H13 Petascale Storage System

Extreme-Performance Storage for Data-Intensive Applications

1U A+ Server ASG -1115S-NE316R

Next-Generation Purpose-Built NVMe Storage Platform

High density for software-defined storage, in-memory computing, data-intensive HPC, private and hybrid cloud, and AI/ML applications.

- 16 hot-swap EDSFF E3.S NVMe slots for up to 480 TB of storage
- Optional 4 CXL E3.S 2T form factor memory expansion modules plus 8 E3.S NVMe storage devices
- One 4th Gen AMD EPYC™ processor—up to 128 cores
- 24 DIMMs for up to 6 TB of DDR5 memory
- 2 PCIe 5.0 Open Compute Project (OCP) 3.0 SFF-compliant AIOM slots
- 2 full-height half-length PCIe 5.0 slots with auxiliary power
- Titanium-Level efficiency power supplies

The massive parallelism required in modern large-scale applications has unleashed a nearly insatiable hunger for data in today's enterprises. Artificial intelligence and machine-learning applications need to train on massive amounts of data in order to create reliable models. High-performance computing projects use and generate immense amounts of data to simulate what happens in the real world, from geophysical modeling to weather prediction to automotive crash analysis. Big data environments need substantial data sets to gain intelligence from real-world observations ranging from inputs from sensors to business transactions. And in the business world, a wide range of enterprise applications need colossal amounts of data close to computing with NVMe-over-Fabrics (NVMeoF) speeds.

Introducing H13 Petascale Storage Systems

Recognizing the need for more data, closer to computing, we have launched a new line of petascale storage platforms based on the extreme performance of 4th Gen AMD EPYC™ processors. These are designed to store, process, and move the amounts of data that today's enterprises need—so whether you need a distributed scale-out storage server or a highly parallel virtualized environment, our Petascale Storage Systems can be a valuable asset in your data center.

We have based our systems on Enterprise Data Center Standard Form Factor (EDSFF) E3 form factor NVMe storage that provides high capacity scaling, excellent performance with PCIe 5.0 connectivity, improved thermal efficiency, a common connector for all form factors that prepares you for the future generation of accelerated applications.

Our H13 Petascale Storage System is based on a new chassis and motherboard design that supports a single 4th Gen AMD EPYC processor with up to 128 cores and up to 6 TB of main memory. The system's 128 lanes of PCIe 5.0 bandwidth are balanced between the front-panel NVMe drives and the rear I/O devices. The bottom line: a compact 1U system capable of delivering more than 200 GB/s of bandwidth and more than 25 million IOPS from a half petabyte of storage.

Designed for Storage-Intensive Workloads

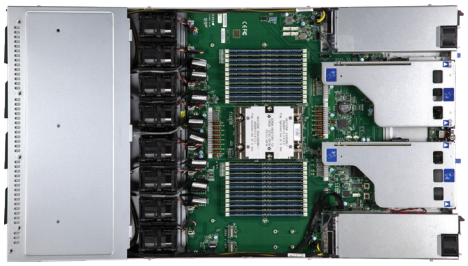
If your data center needs to process, store, and move large amounts of data, the ASG -1115S-NE316R server is right for your workloads, including the following:

- Data-intensive high-performance computing
- AI/ML data storage
- Virtualized and cloud environments
- Hyperconverged environments including VMware vSAN and Microsoft Azure
- High-speed NVMeoF solutions

- Software-defined storage applications like Weka, Lightbits, and GRAID as well as open-source solutions such as DAOS, Lustre, and Ceph.
- Large databases running software such as MongoDB and MySQL
- High-performance object stores such as MinIO
- In-memory computing

Open Management

Our open management APIs and tools are ready to support you. In addition to a dedicated IPMI port, and a Web IPMI interface, Supermicro® SuperCloud Composer software helps you configure, maintain, and monitor all of your systems using single-pane-of-glass management. If your DevOps teams prefer to use their own tools, industry-standard Redfish® APIs provide access to higher-level tools and scripting languages.



H13 Generation	Single-Socket ASG -1115S-NE316R
Form Factor	• 1U rackmount
Processor Support	• One SP5 sockets for pme AMD EPYC™ 9004 Series CPU • Up to 128 cores†
Memory Slots & Capacity	• 12-channel DDR5 memory support • 24 DIMM slots for up to 6 TB of main memory using 256-GB 4800-MHz ECC DDR5 RDIMM or LRDMM • Memory Type: 4800MHz ECC DDR5 RDIMM;LRDIMM
On-Board Devices	• System on Chip • Hardware root of trust • IPMI 2.0 with virtual-media-over-LAN and KVM-over-LAN support
I/O Ports	• Integrated IPMI 2.0 plus KVM with dedicated LAN • 4 USB 3.0 ports • 1 serial port • 1 VGA port
Drive Bays	• 16 hot-swap EDSFF E3.S NVMe slots or 8 NVMe slots and 4 CXL 1.1 x8 slots • 2 PCIe 3.0 M.2 NVMe boot drives
Networking & Expansion Slots	• 2 PCIe 5.0 Open Compute Project (OCP) 3.0 SFF-compliant AIOM slots • 2 full-height half-length PCIe 5.0 slots with auxiliary power
BIOS	• AMI Code Base 256 Mb (32 MB) SPI EEPROM
Front Panel	• Power On/Off and System Reset buttons • Power status, HDD activity, network activity, system overheat, fan failure, and UID LEDs
System Management	• Built-in server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port • Redfish APIs • Supermicro SuperCloud Composer • Supermicro Server Manager (SSM) and Supermicro Update Manager (SUM)
Power & Cooling	• 1600W Redundant Power Supplies (Titanium Level)

† Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization