ThinkSystem SR860 V2 Sets World Record with New SAP SD Two-Tier Benchmark Result

Performance Benchmark Result (withdrawn product)

The Lenovo ThinkSystem SR860 V2 server, using four Intel® Xeon® Platinum 8380H 28C 250W 2.9GHz processors, delivers outstanding results (1) with significant performance advantage over similarly configured HPE Superdome Flex 280 publication with 58,500 users (2) and Fujitsu Server PRIMERGY RX4770 M6 publication with 60,700 (3) users for the SAP® SD 2-tier standard application benchmark in a Microsoft Windows environment.

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 December 16, 2020. The result was achieved on the ThinkSystem SR860 V2, configured with four Intel® Xeon® Platinum 8380H processors, using IBM Db2 10.5 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: 65,100**

Throughput:

- Fully processed order line items per hour: 7,148,330
- Dialog steps per hour: 21,445,000
- SAPS: 357,420
- Average database request time (dialog/update): 18 ms / 24 ms

Configuration of the central server:

- ThinkSystem SR860 V2
- Four Intel Xeon Platinum 8380H processor 28C 205W 2.9GHz

- Each processor: 38.5 MB L3 cache; 64 KB L1 cache and 1024KB L2 cache per core
- 3072 GB main memory

Software platform:

- Operating system, central server: Microsoft Windows Server 2016 Datacenter Edition
- RDBMS: IBM Db2 10.5
- SAP Business Suite software: SAP enhancement package 5 for SAP ERP 6.0

Results referenced are current as of December 16, 2020. 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 2020050). Details can be obtained from Lenovo and SAP. The benchmark was performed by Lenovo in Research Triangle Park, NC, USA by Lenovo engineers. Configuration: ThinkSystem SR860 V2 with 4 processor / 112 cores / 224 threads, Intel Xeon Platinum 8380HL processors, 2.90 GHz, 64 KB L1 cache and 1024 KB L2 cache per core, 38.5 MB L3 cache per processor, 3,072 GB DRAM.

(2) The claim of significant performance advantage over similarly configured HPE Superdome Flex 280 is based on results on the two-tier SAP SD standard application benchmark with 58,500 users by HPE (certification number 2020042) on HPE Superdome Flex 280 configured with 4 processor / 112 cores / 224 threads, Intel Xeon Platinum 8380HL processors, 2.90 GHz, 64 KB L1 cache and 1024 KB L2 cache per core, 38.5 MB L3 cache per processor, 3,072 GB DRAM.

(3) The claim of significant performance advantage over similarly configured Fujitsu Server PRIMERGY RX4770 M6 is based on results on the two-tier SAP SD standard application benchmark with 60,700 users by Fujitsu (certification number 2020051) on Fujitsu Server PRIMERGY RX4770 M6 configured with 4 processor / 112 cores / 224 threads, Intel Xeon Platinum 8380HL processors, 2.90 GHz, 64 KB L1 cache and 1024 KB L2 cache per core, 38.5 MB L3 cache per processor, 1,536 GB DRAM.

About the ThinkSystem SR860 V2

The Lenovo ThinkSystem SR860 V2 server provides the speed and reliability you require today, with the scalability and workload versatility to you'll need to manage the explosive growth of data; its design offers considerable adaptability in order to match system configurations to projected workloads.

The ThinkSystem SR860 V2 is purpose-built to deliver affordable scalability in an industry-standard x86 platform, ideal for mission critical workloads such as SAP HANA in-memory computing, transactional databases, analytics, big data, and enterprise resource planning tasks.

Up to four 250W third-generation Intel® Xeon® Scalable CPUs configured with a mesh topology pair with up to four enterprise-class GPUs position the SR860 V2 to tackle compute-intensive applications, leveraging thousands of GPU processor cores and parallel architecture in combination with additional storage and networking that's both high-performing and flexible.

Key features:

- Up to four 250W 3rd Generation Intel Xeon Scalable CPUs configured with a mesh topology combines with up to 48 2.5" HDD or SSDs, of which 24 can be NVMe SSDs to speed database response times, reducing latency and eliminating storage as the throughput bottleneck in I/O-intensive applications such as transactional processing, HPC, and Big data applications.
- Supports two or four processors, allowing you to start with two processors and then upgrade to four when you need it.
- Capability to handle four double-width GPUs or eight single-width GPUs to accelerate AI inference and deep learning proficiencies.
- Support for up to 12TB of DDR4 memory with DIMMs operating at up to 3200 MHz at 2DPC, and Intel Optane™ Persistent Memory 200 Series accelerates performance for in-memory databases and applications, reducing downtime and increasing application availability.
- High I/O bandwidth coupled with a generous number of PCIe expansion slots provides the additional connectivity scalability as your business and workload demands increase.
- Full Lenovo XClarity and ThinkShield system support for seamless infrastructure management and improved data security.

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 SR860 V2 server, visit the SR860 V2 product web page:
https://www.lenovo.com/us/en/data-center/servers/mission-critical/ThinkSystem-SR860-V2-Server/p/77XX7HS86V2

Related product families

Product families related to this document are the following:

- 4-Socket Rack Servers
- IBM Alliance
- IBM Db2
- SAP Alliance
- SAP SD Benchmark Results
- ThinkSystem SR860 V2 Server

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This document, LP1416, was created or updated on December 27, 2020.

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