ThinkSystem SR655 Sets Six World Records with New 1-Socket SPECjbb Results
Performance Benchmark Result

The Lenovo ThinkSystem SR655 server has set six 1-socket performance world records for the SPECjbb2015-MultiJVM, SPECjbb2015-Distributed and SPECjbb2015-Composite benchmarks.

SPECjbb2015 is a Java Business Benchmark and is the SPEC benchmark used for evaluating the performance of servers running typical Enterprise Java applications.

The ThinkSystem SR655 achieved the following top SPECjbb2015 scores:

- **SPECjbb2015-MultiJVM Critical-jOPS (RHEL 8): 120,320**
- **SPECjbb2015-Distributed Critical-jOPS (RHEL 8): 119,225**
- **SPECjbb2015-MultiJVM Max-jOPS (Windows Server 2019): 151,317**
- **SPECjbb2015-MultiJVM Critical-jOPS (Windows Server 2019): 85,171**
- **SPECjbb2015-Composite Max-jOPS (Windows Server 2019): 127,957**
- **SPECjbb2015-Composite Critical-jOPS (Windows Server 2019): 99,723**

SPECjbb2015 measures multi-threaded compute-intensive applications, with mixed industry workloads such as online purchase, inventory management, and supply. Critical-jOPS scores are ideal for measuring latency-critical applications and max-jOPS scores are ideal for measuring throughput-critical applications.

The Lenovo ThinkSystem SR655 was configured as follows:

- 1x AMD EPYC 7742 processor
    - 2.25 GHz base frequency, 256 MB L3 cache
    - 1 processor, with 64 cores and 128 threads
- Up to 1024 GB system memory
- Operating systems:
    - SPECjbb2015-Distributed Critical-jOPS: Red Hat Enterprise Linux Server 8
    - SPECjbb2015-MultiJVM Max-jOPS: Windows Server 2019 Standard
    - SPECjbb2015-MultiJVM Critical-jOPS: Red Hat Enterprise Linux Server 8 and Windows Server 2019 Standard
    - SPECjbb2015-Composite Max-jOPS: Windows Server 2019 Standard
    - SPECjbb2015-Composite Critical-jOPS: Windows Server 2019 Standard
- Oracle Java HotSpot 64-Bit Server VM, version 12.0.1

Results referenced are current as of August 7, 2019. To view details of the results, see these SPEC web page:

- SPECjbb2015-MultiJVM Critical-jOPS (RHEL 8):
  https://www.spec.org/jbb2015/results/res2019q3/jbb2015-20190718-00480.html
- SPECjbb2015-Distributed Critical-jOPS (RHEL 8)
  https://www.spec.org/jbb2015/results/res2019q3/jbb2015-20190718-00482.html
- SPECjbb2015-MultiJVM Max-jOPS (Windows Server 2019)
  https://www.spec.org/jbb2015/results/res2019q3/jbb2015-20190717-00474.html
- SPECjbb2015-MultiJVM Critical-jOPS (Windows Server 2019)
  https://www.spec.org/jbb2015/results/res2019q3/jbb2015-20190718-00476.html
- SPECjbb2015-Composite Max-jOPS (Windows Server 2019)
  https://www.spec.org/jbb2015/results/res2019q3/jbb2015-20190718-00484.html
- SPECjbb2015-Composite Critical-jOPS (Windows Server 2019)
  https://www.spec.org/jbb2015/results/res2019q3/jbb2015-20190718-00484.html

To view all SPECjbb2015 results, go to
https://www.spec.org/jbb2015/results/jbb2015.html

About the ThinkSystem SR655

The Lenovo ThinkSystem SR655 with the next generation AMD EPYC architecture delivers outstanding TCO for virtualization, big data, analytics, and scale up software defined deployments. It offers two-socket performance in a 2U, single-socket design, featuring higher core, and storage density; increased I/O throughput with less latency; along with built-in system security.

With the enterprise class AMD EPYC 7002 Generation processor, the world's first 7nm data center CPU, the SR655 features up to an unprecedented 64 cores with 128 PCIe Gen4 lanes in a single socket to reduce bottlenecks and increase server utilization.

Compared to the previous processor generations, ThinkSystem servers with AMD architecture deliver 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 of the SR655 include:

- Multi-GPU optimized rack server, providing support for up to 6 single-wide GPUs that offer more workload acceleration in AI Inference and virtualized desktop infrastructure (VDI).
- 64 cores to handle heavy-lift virtualization workloads; provides cutting edge application efficiency in health care applications such as EMR, PACS, and medical imaging or electronic trading platforms for financial services applications.
- 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 SPECjbb2015

The SPECjbb 2015 benchmark has been developed from the ground up to measure performance based on the latest Java application features. It is relevant to all audiences who are interested in Java server performance, including JVM vendors, hardware developers, Java application developers, researchers and members of the academic community.

SPECjbb2015 scores are ideal for measuring throughput and latency of multi-threaded compute-intensive applications such as online purchasing, inventory management, and supply.

Learn more

To learn more about solutions for Java applications, please contact your Lenovo Sales Representative.

To find out more about SPEC, visit https://www.spec.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
- SPECjbb Benchmark Results
- ThinkSystem SR655 Server

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