Announcing the New ThinkSystem V3 Servers with 4th Gen AMD EPYC Processors

Article

This month, Lenovo announced new ThinkSystem and ThinkAgile V3 systems based on the new 4th Generation AMD EPYC 9004 high-performance processors. The following systems have been announced.

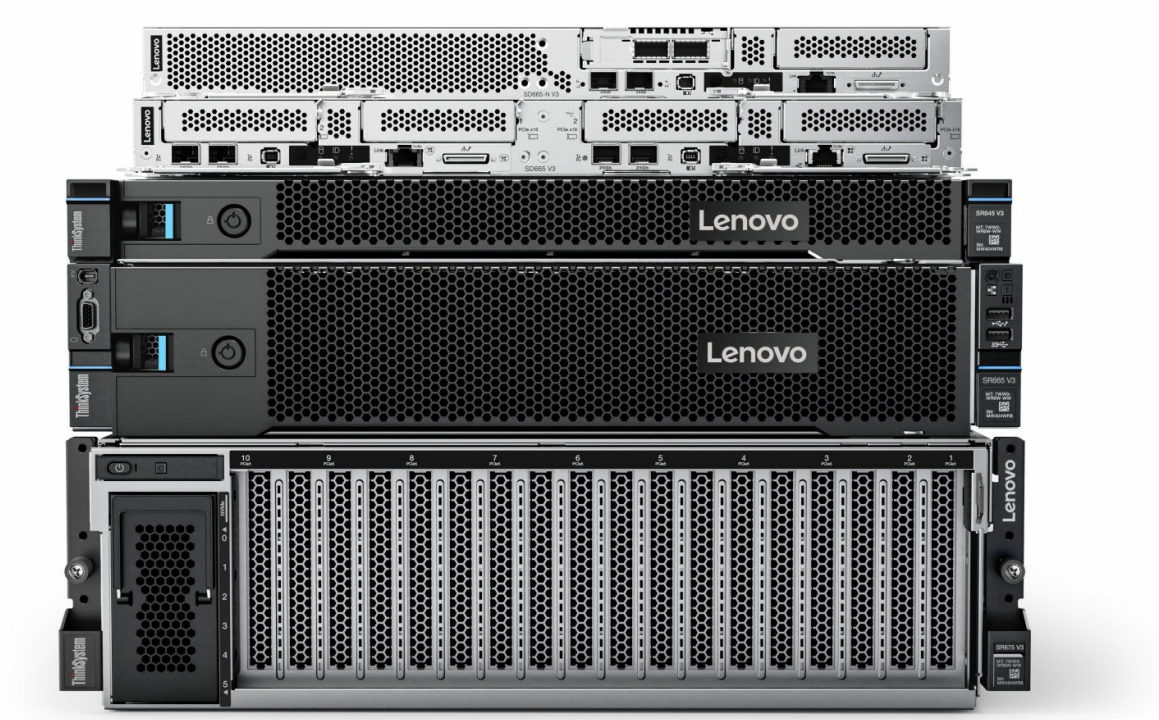

Figure 1. The family of ThinkSystem V3 servers with AMD processors

ThinkSystem V3 servers

The following five systems have been announced:

- ThinkSystem SR645 V3
- ThinkSystem SR665 V3
- ThinkSystem SR675 V3
- ThinkSystem SD665 V3
- ThinkSystem SD665-N V3

Tip: The single-socket SR635 V3 and SR655 V3 servers are planned to be announced and orderable in 1Q/2023.

New and updated references:

- Lenovo Servers and Storage Portfolio Guide
- Lenovo Server Comparison
- Introduction to DDR5 Memory

ThinkSystem SR645 V3

The Lenovo ThinkSystem SR645 V3 is a dense, high performance, 2-socket 1U rack server. It is suitable for small businesses to large enterprises, and especially cloud service providers. The server uses the new 4th Generation AMD EPYC™ processors and is designed to handle a wide range of workloads such as cloud computing, virtualization, VDI, enterprise applications, and database management.

Figure 2. Lenovo ThinkSystem SR645 V3

Details about the SR645 V3:

- Datasheet
- Product Guide
- 3D Tour (coming soon)
- Product web page

ThinkSystem SR665 V3

Lenovo ThinkSystem SR665 V3 is the optimum 2U, two-socket server. The SR665 V3 has the performance and flexibility to manage a complex set of workloads like data management, analytics, virtualization, cloud, and AI. The two 4th Gen AMD EPYC™ processors and the latest DDR5 memory maximize the performance of this 2U server.

Figure 3. Lenovo ThinkSystem SR665 V3

Details about the SR665 V3:

- Datasheet
- Product Guide
- 3D Tour (coming soon)
- Product web page

ThinkSystem SR675 V3

The ThinkSystem SR675 V3 is a modular 3U platform tailored to flexibly support your enterprise AI and other highly-accelerated technical computing workloads. It features a modular design for ultimate flexibility with six different front shuttle options. It utilizes the newest NVIDIA H100 GPUs, delivering a powerful enterprise-grade solution for deploying accelerated HPC and AI workloads.

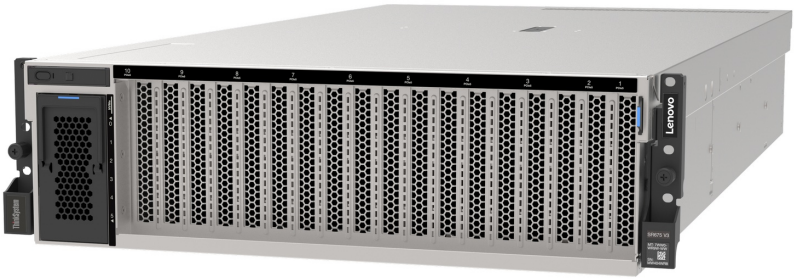

Figure 4. Lenovo SR675 V3 configured to support eight double-wide GPUs

Details about the SR675 V3:

- Datasheet
- Product Guide (coming soon)
- 3D Tour (coming soon)
- Product web page

ThinkSystem SD665 V3

The ThinkSystem SD665 V3 Neptune DWC node is the next-generation high-performance server based on the fifth generation Lenovo Neptune™ direct water cooling platform. With two fourth-generation AMD EPYC processors, the SD665 V3 node combines the latest AMD processors and Lenovo's market-leading water-cooling solution, which results in extreme performance in an extreme dense packaging, supporting your application from Exascale to Everyscale™.

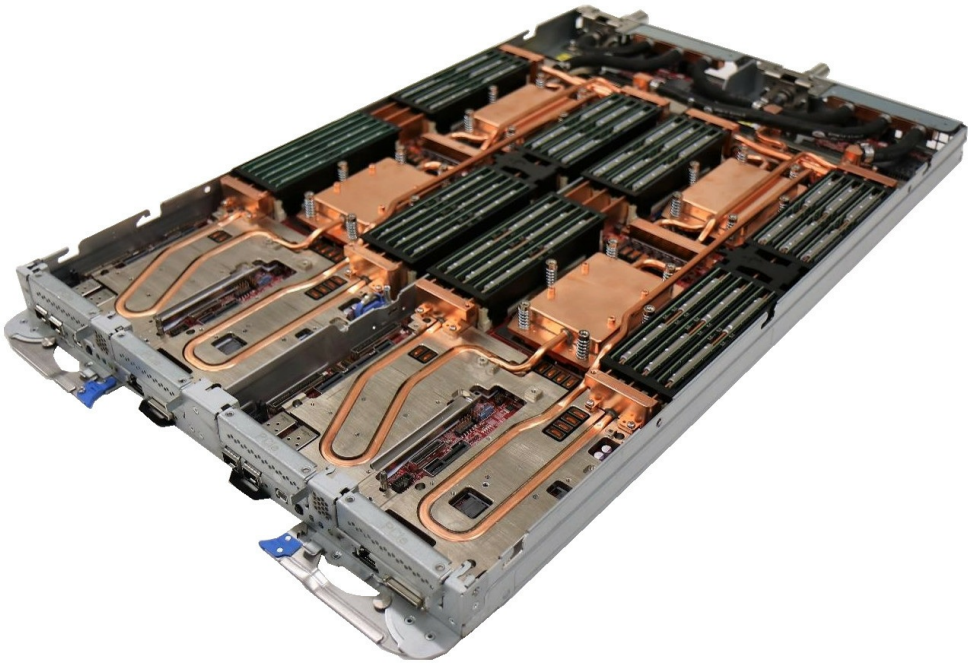

Figure 5. The ThinkSystem SD665 V3 server tray with two distinct two-socket nodes

Details about the SD665 V3:

- Datasheet
- Product Guide
- 3D Tour (coming soon)
- Product web page

ThinkSystem SD665-N V3

The ThinkSystem SD665-N V3 Neptune DWC node is the next-generation high-performance server based on the fifth generation Lenovo Neptune™ direct water cooling platform. With one or two fourth-generation AMD EPYC processors and four powerful NVIDIA H100 Tensor Core GPUs, the SD665-N V3 server features the latest technology from AMD and NVIDIA, combined with Lenovo's market-leading water-cooling solution, which results in extreme performance in an extreme dense packaging, supporting your application from Exascale to Everyscale™.

Figure 6. The ThinkSystem SD665-N V3 server tray with two processors and four NVIDIA GPUs

Details about the SD665 V3:

- Datasheet
- Product Guide
- 3D Tour
- Product web page

ThinkAgile V3 systems

The following ThinkAgile VX systems have been announced:

> **Tip**: The ThinkAgile HX systems with AMD EPYC 9004 are planned to be announced and orderable in 1Q/2023.

ThinkAgile VX645 V3 Integrated System
ThinkAgile VX645 V3 Certified Node

The ThinkAgile VX645 V3 are 2-socket 1U systems that feature the AMD EPYC 9004 "Genoa" family of processors. These systems run VMware software and are designed to offers a unique, software-defined approach to hyper convergence, leveraging the hypervisor to deliver compute, storage and management in a tightly integrated software stack.

Figure 7. ThinkAgile VX645 V3

Details about the ThinkAgile HX645 V3 systems

- Product Guide
- Datasheet (VX Series)
- 3D Tour (VX Series)
- Product web page (VX Series)

ThinkAgile VX665 V3 Integrated System
ThinkAgile VX665 V3 Certified Node

The ThinkAgile VX665 V3 are 2-socket 2U systems that feature the AMD EPYC 9004 "Genoa" family of processors. These systems run VMware software and are designed to offers a unique, software-defined approach to hyper convergence, leveraging the hypervisor to deliver compute, storage and management in a tightly integrated software stack.

Figure 8. ThinkAgile VX665 V3

Details about the ThinkAgile HX645 V3 systems

- Product Guide
- Datasheet (VX Series)
- 3D Tour (VX Series)
- Product web page (VX Series)

Benchmark results

The ThinkSystem SR665 V3 has achieved 24 #1 world record benchmark results across seven different industry benchmarks. Click the links to read about each benchmark and the results achieved.

- SPECjbb
- SPECcpu
- SPEC ACCEL OpenMP
- SPECompG
- SPEChpc 2021 Tiny
- SPEChpc 2021 Small
- SPECpower on Windows
- SPECpower on Linux

New server options

In addition to the new servers, we also announced the following options for our ThinkSystem servers. Click the links to view the product guides for the options.

New network adapters:

- ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port OCP Ethernet Adapter , 4XC7A80567
- ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port PCIe Ethernet Adapter , 4XC7A80566
- ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port OCP Ethernet Adapter , 4XC7A08243
- ThinkSystem Intel E810-DA4 10/25GbE SFP28 4-Port OCP Ethernet Adapter , 4XC7A80269
- ThinkSystem Intel E810-DA4 10/25GbE SFP28 4-Port PCIe Ethernet Adapter , 4XC7A80267
- ThinkSystem Intel X710-T2L 10GBase-T 2-Port PCIe Ethernet Adapter , 4XC7A80266
- ThinkSystem Intel X710-T4L 10GBase-T 4-Port OCP Ethernet Adapter , 4XC7A80268

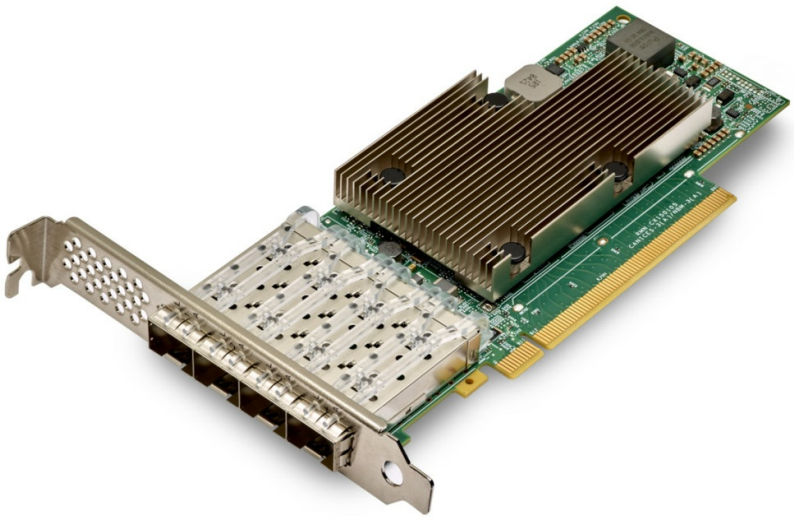

Figure 9. ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port PCIe Ethernet Adapter

New storage adapters:

- ThinkSystem 440-8e SAS/SATA PCIe Gen4 12Gb HBA , 4Y37A78837
- ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter , 4Y37A84028

New GPUs:

- ThinkSystem NVIDIA RTX A2000 12GB PCIe Active GPU , 4X67A76720
- ThinkSystem NVIDIA RTX A4500 20GB PCIe Active GPU, 4X67A76726
- ThinkSystem NVIDIA H100 80GB PCIe Gen5 Passive GPU, 4X67A82257
- ThinkSystem NVIDIA H100 SXM5 700W 80G HBM3 GPU Board, BQQV

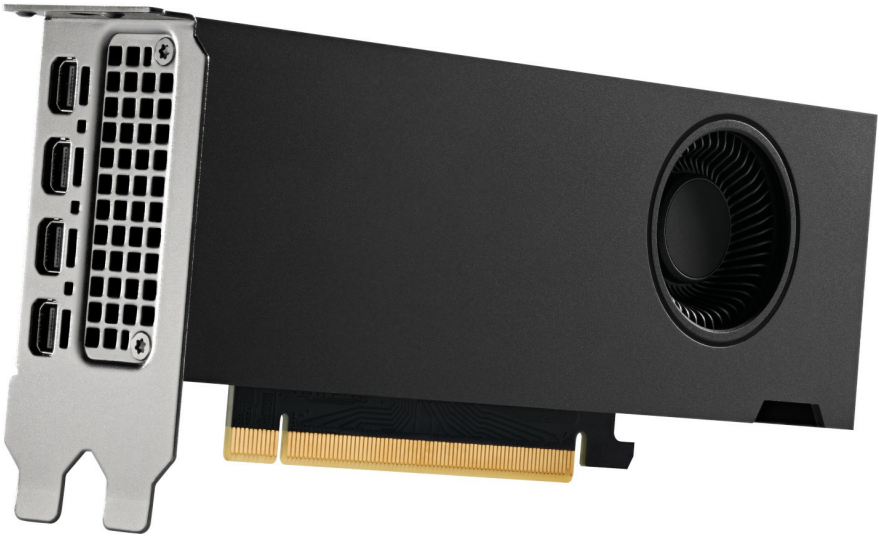

Figure 10. ThinkSystem NVIDIA RTX A2000 12GB PCIe Active GPU

Related product families

Product families related to this document are the following:

- ThinkSystem SR665 V3 Server
- ThinkSystem SR645 V3 Server
- ThinkSystem SD665 V3 Server
- ThinkSystem SD665-N V3 Server
- ThinkSystem SR675 V3 Server

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