

H12 Twin Systems

High Density Combined with Low Cost through Resource Sharing



A+ Server 2124BT-HNTR “Big Twin®”



A+ Server 2014TP-HTR “TwinPro®”

4-Node-Per-Chassis Scalable Architecture

Maximize resource savings through shared power and cooling

- Resource-saving hot-pluggable 4-node architecture in a 2U form factor
- 2nd or 3rd Gen AMD EPYC™ Processors; up to 2 per node in the BigTwin and 1 per node in the TwinPro
- Up to 16 DIMM slots per node for up to 4 TB of DDR4-3200 memory
- Flexible options for NVMe and SATA3 drives
- Flexible SIOM with networking for up to 100 Gigabit Ethernet or 100G InfiniBand EDR
- Redundant Titanium level power supplies

Optimized for high density and low cost, our 2U Twin servers host up to four nodes in only two rack units. The A+ BigTwin® nodes support up to two AMD EPYC™ processors, and the A+ TwinPro® nodes host a single AMD EPYC processor.

Multi-node Servers for High-Density Operations

These SuperMicro multi-node servers are designed for high-density environments where you need a large number of discrete servers with high-speed interconnects for networked or clustered operations. These servers provide maximum density — four nodes in only two rack units — with lower capital and operating cost through shared power supplies and cooling fans. Typical workloads hosted on A+ Twin servers run either on bare metal or virtualized:

- **High-performance computing** including EDA simulation, computational fluid dynamics, and weather modeling
- **Back-end infrastructure** for online gaming services
- **Cloud-applications and software as a service (SaaS)**
- **Enterprise datacenter applications** including private cloud, virtualization clusters, and network infrastructure applications

No-Compromise Systems

In the past, choosing multi-node systems meant making a performance compromise because of the limited set of

processors that could be supported with this density. Today, with AMD EPYC processors hosting up to 64 cores per CPU, a single-socket system can provide the same processing power that formerly required two processors.



The massive I/O capacity of AMD EPYC processors delivers bandwidth and expandability. Sixteen lanes of PCI-E 4.0 connectivity integrates an optional SIOM module, enabling up to 100 Gigabit Ethernet or 200-Gbps HDR InfiniBand connectivity. Each node also offers 16 lanes of connectivity to two low-profile PCI-E expansion slots in addition to front-panel disk drives.

A+ BigTwin Server

Designed for the most demanding workloads the A+ BigTwin server supports four nodes, each with dual AMD EPYC 7002 or 7003 Series processors for up to 128 cores and 256 threads per node — up to 512 cores per server — and up to 4 TB of DDR4-3200 memory.

A+ TwinPro Server

The A+ TwinPro server supports four nodes, each with a single AMD EPYC 7002 or 7003 Series processor with up to 64 cores and up to 2 TB of DDR4-3200 memory. A single-socket system, this server's nodes support the entire AMD EPYC processor range,

so the fastest server processors available anywhere can power your applications. The A+ TwinPro is designed for massive disk capacity, with large-form-factor (LFF) drives populating the front panel.

Designed for Reliability

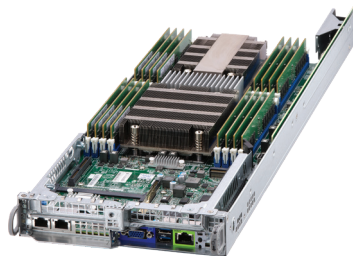
When you build a cluster of high-density servers, the last thing you need is for a failure to interrupt your workload. We built in reliability with a no-cable architecture. The server midplane connects directly to the power supplies and each server in the rear, and to the disk cages in the front. This design eliminates cables and sockets within the chassis, reducing the chance of failure. In the event of a disk or node failure, all components are hot pluggable in both the front and rear of the chassis.

Open Architecture

Our open-architecture approach for memory and storage gives you the convenience of pre-installed, Supermicro-qualified devices or the freedom to populate the chassis on your own. Whatever your choice, our approach gives you flexibility, easy maintenance, and operating cost reduction.

Open Management

Our approach to management enables you to deliver the scale your organization requires. 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, our accessible RedFish-compliant API provides access to higher-level tools and scripting languages. Regardless of your datacenter’s management approach, our open management APIs and tools are ready to support you.



| H12 Generation | Dual-Socket AS -2124BT-HNTR BigTwin | Single-Socket AS -2014TP-HTR TwinPro |
|-------------------------|---|---|
| Processor Support | <ul style="list-style-type: none"> Dual SP3 socket for up to two AMD EPYC™ 7002 or 7003 Series processors Up to 64 cores, up to 240W TDP per socket* | <ul style="list-style-type: none"> Single SP3 socket for one AMD EPYC™ 7002 or 7003 Series processor Up to 64 cores, up to 280W TDP* |
| Memory Slots & Capacity | <ul style="list-style-type: none"> 16 DIMM slots for DDR4-3200 MHz RDIMM/LRDIMM; up to 4 TB registered ECC 8GB, 16GB, 32GB, 64GB, 128GB, and 256GB memory sizes supported | <ul style="list-style-type: none"> 8 DIMM slots for DDR4-3200 MHz RDIMM/LRDIMM; up to 2 TB registered ECC 8GB, 16GB, 32GB, 64GB, 128GB, and 256GB memory sizes supported |
| On-Board Devices | <ul style="list-style-type: none"> System on Chip NVMe and 6 Gbps SATA3 storage interfaces via AMD EPYC processor IMPI 2.0 with virtual-media-over-LAN and KVM-over-LAN support ASPEED AST2500 BMC graphics | <ul style="list-style-type: none"> System on Chip 6 Gbps SATA3 storage interface via AMD EPYC processor IMPI 2.0 with virtual-media-over-LAN and KVM-over-LAN support ASPEED AST2500 BMC graphics |
| I/O Ports | <ul style="list-style-type: none"> 1 RJ45 Dedicated IPMI LAN port 2 USB 3.0 ports (rear) 1 VGA, 1 SuperDOM (Disk on Module), and 1 COM port header 1 TPM 2.0 header | <ul style="list-style-type: none"> 1 RJ45 Dedicated IPMI LAN port 2 USB 3.0 ports (rear) 1 VGA, 1 SuperDOM (Disk on Module), and 1 COM port header 1 TPM 2.0 header |
| BIOS | <ul style="list-style-type: none"> AMI 256 Mb (32 MB) SPI Flash ROM | <ul style="list-style-type: none"> AMI 256 Mb (32 MB) SPI Flash ROM |
| System Management | <ul style="list-style-type: none"> Integrated IPMI 2.0 plus KVM with dedicated LAN Supermicro Server Manager (SSM) and Supermicro Update Manager (SUM) Supermicro SuperDoctor® 5 and Watch Dog | <ul style="list-style-type: none"> Integrated IPMI 2.0 plus KVM with dedicated LAN Supermicro Server Manager (SSM) and Supermicro Update Manager (SUM) Supermicro SuperDoctor® 5 and Watch Dog |
| Chassis | CSE-217BHQ+-R2K22BP | CSE-827HQ+-R2K04BP2 |
| Form Factor | <ul style="list-style-type: none"> 2U rackmount | <ul style="list-style-type: none"> 2U rackmount |
| Front Panel | <ul style="list-style-type: none"> On/off and Universal Information (UID) buttons Power status, HDD activity, network activity, and UID LEDs | <ul style="list-style-type: none"> On/off and Universal Information (UID) buttons Power status, HDD activity, network activity, and UID LEDs |
| Expansion Slots | <ul style="list-style-type: none"> 2 PCI-E 4.0 (x16) low-profile slots, 1 SIOM card support | <ul style="list-style-type: none"> 2 PCI-E 4.0 (x16) low-profile slots, 1 SIOM card support |
| Drive Bays | <ul style="list-style-type: none"> 6 hot-pluggable 2.5" drive bays per node: 4 NVMe/SATA3 and 2 SATA3; or 6 SATA3 2 M.2 NVMe/SATA3 slot per node | <ul style="list-style-type: none"> 3 hot-pluggable 3.5" SATA3 drive bays per node 4 M.2 NVMe/SATA3 slots per node |
| Shared Power & Cooling | <ul style="list-style-type: none"> 4 heavy duty 8 cm PWM fans Redundant 2200W Titanium Level power supplies | <ul style="list-style-type: none"> 4 heavy duty 8 cm PWM fans Redundant 2000W Titanium Level power supplies |

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