ThinkSystem SR665 Sets World Record with New SAP SD Two-Tier Benchmark Result

Performance Benchmark Result

Lenovo's 2-socket ThinkSystem SR665 server, using two AMD® EPYC™ 7763 64-core processors at 2.45 GHz demonstrates best performance in the industry in the SAP® SD 2-tier standard application benchmark on Windows (1).

The Lenovo result is 1.5% better than next best publication on the Dell EMC PowerEdge R7525 server with two AMD EPYC 7763 64-core processors running Windows (2) and 16.8% better than Lenovo ThinkSystem SR665 publication with previous generation AMD EPYC 7H12 processors (3).

The SAP Standard Application SD (Sales and Distribution) Benchmark is an ERP business test that represents the critical tasks performed in real-world ERP business environments, is indicative of full business workloads of complete order processing and invoice processing, and demonstrates the ability to run both the application and database software on a single system.

This document summarizes the benchmark result published on April 15, 2021. The result was achieved on the ThinkSystem SR665, configured with two AMD EPYC 7763 processors, using IBM Db2 11.5 and SAP enhancement package 5 for the SAP ERP application release 6.0.

Lenovo delivered the following certified result (1):

- **Number of SAP SD benchmark users: 69,100**

Throughput:

- Fully processed order line items per hour: 7,552,670
- Dialog steps per hour: 22,658,000
- SAPS: 377,630
- Average database request time (dialog/update): 7 ms / 12 ms

Configuration of the central server:

- ThinkSystem SR665
- Two AMD EPYC 7763 processors, 64 cores, 280W, 2.45 GHz
- Cache: 64 KB L1 cache per core, 512 KB L2 cache per core, and 256 MB L3 cache per processor
- 1024 GB main memory

Software platform:

- Operating system, central server: Microsoft Windows Server 2019 Datacenter Edition
- RDBMS: IBM Db2 11.5
- SAP Business Suite software: SAP enhancement package 5 for SAP ERP 6.0

Results referenced are current as of April 15, 2021. For the latest SAP benchmark results, visit: https://www.sap.com/about/benchmark.html.

(1) This benchmark fully complies with the SAP Benchmark Council regulations and has been audited and certified by SAP SE (certification number 2021025). Details can be obtained from Lenovo and SAP. The benchmark was performed by Lenovo in Research Triangle Park, NC, USA by Lenovo engineers.

(2) The claim of achieving 1.5% better performance is based on 2S AMD Dell EMC PowerEdge R7525 system publication (certification number 2021023) using AMD EPYC 7763 64-core processors.

(3) The claim of achieving 16.8% better performance is based on 2S AMD Lenovo ThinkSystem SR665 publication (certification number 2020014) with previous generation AMD EPYC 7H12 processors

About the ThinkSystem SR665

The Lenovo ThinkSystem SR665 server, now with AMD EPYC 7003 Series processors, delivers outstanding TCO for transactional database, ERP, virtualization, big data & analytics and software-defined deployments. The combination of two AMD EPYC 7003 CPUs with class-leading memory speed, storage, and GPU density, rapidly outpaces the power of prior generation two-socket servers. Lenovo's lauded system reliability, management capabilities, and security infrastructure layer on to the exceptional value that the ThinkSystem SR665 brings to the data center. With the enterprise-class AMD EPYC 7003 Series or 7002 Series processor, the world's first 7nm data center CPU, the ThinkSystem SR665 features two processors with up to an unprecedented 128 total cores with 128 PCIe Gen4 lanes to reduce bottlenecks and increase server utilization.

Compared to the previous processor generations, ThinkSystem SR665 delivers up to 2X performance and 4X floating point capability, providing faster data transfer and analytics without sacrificing memory capacity or I/O with PCIe Gen4 support and faster memory speeds up to 3200 MHz.

Key features:

- 128 cores across two processors to handle heavy-lift ERP, CRM, and virtualization workloads; provides cutting edge application efficiency in health care applications such as medical imaging, EMR, and PACS, or electronic trading platforms for financial services applications.
- Multi-GPU optimized rack server, providing support for up to 8 single-wide GPUs that offer 200% more workload acceleration in AI Inference, and virtualized desktop infrastructure (VDI).
- Support for up to 32 NVMe solid-state drives; when paired with high speed networking, make the system an excellent choice for workloads that need large amounts of low-latency high-bandwidth storage, including virtualized clustered SAN solutions, software-defined storage (SDS), and applications leveraging NVMe over Fabrics.

About SAP SD

SAP SD benchmark is a test for standard sale and distribution business components on SAP ERP, which is indicative of the performance of the application and database on a specific hardware environment. For more information about the benchmark, go to https://www.sap.com/about/benchmark/appbm/erp.html.

Learn more

To learn more about SAP solutions on Lenovo servers visit the following page:
https://www.lenovo.com/us/en/data-center/solutions/sap/

To learn more about the Lenovo ThinkSystem SR665 server, visit the SR665 product web page:
https://www.lenovo.com/us/en/data-center/servers/racks/ThinkSystem-SR665/p/77XX7SR552S

Related product families

Product families related to this document are the following:

- IBM Alliance
- IBM Db2
- SAP Alliance
- SAP SD Benchmark Results
- ThinkSystem SR665 Server

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