X12 Server Solutions

Supporting 3rd Gen Intel® Xeon® Scalable Processors

(Ice Lake)

SUPERMICRO® H12 GENERATION A+ SERVERS

Choose from the most comprehensive line of servers, GPU and blade systems in the industry

Up to 64 cores/128 threads per socket with AMD EPYC 7003 or 7002 Series Processors*

Up to 32 DIMMs of DDR4-3200MHz memory for up to 8TB per system

Increased I/O throughput with PCI-E 4.0 and up to 128 lanes per socket

Hot-pluggable U.2 NVMe storage for better application responsiveness

3-Year Limited Warranty and 24-Hour Technical Support

H12 Twin Systems

Industry Leading Multi-Node Architectures

- Single/Dual Socket, up to 240W TDP
- 16 DIMMs DDR4-3200MHz, up to 4TB
- Flexible onboard SIOM networking up to 100G Ethernet
- Up to 4x 2.5" NVMe/SATA + 2x 2.5" SATA or 3x 3.5" SATA
- Redundant 2200W Titanium Level power supplies

H12 Ultra

Industry Leading IOPS, Energy Efficiency, and Flexibility

- Dual Socket, up to 280W TDP
- 32 DIMMs DDR4-3200MHz, up to 8TB
- Flexible onboard networking up to 4x 10G Ethernet
- 24/12x U.2 NVMe in 2U/1U or 12/4x 3.5" SATA in 2U/1U
- Redundant 1200W/1600W Titanium Level power supplies

H12 WIO

Cost and Energy Efficiency for Data Center Environments

- Single Socket, up to 280W TDP
- 16 DIMMs DDR4-3200MHz, up to 4TB
- Onboard 2x 10G Ethernet
- 2.5" or 3.5" NVMe/SATA drives
- Redundant 750W Platinum Level power supplies

H12 SuperBlade®

High Density, Performance, and Efficient Resource-Saving Architecture

- Up to 20x 1-socket SuperBlade servers in 8U
- Single Socket with 8 DIMMs, up to 2TB
- Onboard 2x 25G Ethernet and optional 200G HDR
- Up to 2 hot-pluggable NVMe/SAS/SATA and 2 M.2 per node
- Up to 1 double-wide or 2 single-wide GPUs per node

H12 GPU System

The Broadest Portfolio for AI, Deep Learning, and HPC acceleration

- Dual Socket, up to 280W TDP
- 32 DIMMs DDR4-3200MHz, up to 8TB
- Supports the latest GPUs including NVIDIA A100 and AMD Instinct™ MI100
- Onboard GbE or flexible AIOM networking   (Redstone no AIOM, Delta not default with onboard LAN)
- Redundant 3000W Titanium Level power supplies

H12 Mainstream

Efficient and Cost-Effective Designs for Mainstream Applications

- H12 mainstream support up to 280W TDP
- 16 DIMMs DDR4-3200MHz, up to 4TB
- Up to onboard 2x 10G Ethernet
- Up to 8x 3.5" SATA drives in 2U with SAS option
- 1U, 2U, 4U rackmount/tower

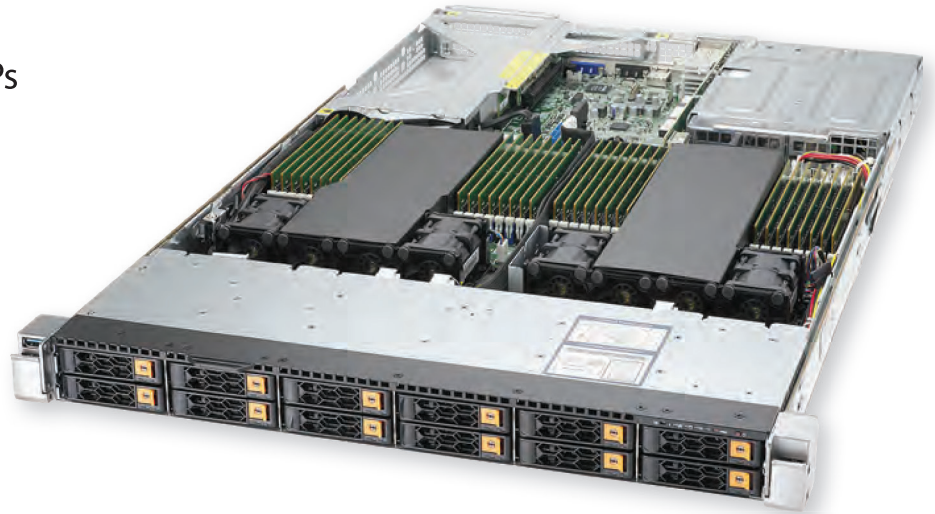*AMD EPYC 7003 series processor support requires BIOS version 2.0 or newer*

H12 ULTRA SYSTEMS
Industry Leading IOPS, Energy Efficiency, and Flexibility
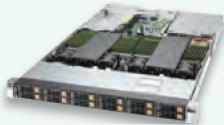
Optimized for highest processor TDPs

Up to 24x Hybrid NVMe/SAS/SATA drive bays

Up to 3 double width GPUs

AS -1124US-TNRP

1U Ultra, 12 NVMe	1U Ultra, 8TB DDR4	2U Ultra, 8TB DDR4	2U Ultra, 8TB DDR4
AS -1124US-TNRP	**AS -1024US-TRT**	**AS -2124US-TNRP**	**AS -2024US-TRT**
1U Dual-Processor Server with 32 DIMMs and 12x hot-swap 2.5" U.2 NVMe drives	1U Dual-Processor Server with 32 DIMMs and 4x hot-swap 3.5" SATA/NVMe drives	2U Dual-Processor Server with 32 DIMMs and 24x hot-swap 2.5" U.2 NVMe drives	2U Dual-Processor Server with 32 DIMMs and 12x hot-swap 3.5" SATA/NVMe drives

HIGHEST PERFORMANCE A+ ULTRA SERVERS

Supermicro® A+ Ultra system are designed to deliver the highest performance, flexibility, scalability and serviceability to demanding IT environments, and to power mission-critical Enterprise workloads, including support for dual AMD EPYC 7003 or 7002 Series Processors* and 32 DIMMs of DDR4-3200MHz memory for up to 8TB of capacity.

- Uncompromised performance design with 2 CPU sockets and 32 DIMMs optimized for supporting the highest processor TDPs

- Best-in-class server features including all NVMe, hybrid storage and low latency optimizations

- Vast networking and expansion possibilities with Ultra Riser cards

AMD EPYC 7003 series processor support requires BIOS version 2.0 or newer

Key Applications

- Enterprise Server
- Hyperconverged Storage
- Virtualization
- AI Training/Inferencing
- Big Data Analytics
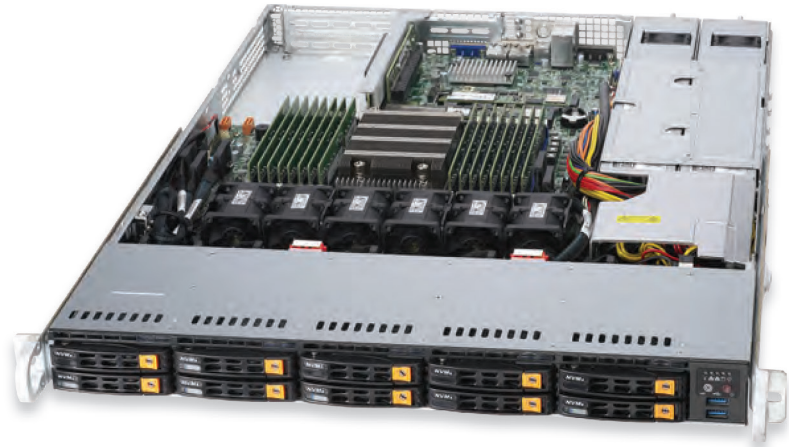- Cloud Computing
- CDN
- In-Memory Database

H12 WIO Servers
Industry's Widest Variety of I/O Optimized Servers

Cost saving single-socket I/O configurability with up to 64 cores, 8 or 16 DIMMs

Up to 10x (1U) or 24x (2U) U.2 NVMe and dual onboard 10G

Redundant high-efficiency 750W Platinum Level or 1200W Titanium power supplies

AS -1114S-WN10RT

1U WIO	1U WIO	1U WIO	2U WIO
AS -1014S-WTRT	AS -1114S-WTRT	AS -1114S-WN10RT	AS -2114S-WN24RT
1U Single-Processor Server with 8 DIMMs, 4x 3.5" SATA drives, 2x M.2, optional 4x U.2 NVMe and 2x NVIDIA T4 GPUs	1U Single-Processor Server with 8 DIMMs, 10x 2.5" SATA, 2x M.2, optional 2x U.2 NVMe drives and 2 NVIDIA T4 GPUs	1U Single-Processor Server with 16 DIMMs and 10x 2.5" U.2 NVMe drives	2U Single-Processor Server with 16 DIMMs and 24x U.2 NVMe drives

COST AND ENERGY EFFICIENCY FOR DATA CENTER ENVIRONMENTS

Supermicro® A+ WIO systems offer a wide range of I/O options to deliver truly optimized systems for specific requirements. Users can optimize the storage and networking alternatives to accelerate performance, increase efficiency and find the perfect fit for their applications.

In addition to enabling customizable configurations and optimization for multiple application requirements, A+ WIO servers also provide attractive cost advantages and investment protection.

Key Applications

- Enterprise Mission-critical Applications
- Data Center Cloud Computing
- Virtualization
- Big Data
- Financial Analysis

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X12 **BIGTWIN**®
Leading Multi-node Architectures

Highly configurable 2U 4-node and 2U 2-node systems

3rd Gen Intel® Xeon® Scalable processors, 2 per node, up to 270W TDP

All-hybrid hot-swappable drive bays - NVMe, SAS or SATA (2.5" or 3.5" drives) - Up to 12 NVMe drives per node.

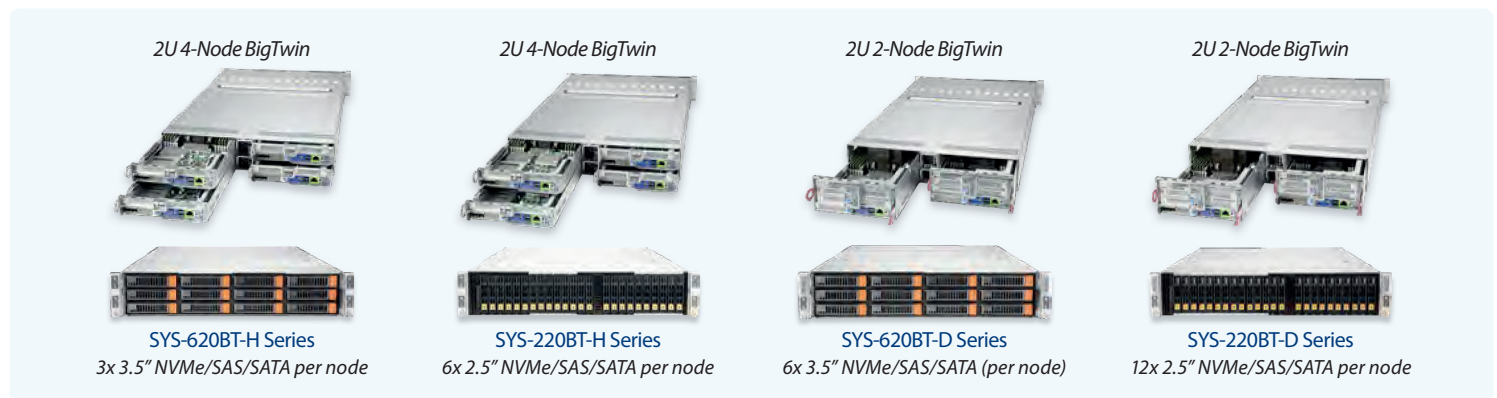16 DIMMs + 4 Intel Optane Persistent Memory 200 series per node

PCI-E 4.0 AIOM (OCP 3.0 compliant) networking - 1 per node

2U 4-Node

AIOM Ready

(Rear View)
SYS-220BT-H Series

2U 4-Node BigTwin	2U 4-Node BigTwin	2U 2-Node BigTwin	2U 2-Node BigTwin
SYS-620BT-H Series	SYS-220BT-H Series	SYS-620BT-D Series	SYS-220BT-D Series
3x 3.5" NVMe/SAS/SATA per node	*6x 2.5" NVMe/SAS/SATA per node*	*6x 3.5" NVMe/SAS/SATA (per node)*	*12x 2.5" NVMe/SAS/SATA per node*

Highly Modular Multi-Node Systems with Tool-Less Design

Supermicro ® X12 BigTwin ® systems provide superior performance and serviceability with dual 3rd Gen Intel Xeon Scalable processors per node and hot swappable tool-less design.

Superior modular mid-plane design with PCI-E Next Gen Storage Controller Options.

Multi-node BigTwins with shared components can be more cost effective than standard 1U servers.

Key Applications

- HCI
- HPC
- CDN
- Hybrid Cloud, Container-as-a-Service
- Cloud Computing
- Big Data Analytics
- Back-up and recovery
- Scale-Out Storage

X12 GPU WITH PCI-E
High Performance and Flexibility for AI/ML and HPC Applications

High performance AI/ML and HPC-optimized solution

Optimized for graphics and rendering applications

Double the CPU to GPU throughput with PCI-E 4.0

Dual socket Intel® Xeon® Scalable processors up to 270W

NVIDIA GPUs supported

NVIDIA certified system

4U 10-GPU

SYS-420GP-TNR

AIOM Ready

1U 4-GPU	2U 6-GPU	4U 4-GPU	4U 10-GPU
SYS-120GQ-TNRT	SYS-220GP-TNR	SYS-740GP-TNRT	SYS-420GP-TNR
Highest Density, PCI-E GPU	*Balanced Solution, PCI-E GPU*	*Flexible Solution, PCI-E GPU*	*Dual Root Configuration, PCI-E GPU*

Flexible Root Configuration, PCI-E GPU System

High density systems for double-width, full length PCI-E GPUs.

- 1U: support up to four PCI-E GPUs

- 2U: supporting up to six PCI-E GPUs

- 4U: supporting up to ten PCI-E GPUs

NVMe for lower latency with higher throughput.

New level of compute performance with Intel Xeon Scalable processors.

Key Applications

- AI/ML
- Deep Learning Training and Inference
- High-performance Computing (HPC)
- Rendering Platform for High-end Professional Graphics
- Best-in-Class VDI Infrastructure Platform

GRANDTWIN OVERVIEW – 2U4N FRONT IO SYSTEM

PCI-E/Storage

AIOM/Storage

Flexible Front I/O Module

BMC, VGA
2x USB
LAN ports
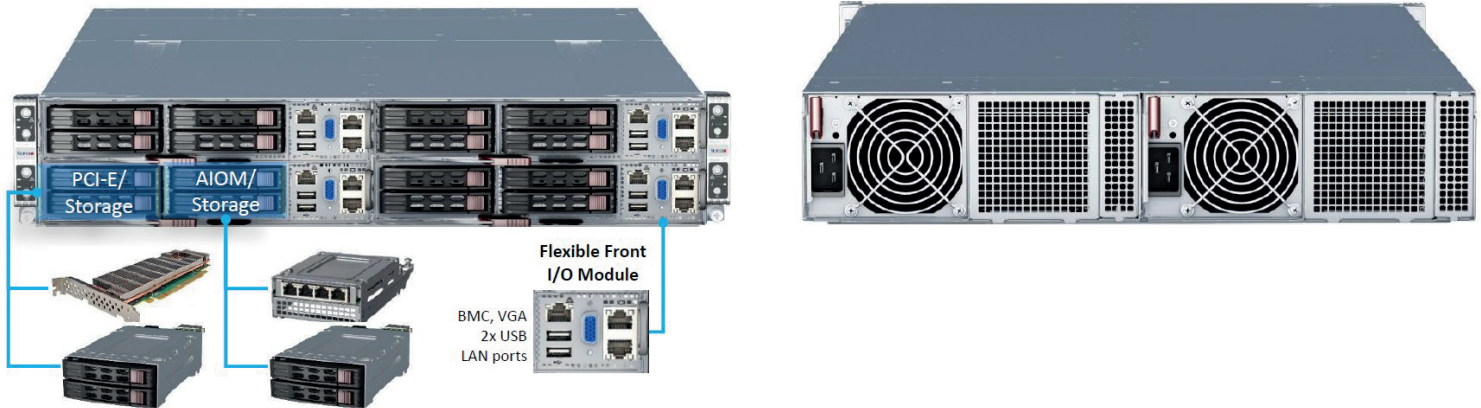
KEY FEATURES

System Design

- Front accessible multi-node systems with tool-less design
- 1S Support with 16 DIMMs per Node (**Industry First with Twin Design**)
- Flexible I/O Connectivity for AIOM and GrandTwin IO Module
- 2 or 4 SFF hot-swappable drives bays – NVMe, SAS, or SATA

Compute

- Support for Intel Xeon Scalable processors
- Optimized thermal design for higher performance
- 270W Air cooling or 350W Liquid cooling
- 16 DRAM DIMMs with PMEM support

Storage

- SAS3808 (IT Mode)
- **Optional** HW RAID support via SAS3908 Low-Profile Card (Coming Soon)
- M.2 Drives onboard

Networking

- Onboard AIOM or any compliant OCP 3.0 SFF NIC
- Front IO Module (Flexible LAN Ports, VGA, USB, BMC)

Power

- 2200W Redundant AC Titanium Level (96%) Power Supplies
- 3000W Redundant -48 vDC Power Supplies (Coming Soon)

KEY APPLICATIONS

- CDN
- Cloud-Native Infrastructure
- Telco Edge
- In-Memory Database

Better

**Better Performance
Per Watt and Per Dollar**

Faster

**First-to-Market Innovation with the
Highest Performance Server Designs**

Greener

**Reduced Environmental
Impact and Lower TCO**