H14 CLOUDDC System

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

A+ Server 1116CS-TN

Flexible and OCP-Compliant Single-Socket Server

Modular design compatibility and massive web and cloud deployment

- Single-socket servers with up to 192 cores of 5th Gen AMD EPYC processor performance
- Built for compatibility with Open Compute Project (OCP) Data Center-Modular Hardware System (DC-MHS)
- Up to 4.5 TB of memory with 12 DDR5-6400 DIMMs (at 6000 MHz)
- Two PCIe 5.0 I/O slots with CXL 2.0 support
- 16-lane AIOM slot for flexible networking
- Up to 12 2.5" SAS, SATA, and NVMe drive options to meet virtually any workload storage requirements

A server designed to shift the market from monolithic architectures to a modular design, Supermicro's H14 CloudDC system OCP Data Center – Modular Hardware System (DC-HMS) compliant. This yields a scalable and easily pluggable system that will be increasingly interoperable throughout your data center with standardized interfaces and form factors. This server is ready to take you into the future with cost-optimized services in an increasingly competitive business climate.

Cloud-Optimized Single-Socket Systems

The H14 CloudDC systems are single-socket systems optimized for AMD EPYC™ 9005 Series processors with up to 192 cores and 384 threads—ready to power a wide range of cloud workloads. The capacity for up to 4.5 TB of memory accessed through twelve 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 128 PCIe 5.0 lanes that support high-speed, high-bandwidth networking and storage. The H14 CloudDC system is designed to be multi-generational, with the capability to drop in a prior-generation AMD EPYC 9004 Series processor or one with AMD 3D V-Cache™.

Advanced I/O

The H14 CloudDC line supports an Open Compute Project (OCP) 3.0-compliant and Supermicro's Advanced I/O Modules (AIOM) with x16 PCIe 5.0 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 200-Gbps InfiniBand connectivity for extremely high-bandwidth, low-latency cluster interconnections. The system's two full-height, half-length PCIe 5.0 x16 slots support CXL 2.0 for extended and tiered memory.

Key Applications

H14 CloudDC systems are designed for cost-effective service delivery in cloud computing environments, including the following workloads:

- Internet infrastructure including Web hosting, name, and email services
- Virtualization
- Public and private cloud computing
- Content-delivery networks (CDNs)
- Deep learning inferencing
- Financial services applications

Designed for AMD EPYC Processors

A single AMD EPYC processor gives you a no-compromise single-socket system, delivering the core density that once required two processors to achieve. With AMD

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you get more cores per dollar, more virtual instances on a server, and more subscribers in your data center. The CPU's 128 lanes of PCIe 5.0 connectivity eliminates the need to scale up computing power just to accommodate more I/O bandwidth. 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.
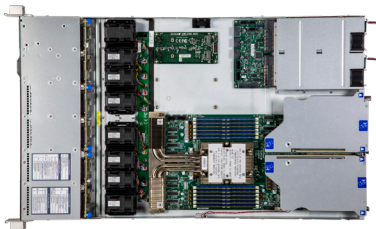
Modular Design

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.

Open Management

Regardless of your data center's management approach, our open management APIs and tools are ready to support you. 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.

H14 Generation	AS -1116CS-TN[1]
Form Factor	• 1U rackmount
Mechanical	• Tool-less drive trays and brackets
Processor Support	• Single SP5 socket for AMD EPYC™ 9004 or 9005 Series processors, including those with AMD 3D V-Cache™ technology, up to 192 cores, up to 500W TDP[2]
Memory Slots & Capacity	• 12-channel DDR5 memory support • 12 DIMM slots for up to 4.5 TB ECC DDR5-6400 RDIMM at 6000 MHz
Expansion Slots	• 2 PCIe 5.0 x16 (FHHL) slots with CXL 2.0 support for all device types • 1 PCIe 5.0 x16 OCP 3.0/AIOM slot for flexible networking
Storage	• 8 (default) or 12 Hot-swap 2.5" NVMe/SAS/SATA drive bays[3] • 2 PCIe 3.0 x2 M.2 NVMe drives
DC-SCM Ports	• 1 RJ45 dedicated IPMI management port • 2 USB 3.0 ports with USB 2.0 speed • 1 USB 3.0 port with display port support • ASPEED AST2600 BMC graphics
Security	• TPM 2.0 header • Hardware root of trust
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)
System Cooling	• 8 Counter-rotating 40x40x56mm PWM fans
Power Supply	• Redundant 1200W or 1600W Titanium Level M-CRPS PSUs[4] • Redundant 1000W or 2000W Titanium Level CRPS PSUs[4]

1. Sold only as a completely assembled system

2. 320W TDP and higher CPUs may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization.

3. Optional parts are required for NVMe/SATA configurations

4. Full redundancy based on configuration and application load.

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