ThinkSystem SR950 Sets World Record with New SAP BW Edition for SAP HANA (1.3B Records) Benchmark Result

Performance Benchmark Result (withdrawn product)

Lenovo ThinkSystem SR950 4-socket server using Intel Xeon Platinum 8180 processors delivers world record performance (1) for the SAP BW edition for SAP HANA Standard Application Benchmark Version 3, with 1.3 billion (1.3B) initial records in a single-node setup.

The benchmark refers to the SAP Business Warehouse application running on the SAP HANA platform.

The SR950 configuration was as follows:

- Lenovo ThinkSystem SR950
- 4x Intel Xeon Platinum 8180 Processors, 2.50 GHz
  - 64 KB L1 cache, 1024 KB L2 cache and 38.5 MB L3 cache per processor
  - 4 processor, 112 total cores, 224 total threads
- 1,536 GB main memory
- SUSE Linux Enterprise Server 12
- SAP HANA 2.0
- SAP NetWeaver 7.50

The benchmark consists of three phases and the ThinkSystem SR950 server achieved the following performance results:

- **Phase 1: Data load phase = 20,332** (Runtime of last Data Set in seconds)
- **Phase 2: Query throughput phase = 10,261** (Query Executions per Hour / Records selected)
- **Phase 3: Query runtime phase = 96** (Total Runtime of complex query phase in seconds)

The result shows that the Lenovo ThinkSystem SR950 offers a significant performance advantage compared to other vendors.

Results referenced are current as of September 10, 2018. For the latest SAP BW benchmark results, visit: https://www.sap.com/about/benchmark/appbm/netweaver.html#sap-bw-edition-for-sap-hana-benchmark.

(1) This benchmark fully complies with the SAP Benchmark Council regulations and has been audited and certified by SAP SE (certification number 2018036). Details can be obtained from Lenovo and SAP. The benchmark was performed at the Lenovo Data Center Performance Lab in Walldorf, Germany, by Lenovo engineers. Configuration: ThinkSystem SR950, 4 processor / 112 cores / 224 threads, Intel Xeon Platinum 8180 processors, 2.50 GHz, 64 KB L1 cache and 1024 KB L2 cache per core, 38.5 MB L3 cache per processor, 1,536 GB main memory.

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 SAP BW edition for SAP HANA Standard Application Benchmark

The SAP BW, edition for SAP HANA Standard Application Benchmark, Version 3, is the latest addition to the list of benchmarks for SAP Business Warehouse. It utilizes the capabilities of SAP HANA to process the benchmark workload. Allowed data volumes are a multiple of 1.3 billion initial records and can be run in single-node and multi-node setups. This benchmark was released in July 2018.

The benchmark scenario represents typical mid-size customer scenario and volumes for SAP BW running on SAP HANA. The benchmark simulates a variety of users with different analytical requirements and measures the key performance indicator (KPI) relevant to each of the three benchmark phases.

The three benchmark phases are as follows:

1. Data load phase, testing data latency and load performance
2. Query throughput phase, testing query throughput with moderate complex queries
3. Query runtime phase, testing the performance of running very complex queries

For more information about the benchmark, go to https://www.sap.com/about/benchmark/appbm/netweaver.html#sap-bw-edition-for-sap-hana-benchmark.

Learn more

To learn more about business warehouse and data analytics solutions for SAP applications running on Lenovo Servers visit, https://www.lenovo.com/us/en/data-center/solutions/sap/ or contact your Lenovo Customer Representative.

For more information about SAP BW/4HANA, go to https://www.sap.com/products/technology-platform/bw4hana-data-warehousing.html.

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:

- 4-Socket Rack Servers
- Large Memory Capacity Servers
- SAP Alliance
- SAP BW Benchmark Results
- ThinkSystem SR950 Server

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