



New 8-GPU AI Servers from Lenovo Article

The new Lenovo ThinkSystem SR680a V3, SR685a V3, and SR780a V3 GPU systems deliver massive computational performance for Artificial Intelligence (AI), High-Performance Computing (HPC), and graphical and simulation workloads across various industries. The family of servers supports eight high-performance GPUs, either from AMD or NVIDIA.



Figure 1. New Lenovo ThinkSystem servers that have 2 processors and 8 GPUs (left to right): SR680a V3, SR780a V3, and SR685a V3

The SR680a V3 and SR685a V3 servers feature two Intel® Xeon® and two AMD EPYC[™] processors, respectively, and are 100% air-cooled servers suitable for most data centers. The SR780a V3 server features two Intel Xeon processors and uses a hybrid water-air cooling system to take advantage of the efficiencies of cooling the CPUs and GPUs using a direct water cooled infrastructure.

We also announced enhancements to our Lenovo AI Services Practice with new offerings such as AI Discover and new Fast Start services. We unveiled services to implement, adopt, and scale Generative AI solutions which customers can easily deploy and manage as a Service with Lenovo TruScale.

ThinkSystem SR680a V3

The ThinkSystem SR680a V3 offers a choice of acceleration platforms featuring NVIDIA H100 or H200 GPUs. With high-speed interconnects between the GPUs, the system delivers unparalleled computational power for demanding AI and HPC workloads.

- 8U chassis with 100% air-cooling
- Two 5th Gen Intel® Xeon® Scalable processors
- 8 GPUs with high-speed interconnect, choice of:
 - NVIDIA H100 700W SXM5 GPUs with 80GB HBM3 GPU memory per GPU
 - NVIDIA H200 700W SXM5 GPUs with 141GB HBM3 GPU memory per GPU
- Up to 2TB memory with 32x 64GB RDIMMs
- PCIe 5.0 x16 interfaces to all GPUs and network adapters
- Support for high-speed networking up to 400 Gb/s, directly connected to the GPU complex
- Up to 16x high-speed 2.5" NVMe drives



Figure 2. ThinkSystem SR680a V3

For more information see the following resources:

- ThinkSystem SR680a V3 datasheet
- ThinkSystem SR680a V3 product web page
- ThinkSystem SR680a V3 product guide
- ThinkSystem SR680a V3 interactive 3D tour

ThinkSystem SR685a V3

The ThinkSystem SR685a V3 is an 8U2S rack server built for demanding AI and HPC workloads. It's accelerated for intense computing using industry-leading 4th Generation AMD EPYC[™] Processors, interconnects with the fastest transfer rate with AMD Infinity Fabric or NVIDIA NVLink, and supports 8x of the latest GPUs. It has the computing power to tackle modeling, training, rendering, financial tech, scientific research, and more.

- 8U chassis with 100% air-cooling
- Two 4th Gen AMD EPYC processors
- 8 GPUs with high-speed interconnect, choice of:
 - AMD MI300X 750W OAM GPUs with 192GB HBM3 memory per GPU
 - NVIDIA H100 700W SXM5 GPUs with 80GB HBM3 GPU memory per GPU
 - NVIDIA H200 700W SXM5 GPUs with 141GB HBM3 GPU memory per GPU
- Up to 2.25TB memory with 32x 96GB RDIMMs
- PCIe 5.0 x16 interfaces to all GPUs and network adapters
- Support for high-speed networking up to 400 Gb/s, directly connected to the GPU complex
- Up to 16x high-speed 2.5" NVMe drives



Figure 3. ThinkSystem SR685a V3

For more information see the following resources:

- ThinkSystem SR685a V3 datasheet
- ThinkSystem SR685a V3 product web page
- ThinkSystem SR685a V3 product guide
- ThinkSystem SR685a V3 interactive 3D tour

ThinkSystem SR780a V3

The ThinkSystem SR780a V3 harnesses the might of eight NVIDIA H200 Tensor Core GPUs, paired with two 5th Gen Intel® Xeon® Scalable processors and 32 DDR5 DIMMs. Through Lenovo Neptune™ liquid cooling, this system achieves the extensive computational prowess crucial for handling demanding AI and HPC workloads. Housed in a compact 5U design, it seamlessly fits into a standard 19-inch rack with a water manifold attached at the rear of the rack.

- 5U chassis with up 80% water-cooling (CPUs & GPUs), 20% air-cooling (other components)
- Two 5th Gen Intel® Xeon® Scalable processors
- 8 GPUs with high-speed interconnect, choice of:
 - NVIDIA H100 700W SXM5 GPUs with 80GB HBM3 GPU memory per GPU
 - NVIDIA H200 700W SXM5 GPUs with 141GB HBM3 GPU memory per GPU
 - NVIDIA B200 SXM6 GPUs with 175GB HBM3 GPU memory per GPU
- Up to 2TB memory with 32x 64GB RDIMMs
- PCIe 5.0 x16 interfaces to all GPUs and network adapters
- Support for high-speed networking up to 400 Gb/s, directly connected to the GPU complex
- Up to 8x high-speed 2.5" NVMe drives



Figure 4. ThinkSystem SR780a V3

For more information see the following resources:

- ThinkSystem SR780a V3 datasheet
- ThinkSystem SR780a V3 product web page
- ThinkSystem SR780a V3 product guide
- ThinkSystem SR780a V3 interactive 3D tour

Seller training courses

The following sales training courses are offered for employees and partners (login required). Courses are listed in date order.

1. Family Portfolio: ThinkSystem Rack and Tower Servers Powered by Intel 2025-06-23 | 25 minutes | Employees and Partners

This course is designed to give Lenovo sales and partner representatives a foundation of the ThinkSystem Intel Rack and Tower server family.

After completing this course, you will be able to:

- Identify products within this ThinkSystem server family
- · Describe features of this family
- · Recognize when a specific product should be selected

Tags: Server, ThinkSystem

Published: 2025-06-23 Length: 25 minutes

Start the training: Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: SXXW1204r14

2. ThinkSystem Rack and Tower Introduction for ISO Client Managers 2025-06-16 | 20 minutes | Employees Only

In this course, you will learn about Lenovo's Data Center Portfolio, its ThinkSystem Family and the key features of the Rack and Tower servers. It will equip you with foundational knowledge which you can then expand upon by participating in the facilitated session of the curriculum.

Tags: Server, ThinkSystem

Published: 2025-06-16 Length: 20 minutes

Start the training: Employee link: Grow@Lenovo

Course code: DSRTO101r2_JP

3. VTT HPC: Al and the Impact on the Environment

2025-06-11 | 58 minutes | Employees Only

Please join us as Matthew Ziegler, Director of Lenovo Neptune and Sustainability speaks with us about AI and the Impact on the Environment.

Topics will include:

- Why is ESG essential for your customer?
- How to find and read an eco declaration
- What is a product carbon footprint?
- Demo of the Lenovo Capacity Planner

Tags: Advanced DataCenter, Artificial Intelligence (AI), Environmental Social Governance (ESG), High-Performance Computing (HPC), Server

Published: 2025-06-11 Length: 58 minutes

Start the training: Employee link: Grow@Lenovo

Course code: DVHPC223

4. Lenovo Data Center Product Portfolio

2025-06-11 | 20 minutes | Employees and Partners

This course introduces the Lenovo data center portfolio, and covers servers, storage, storage networking, and software-defined infrastructure products. After completing this course about Lenovo data center products, you will be able to identify product types within each data center family, describe Lenovo innovations that this product family or category uses, and recognize when a specific product should be selected.

Course objectives:

1. Identify product types within each data center family

- 2.Describe the features of the product family or category
- 3.Recognize when a specific product should be selected

Tags: Advanced DataCenter, DataCenter Products, Server, ThinkAgile, ThinkEdge, ThinkSystem

Published: 2025-06-11 Length: 20 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: SXXW1110r8

5. Partner Technical Webinar - RTX Pro 6000

2025-05-22 | 60 minutes | Employees and Partners

In this 60-minute replay, Allen Bourgoyne, Product Marketing for NVIDIA, presented the newly announced RTX Pro 6000 Blackwell Server Edition GPU.

Tags: Artificial Intelligence (AI)

Published: 2025-05-22 Length: 60 minutes

Start the training: Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: MAY1525

6. Partner Technical Webinar - DCSC Improvements - MAY0225

2025-05-05 | 60 minutes | Employees and Partners

In this 60-minute replay, new improvements to DCSC were reviewed. Joe Allen, Lenovo NA LETS, presented the new PCI wizard and discussed RAID adapters. Ryan Tuttle, Lenovo NA LETS presented Spreadsheet import, Autocorrect and Expanded selections on by default. Joe Murphy, Lenovo NA LETS closed out with review of Error Message improvements and location of ThinkAgile MX and VX in the DCSC menus.

Tags: Technical Sales

Published: 2025-05-05 Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: MAY0225

7. Family Portfolio: Storage Controller Options

2025-03-03 | 25 minutes | Employees and Partners

This course covers the storage controller options available for use in Lenovo servers. The classes of storage controller are discussed, along with a discussion of where they are used, and which to choose.

After completing this course, you will be able to:

- Describe the classes of storage controllers
- Discuss where each controller class is used
- Describe the available options in each controller class

Tags: Sales, Storage

Published: 2025-03-03 Length: 25 minutes

Start the training: Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: SXXW1111r2

8. ThinkSystem Rack and Tower Introduction for ISO Client Managers

2024-12-10 | 20 minutes | Employees Only

In this course, you will learn about Lenovo's Data Center Portfolio, its ThinkSystem Family and the key features of the Rack and Tower servers. It will equip you with foundational knowledge which you can then expand upon by participating in the facilitated session of the curriculum.

Course Objectives:

- By the end of this course, you should be able to:
- · Identify Lenovo's main data center brands.
- Describe the key components of the ThinkSystem Family servers.
- Differentiate between the Rack and Tower servers of the ThinkSystem Family.
- Understand the value Rack and Tower servers can provide to customers.

Tags: Server, ThinkSystem

Published: 2024-12-10 Length: 20 minutes

Start the training: Employee link: Grow@Lenovo

Course code: DSRTO101r2

9. Partner Technical Webinar - Server Update with Mark Bica

2024-11-26 | 60 minutes | Employees and Partners

In this 60-minute replay, Mark Bica, Lenovo Product Manager gave an update on the server portfolio. Mark presented on the new V4 Intel servers with Xeon 6 CPUs. He reviewed where the new AMD 5th Gen EPYC CPUs will be used in our servers. He followed with a review of the GPU dense servers including SR680, SR680a, SR575 and SR780a. Mark concluded with a review of the SC777 and SC750 that were introduced at TechWorld.

Tags: Server

Published: 2024-11-26 Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: 112224

10. Family Portfolio: ThinkSystem Rackmount and Tower Servers powered by AMD 2024-11-25 | 30 minutes | Employees and Partners

This course presents the key products and features of the ThinkSystem Rackmount and Tower server family powered by AMD processors. It describes customer benefits and will help you recognize when a specific product should be selected.

Course Objectives:

By the end of this course, you should be able to:

- · Identify products and features within the family
- Describe customer benefits offered by this family
- · Recognize when a specific product should be selected

Tags: Server, ThinkSystem

Published: 2024-11-25 Length: 30 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: SXXW1216r10

11. Partner Technical Webinar - LenovoPress updates and LPH Demo 2024-11-13 | 60 minutes | Employees and Partners

In this 60-minute replay, we had 3 topics. First, David Watts, Lenovo Sr Manager LenovoPress, gave an update on LenovoPress and improvements to finding Seller Training Courses (both partner and Lenovo). Next, Ryan Tuttle, Lenovo LETS Solution Architect, gave a demo of Lenovo Partner Hub (LPH) including how to find replays of Partner Webinars in LPL. Finally, Joe Murphy, Lenovo Sr Manager of LETS NA, gave a quick update on the new Stackable Warranty Options in DCSC.

Tags: Technical Sales

Published: 2024-11-13 Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: 110824

12. Virtual Facilitated Session - ThinkSystem Rack and Tower Primer for ISO Client Managers 2024-10-31 | 90 minutes | Employees Only

In this Virtual Instructor-Led Training Session, ISO Client Managers will be able to build on the knowledge gained in Module 1 (eLearning) of the ThinkSystem Rack and Tower Server Primer for ISO Client Managers curriculum.

IMPORTANT! Module 1 (eLearning) must be completed to be eligible to participate in this session. Please note that places are subject to availability. If you are selected, you will receive the invite to this session via email.

Tags: Sales, Server, ThinkSystem

Published: 2024-10-31 Length: 90 minutes

Start the training: Employee link: Grow@Lenovo

Course code: DSRTO102

13. **Q2 Solutions Launch TruScale GPU Next Generation Management in the AI Era Quick Hit** 2024-09-10 | 6 minutes | Employees and Partners

This Quick Hit focuses on Lenovo announcing additional ways to help you build, scale, and evolve your customer's private AI faster for improved ROI with TruScale GPU as a Service, AI-driven systems management, and infrastructure transformation services.

Tags: Artificial Intelligence (AI), Services, TruScale

Published: 2024-09-10 Length: 6 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: SXXW2543a

14. Partner Technical Webinar - OnelQ

2024-07-15 | 60 minutes | Employees and Partners

In this 60-minute replay, Peter Grant, Field CTO for OnelQ, reviewed and demo'd the capabilities of OnelQ including collecting data and analyzing. Additionally, Peter and the team discussed how specific partners (those with NA Channel SA coverage) will get direct access to OnelQ and other partners can get access to OnelQ via Distribution or the NA LETS team.

Tags: Technical Sales

Published: 2024-07-15 Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo Partner link: Lenovo 360 Learning Center

Course code: 071224

15. SAP Webinar for Lenovo Sellers: Lenovo Portfolio Update for SAP Landscapes 2024-06-04 | 60 minutes | Employees Only

Join Mark Kelly, Advisory IT Architect with the Lenovo Global SAP Center of Competence as he discusses:

•Challenges in the SAP environment

Lenovo On-premise Solutions for SAP

•Lenovo support resources for SAP solutions

Tags: SAP, ThinkAgile, ThinkEdge, ThinkSystem

Published: 2024-06-04 Length: 60 minutes

Start the training: Employee link: Grow@Lenovo

Course code: DSAPF101

16. VTT Cloud Architecture: NVIDIA Using Cloud for GPUs and AI

2024-05-22 | 60 minutes | Employees Only

Join JD Dupont, NVIDIA Head of Americas Sales, Lenovo partnership and Veer Mehta, NVIDIA Solution Architect on an interactive discussion about cloud to edge, designing cloud Solutions with NVIDIA GPUs and minimizing private\hybrid cloud OPEX with GPUs. Discover how you can use what is done at big public cloud providers for your customers. We will also walk through use cases and see a demo you can use to help your customers.

Tags: Artificial Intelligence (AI), Cloud, Nvidia, Software Defined Infrastruture (SDI), Technical Sales

Published: 2024-05-22 Length: 60 minutes

Start the training: Employee link: Grow@Lenovo

Course code: DVCLD212

For more information

For more information about these servers, contact your Lenovo sales representative or use the Contact Us button on one of the product web pages listed above. Preorders for the SR680a V3 and SR685a V3 are planned in March with general orders planned to open towards the end April. Orders for the SR780a V3 are planned for later in 2024.

Related product families

Product families related to this document are the following:

- ThinkSystem SR680a V3 Server
- ThinkSystem SR685a V3 Server
- ThinkSystem SR780a V3 Server

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