

ThinkSystem SR650 V3 Sets 9 World Records with New STAC-M3 Benchmark Result

Performance Benchmark Result

The Lenovo ThinkSystem SR650 V3 server, configured in the stack under test (SUT) with two fourth-generation Intel Xeon Scalable processors, RHEL 8.7, Kx® kdb+® 4.0, and eight Intel Optane NVMe drives, has set new performance world records running the STAC-M3™ benchmark Antuco suite.

These new benchmark results, published in a new STAC® Report ([SUT ID KDB230707](#)) on September 12, 2023, demonstrate that the SR650 V3 continues Lenovo's leadership with world record breaking performance for the financial services industry.



The STAC-M3 Benchmark suite is the industry standard for testing solutions that enable high-speed analytics on time series data, such as tick-by-tick market data, also known as tick database stacks. STAC-M3 consists of different suites that vary the amount of historical and realtime data, the number of simulated users, and whether there are constraints on the use of memory. The baseline suite, Antuco, contains a range of test cases with varying levels of CPU and storage-I/O intensity. The current benchmark results are from running the Antuco suite.

The SUT, including the ThinkSystem SR650 V3, achieved leadership performance in 9 of 17 benchmark categories when compared to all publicly disclosed STAC-M3 Antuco results for a single-server, 2-socket system running kdb+. Of particular note, this SUT was:

- 3.2x the speed of the previous best 10-user volume curve (STAC-M3.β1.10T.VOLCURV.TIME)
- 2.1x the speed of the previous best quarter high bid (STAC-M3.β1.1T.QTRHIBID.TIME)

Compared to other single-node 2-socket servers running kdb+ database, here are the 9 world records:

- 100T.VWAB-12D-NO.TIME
- 10T.STATS-AGG.TIME
- 10T.VOLCURV.TIME (3.2x the speed of the previous best 10-user volume curve)
- 1T.MOHIBID.TIME
- 1T.QTRHIBID.TIME (2.1x the speed of the previous best quarter high bid)
- 1T.VWAB-D.TIME
- 1T.WKHIBID.TIME
- 1T.YRHIBID-2.TIME
- 1T.YRHIBID.TIME

The SUT achieving these world record results included the following:

- Lenovo ThinkSystem SR650 V3
- 2x Intel Xeon Gold 6444Y processors (16 cores each, 3.6GHz)
- 1TB memory (16x 64GB DDR5 DIMMs @ 4800 MT/s)
- 8x 800GB Intel Optane P5800X NVMe SSDs

- RHEL 8.7
- Kx kdb+ 4.0

About the ThinkSystem SR650 V3

The Lenovo ThinkSystem SR650 V3 is an ideal 2-socket 2U rack server, based on the new 5th generation Intel Xeon Scalable processor family. The SR650 V3 is for small business up to large enterprises that need industry-leading reliability, management, and security, as well as maximizing performance and flexibility for future growth. The server offers a broad selection of drive and slot configurations and offers numerous high performance features. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design can improve business operation and help save operational costs.

SR650 V3 offers the low-latency, high capacity performance necessary to keep up with the workloads of today. It's designed to handle a wide range of workloads, such as databases, virtualization and cloud computing, virtual desktop infrastructure (VDI), infrastructure security, systems management, enterprise applications, collaboration/email, streaming media, web, and HPC.

About STAC

Securities Technology Analysis Center (STAC) is a company that coordinates a community called the STAC Benchmark™ Council. The STAC Benchmark Council consists of over 485 financial institutions and more than 60 vendor organizations.

The purpose of the STAC Benchmark Council is two-fold:

- To conduct substantive discussions on important technical challenges and solutions in financial services
- To develop technology benchmark standards that are useful to financial organizations

User firms include the largest global banks, brokerage houses, exchanges, asset managers, hedge funds, proprietary trading shops, and other market participants. Vendor firms include innovative providers of hardware, software, and cloud services. STAC-M3 is driven by trading firms in the STAC Benchmark Council, with the participation of relevant software, hardware, and cloud providers. The STAC-M3 benchmark report for the SR650 V3 is publicly available.

Learn more

To learn more about solutions for the financial services industry, please contact your Lenovo Sales Representative.

To find out more about STAC, visit the [STAC Research web site](#).

To learn more about the Lenovo ThinkSystem SR650 V3 server, visit the SR650 V3 product web page: <https://www.lenovo.com/us/en/p/servers-storage/servers/racks/thinksystem-sr650-v3/len21ts0013>

Related product families

Product families related to this document are the following:

- [2-Socket Rack Servers](#)
- [STAC-M3 Benchmark Results](#)
- [ThinkSystem SR650 V3 Server](#)

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