ThinkSystem SR655 Sets Two World Records with New TPCx-IoT Result

Performance Benchmark Result

Lenovo has published a new TPCx-IoT benchmark result that has set two world records. Achieved on a cluster of five of the powerful Lenovo ThinkSystem SR655 2U rack servers, the benchmark result is:

- The world's best TPCx-IoT performance result
- The world's best TPCx-IoT price/performance result

The TPCx-IoT benchmark is designed to enable customers to objectively measure and compare the performance and price of various IoT gateway systems.

The five ThinkSystem SR655 servers achieved the following score (1):

- **742,256.79 IoTps (**TPCx-IoT Performance Metric**) @ $0.26 USD per IoTps**

This result sets two new records:

- The highest performance in the industry, and is 57% faster than the Supermicro A+ Server 2014TP-HTR result (2)
- The lowest ever price/performance, and is 10% lower than the Supermicro A+ Server 2014TP-HTR result price/performance

In this new result, Lenovo has the highest performance and the lowest price/performance for all published TPCx-IoT benchmark results.

The SR655 servers achieved this record level of IoT gateway performance using the following configuration:

- Five Lenovo ThinkSystem SR655 servers each with:
  - One AMD EPYC 7502P 32-core processor at 2.5 GHz (1 processor, 32 cores, 64 threads)
  - 256 GB of Lenovo TruDDR4 3200 MHz memory
  - Red Hat Enterprise Linux Server 7.6
  - HBase 2.1.4 on Cloudera Distribution for Apache Hadoop 6.3.0
- One Lenovo ThinkSystem NE2572 RackSwitch

This result also utilized ThinkSystem SSD and NVMe SSD drives. One ThinkSystem M.2 5100 480GB SATA 6Gbps SSD was used in each SR655 for fast operating system, swap, Hadoop Master, root, and temp storage requirements. Two ThinkSystem Mainstream NVMe SSDs were utilized in each SR655 data node for fast read/write operations for database data and temporary storage.

Results referenced are current as September 25, 2019. To view all TPC results, visit http://www.tpc.org.

(1) The total solution availability for this TPCx-IoT benchmark result is December 18, 2019. See the details for this result at http://tpc.org/5756

(2) Supermicro A+ Server 1014TP-HTR result details are available at http://www.tpc.org/5755

About the ThinkSystem SR655

The Lenovo ThinkSystem SR655 is a 1-socket 2U server that features the AMD EPYC 7002 "Rome" and AMD EPYC 7003 "Milan" families of processors. With up to 64 cores per processor and support for the PCIe 4.0 standard for I/O, the SR655 offers the ultimate in single-socket server performance. With up to 128 PCIe lanes, the server is ideal for workloads that can take advantage of GPU processing and high-performance NVMe drives.

ThinkSystem SR655 is a multi-GPU optimized rack server, with support for up to 6 single-wide GPUs providing 200% more workload acceleration in AI, SDI and VDI instances. Capacity for up to 32x 2.5” low-latency NVMe drives that pairs well with the demands of low-latency, high-bandwidth storage such as clustered SAN solutions and software-defined storage. Eight PCIe Gen4 slots offer 2x faster I/O and support for 16 DIMMs with 2TB of DDR4 memory capacity ensure the SR655 is ideal for high performance database applications.

About TPCx-IoT

TPCx-IoT Express Benchmark IoT (TPCx-IoT) enables customers to objectively measure and compare the performance and price of various IoT (Internet of Things) gateway systems. TPCx-IoT consumes large quantities of data from large numbers of devices, while running real-time analytic queries. The gateway systems perform data aggregation, real-time analytics, and persistent storage functions.

Learn more

To learn more about solutions for IoT 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 server, visit the SR655 product web page: https://www.lenovo.com/us/en/data-center/servers/racks/ThinkSystem-SR655-Server/p/77XX7SRSR75

Related product families

Product families related to this document are the following:

- 1-Socket Rack Servers
- Edge Computing and Internet of Things (IoT)
- TPCx Benchmarks
- ThinkSystem SR655 Server

Notices

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