the #1 2P TPC-E price/performance result. Result details are from http://tpc.org/4090.

About the ThinkSystem SR655 V3

The Lenovo ThinkSystem SR655 V3 is a 1-socket 2U server that features the 5th Gen AMD EPYC "Turin" family processors. With up to 160 cores per processor and support for the new PCIe 5.0 standard for I/O, the SR655 V3 offers the ultimate 1-socket server performance in a 2U form factor. The server is ideal for dense workloads that can take advantage of GPU processing and high-performance NVMe drives.

The SR655 V3 server is a highly agile offering, supporting 31 different drive bay configurations utilizing the front, middle and rear locations of the server. It also includes 6 different slot configurations at the rear of the server. This adds flexibility to ensure that you can configure the server exactly the way your workload requires.

Combining performance and flexibility, the SR655 V3 server is a great choice for enterprises of all sizes. The server offers a broad selection of drive and slot configurations and offers high performance features that industries such as finance, healthcare and telco need. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design can improve your business environment and can help save operational 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 Online 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 SR655 V3 server, visit the SR655 V3 product web page: https://www.lenovo.com/us/en/p/servers-storage/servers/racks/thinksystem-sr655-v3/len21ts0021

Related product families

Product families related to this document are the following:

- 2-Socket Rack Servers
- Direct-Attached Storage
- Microsoft SQL Server
- TPC-E Benchmark Results
- ThinkSystem SR655 V3 Server

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This document, LP1739, was created or updated on June 1, 2023.

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