

H15 CLOUDDC Systems

All-In-One Servers with Flexible I/O for Cloud-Scale Data Centers



AS-1117C7-N



AS-2117C7-N

CloudDC servers are designed to shift the market from monolithic architectures to a modular design. Our H15 CloudDC system OCP Data Center – Modular Hardware System (DC-HMS) compliant servers are now offered in 1U and 2U versions. This yields a scalable and easily pluggable suite of servers that can interoperable throughout your data center with standardized interfaces and form factors. New, more flexible storage options enable you match storage performance and capacity with virtually any workload. These servers are ready to take you into the future with cost-optimized services in an increasingly competitive business climate.

Cloud-Optimized Single-Socket Systems

The H15 CloudDC systems are single-socket systems optimized for AMD EPYC™ 9006 Series processors with up to 256 cores and 512 threads—ready to power a wide range of cloud workloads. The capacity for up to 4 TB¹ of memory accessed through 16 high-speed channels provides the right balance of CPU-to-memory resources to power workloads ranging from financial services to virtualization. Internally, the system utilizes 96 PCIe 6.0 lanes that support high-speed, high-bandwidth networking and storage. When used for AI workloads, the 2U server can support up to three full-height full-length GPUs connected via 16 lanes of PCIe 6.0 bandwidth.

Flexible and OCP-Compliant Single-Socket Systems

Modular design compatibility and massive web and cloud deployment

- Single-socket servers with up to 256 cores of 6th Gen AMD EPYC™ processor performance
- Built for compatibility with Open Compute Project (OCP) Data Center-Modular Hardware System (DC-MHS)
- Up to 4 TB¹ of memory with 16 DDR5-8000 RDIMMs or DDR5-12800 MRDIMMs
- Two PCIe 6.0 I/O slots with CXL 3.1 support
- 16-lane OCP 3.0 AIOM slot for flexible networking
- Flexible storage options to meet virtually any workload requirements

¹ Capacity is calculated based on 256GB Memory DIMM

Modular Storage Options

The H15 CloudDC servers feature a new flexible, modular set of storage options that open the door to more flexibility today, and for innovative front-panel PCIe connectivity options in the future. Our 1U AS-1117C7-N houses up to three storage modules to hold up to 12 2.5", 12 E3.S 1T, or 12 E1.S drives, or up to 2 E3.S 2T (CXL) drives with support for CXL3.1 memory expansion. Our 2U AS-2117C7-N houses up to three storage modules that can be configured with up to 16 2.5" drives, 16 2.5" 16x E3.S 1T, or 12 E1.S drives, or up to 4 E3.S 2T (CXL) drives with memory expansion. In both systems, each drive is connected directly to the CPU through 4 lanes of PCIe 6.0 connectivity. Each system can host up to two external optional hot-swap M.2 drives.

Modular I/O

The H15 CloudDC line supports an Open Compute Project (OCP) 3.0-compliant and Supermicro's Advanced I/O Modules (AIOM) with x16 PCIe 6.0 connectivity. This enables you to dial in the type and bandwidth of network connectivity that meets your business needs. Support 100 Gigabit Ethernet to connect with the network you have in place today, as well as 400-Gbps² InfiniBand connectivity for extremely high-bandwidth, low-latency cluster interconnections. An OCP standards-based DC-SCM management card includes 2x USB 3.2 Type A, 1x USB 2.0 Type C, RJ45 dedicated IPMI, and a VGA connector.

¹ Capacity is calculated based on 256GB Memory DIMM

² Depending on final thermal validation.

Modular Design

Cloud data centers are all about scale, with a constant flow of new servers that scale capacity to new heights and also refresh existing infrastructure. The system's DC-MHS compliance gives you the capability to easily interchange components, or repair failures, without the need for tools other than for the motherboard.

The front-panel-accessible drives and their brackets are hot swappable and require no tools. Rear-panel components including power supplies, PCIe devices, and AIOM cards are all tool-less. The chassis lid can be opened by hand and the DC-MHS mid-chassis fans pop out for replacement.

Key Applications

H15 CloudDC systems are designed for cost-effective service delivery in cloud computing environments, including the following workloads:

- Cloud storage and cloud computing
- AI inference workloads
- Virtualized environments
- Content streaming and translation
- Big data analysis

Designed for AMD EPYC Processors

A single AMD EPYC 9006 Series processor gives you a no-compromise single-socket system, delivering the core density that once required two processors to achieve. With AMD you get more cores per dollar, more virtual instances on a server, and more subscribers in your data center. The CPU boasts up to 256 cores and 96 lanes of PCIe 6.0 connectivity. The system-on-chip nature of the processor eliminates the need for external chip sets that contribute to design complexity and power consumption. Best of all, you only need to purchase and power a single processor for a high-performing, highly configurable system.

Open Management

In addition to a dedicated IPMI port, and a Web IPMI interface, our management tools include Supermicro® [SuperCloud Composer](#)®, [Supermicro Server Manager \(SSM\)](#), [SuperDiagnostics Online \(SDO\)](#), [Supermicro Thin-Agent Service \(TAS\)](#), [SuperServer Automation Assistant \(SAA\)](#), and [plug-ins for third-party software](#). In addition, your DevOps teams can create their own tools using industry-standard Redfish® APIs for deployment and management to exactly meet the needs of your organization.

H15 Generation	AS -1117C7-N	AS -2117C7-N
Form Factor	• 1U rackmount	• 2U rackmount
Mechanical	• Tool-less drive trays and brackets	
Processor Support	• Single SP7 socket for AMD EPYC™ 9006 Series processors, up to 256 cores, up to 600W TDP ¹	
Memory Slots & Capacity	• 16-channel DDR5 memory support • 12 DIMM slots for up to 4 TB ² ECC DDR5-8000 RDIMM or DDR5-12800 MRDIMM	
Expansion Slots	• Up to 2 PCIe 6.0 x16 (FHHL) slots with CXL 3.1 support for all device types • 1 PCIe 6.0 x16 OCP 3.0 AIOM slot for flexible networking	• 5 PCIe 6.0 x 16 (3x FHFL, 2 FHHL) or • 4 PCIe 6.0 x16 (2x FHFL, 2 FHHL) and 2 PCIe 6.0 x8 (FHFL) • 1 PCIe 6.0 x16 OCP 3.0 AIOM slot for flexible networking
Storage	• Up to 12x 2.5" or 12x E3.S 1T or 12x E1.S or 2x E3.S 2T (CXL) • 2 optional hot-swap/internal M.2 NVMe drives	• Up to 16x 2.5" or 16x E3.S 1T or 12x E1.S or 2x E3.S 2T (CXL) • 2 optional hot-swap/internal M.2 NVMe drives
DC-SCM Ports	• 1 RJ45 dedicated IPMI management port • 2x USB 3.2 Type A, 1x USB 2.0 Type C • 1 display port	
Security	• TPM 2.0 header • Hardware root of trust	
System Management	• ASPEED AST2700 BMC graphics • Supermicro SuperCloud Composer • Supermicro Server Manager (SSM) and SuperServer Automation Assistant (SAA)	
System Cooling	• 8 counter-rotating 40x40x56mm PWM fans	• 6 counter-rotating 60x60x56mm PWM fans
Power Supply	• Up to 2x High-efficiency power supply (Titanium Level 96%) (1600W/ 2000W) • (Full redundancy based on configuration and application load)	• Up to 2x High-efficiency power supply (Titanium Level 96%) (2000W/ 3200W) • (Full redundancy based on configuration and application load)

1. Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization. *Optional parts are required for NVMe/SAS/SATA configuration

2. Capacity is calculated based on 256GB Memory DIMM.