# Continuing Growth Through Advancements in AI Training Performance with MLCommons

**Article**

## Lenovo AI is continuing momentum

Lenovo continues its investment in artificial intelligence (AI) to accelerate AI deployment for businesses around the world. Fueled by increased global digitalization and demand for IT infrastructure upgrades, Lenovo is simplifying the often-complex implementation of new AI capabilities by delivering AI to the source of data and harnessing its vast network of best-in-class partners to build next-generation turnkey solutions that enable computing intelligence directly at the edge. Read more in the June 2023 Press Release.

MLPerf™ is the industry's leading AI benchmark and gives quantitative results to Lenovo's investment. As MLPerf Training v3.0 began our teams at Lenovo AI worked to improve upon our v2.0 results, but to also lead against any competitors. Lenovo achieved leadership results in several areas, showcasing our continued momentum to deliver smarter technology for all.

Lenovo will continue investing in standard AI and generative AI models, led by a team who strive to carry a customer and performance first approach. As enterprise needs change, Lenovo will remain a leading solution for customers with their comprehensive AI portfolio that carries more offerings than any of their competitors. With the importance remaining of process and performance improvement each MLPerf cycle.

## MLPerf Training v3.0 Highlights

The key changes for MLPerf Training v3.0 include:

- Support for NVIDIA A100 GPUs on MLPerf Training v3.0 AI Benchmark
- Optimized Lenovo Servers for AI
  - Lenovo ThinkSystem SR670 V2 with 8x 80GB PCIe A100 GPUs
  - Lenovo ThinkSystem SR670 V2 with 4x 40GB SXM4 GPUs

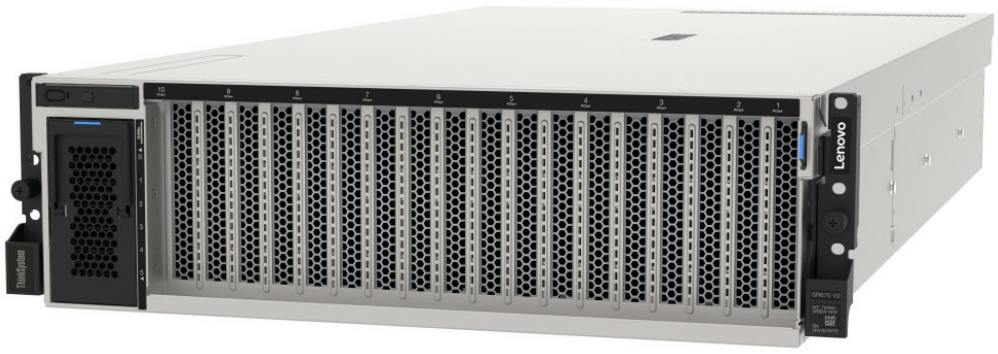


Figure 1. Lenovo ThinkSystem SR670 V2 supports up to eight double-wide GPUs

## ThinkSystem SR670 V2 Power Driven Results

The SR670 V2 server delivers optimal performance for Artificial Intelligence (AI), High Performance Computing (HPC) and graphical workloads across an array of industries. Retail, manufacturing, financial services and healthcare industries can leverage the processing power of the GPUs in the SR670 V2 to extract greater insights and drive innovation utilizing machine learning (ML) and deep learning (DL).

Lenovo AI yet again set benchmarking standards within the MLPerf Training v3.0 results, improving and winning on three important categories.

- NVIDIA 4xA100-SXM4-40GB
  - Lenovo won ResNet with 62.0 minutes (Category Leader)
- NVIDIA 8xA100-PCIe-80GB
  - Lenovo won ResNet with 32.7 minutes (Category Leader)
  - Lenovo won R-CNN with 47.2 minutes (Category Leader)

## Lenovo collaborates with NVIDIA

Lenovo demonstrated AI performance across various infrastructure configurations, running on Lenovo ThinkSystem platforms. We showcased the performance of our air-cooled systems, providing both PCIe and HGX deployment options in a standard data center platform that enterprises of all sizes can quickly deploy.

Lenovo collaborates extensively with NVIDIA in the AI realm. Through our Lenovo AI Discover Center of Excellence, we're working with NVIDIA to ensure the success of our mutual customers AI initiatives. This provides customers with access to Lenovo and NVIDIA AI experts to aid with consulting on projects, the proper infrastructure to run a proof of concept, and proof of ROI before deployment. As the AI world continues to evolve, collaborations make coming to market an easier and more effective process.

## For more information

For more information, see the following resources:

Explore Lenovo AI solutions:
https://www.lenovo.com/us/en/servers-storage/solutions/analytics-ai/

Engage the Lenovo AI Center of Excellence:
https://lenovoaicodelab.atlassian.net/servicedesk/customer/portal/3

MLCommons®, the open engineering consortium and leading force behind MLPerf, has now released new results for MLPerf benchmark suites:

- Benchmark results: https://mlcommons.org/en/inference-datacenter-21/
- Latest news about MLCommons: https://mlcommons.org/en/news/mlperf-inference-v21/

## Related product families

Product families related to this document are the following:

- Artificial Intelligence
- MLPerf Benchmark
- ThinkSystem SR670 V2 Server

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