X14 GrandTwin®

Multi-Node Architecture Optimized for Single-Processor Performance

Resource Saving Architecture with Modular Design

- **Single socket per node supporting Intel® Xeon® 6700/6500 and 6900 series processors with P-cores, and 6700 series processors with E-cores**
- **Flexible front storage bays support EDSFF E1.S, 2.5" NVMe, or PCIe Gen5 x16 expansion, including double-width GPU compatibility (2U2N model only)**
- **Front-serviceable nodes for cold aisle serviceability**
- **Optional front I/O configuration with integrated GrandTwin module reduces cable complexity for space-constrained edge data centers**

Optimized Single Processor Twin Architecture

Supermicro's GrandTwin® family of servers is purpose-built for single-processor performance, with front-serviceable hot-swap nodes allowing easier installation and servicing in space constrained environments. Flexible processor compatibility including Intel Xeon 6 processors with P-cores and E-cores allows optimization for HPC, cloud, and edge workloads. The GrandTwin architecture delivers high performance in a modular design to allow easy customizatio and utilizes Supermicro's Resource Saving Architecture for improved power efficiency and lower materials costs thanks to shared components including power and cooling.

Optimized for Single Processor Performance

GrandTwin is designed for applications that need a large number of discrete servers with high-speed interconnects for networked or clustered operations. They are ideal for virtualized and nonvirtualized applications including:

- Telco Edge Cloud
- High-availability Cache Cluster
- Multi-Purpose CDN
- MEC (Multi-Access Edge Computing)
- Cloud Gaming
- Scale-Out Object Storage
- HPC

Modular Design Reduces Costs and Materials

The GrandTwin architecture was designed from the ground up to be as flexible and configurable as possible based on the customers' specific needs. The GrandTwin chassis was developed with future technologies in mind, allowing for new generations to support next-generation components with minimal alterations, minimizing development costs. Internal components are also fully modular, meaning customers only install—and pay for—the components they need, reducing cost and materials.

Maximum Flexibility with Front or Rear I/O

The GrandTwin family is available in front and rear I/O configurations for maximum flexibility. Each front I/O node features a GrandTwin module with on-board networking and management ports, plus up to 8 E1.S NVMe or 4 NVMe/SATA drives. Additional high-speed networking is also available via OCP 3.0 compliant PCIe 5.0 interfaces in place of storage bays. Rear I/O systems feature up to 6 front hot-swappable NVMe or SATA drives per node, with all I/O connectivity accessible at the rear of the chassis. For 2U2N models, optional double-with GPU support is available to for accelerated computing workloads such as HPC and AI inferencing.

Powered by a Single Intel Xeon 6 Processor

With more cores, flexible microarchitecture, additional memory bandwidth, and exceptional input/output (I/O), the Intel Xeon 6 processor family delivers new degrees of performance and efficiency across a range of workloads and further enhances the compute capacity and versatility of GrandTwin's single-socket architecture. Intel Xeon 6 processors also include built-in Intel Accelerator Engines including Intel Data Streaming Accelerator (DSA) and Intel QuickAssist Technology (QAT) to offload common compute tasks from the main compute cores, freeing up CPU cycles for primary workload functions.



GrandTwin®	SYS-212GT-HNF	SYS-212GT-HNR	SYS-212GT-DNAF
Processor Support (node)	Single Intel® Xeon® 6700/6500 series processor with P-cores Single Intel® Xeon® 6700 series processor with E-cores Up to 350W TDP (air cooled)†	Single Intel® Xeon® 6700/6500 series processor with P-cores Single Intel® Xeon® 6700 series processor with E-cores Up to 300W TDP (air cooled)†	Single Intel® Xeon® 6900 series processor with P-cores Up to 500W TDP (air cooled)†
Memory Slots & Capacity (node)	16 DIMM slots; up to 4TB DDR5-6400MT/s Support for MDRIMMs up to 8000MT/s (P-core only)	16 DIMM slots; up to 4TB DDR5-6400MT/s Support for MDRIMMs up to 8000MT/s (P-core only)	12 DIMM slots; up to 3TB DDR5-6400MT/s Up to 3TB MRDIMM 8800MT/s
I/O Ports (node)	1 RJ45 dedicated BMC LAN port 2 USB 3.0 ports (front) 1 VGA port	1 RJ45 dedicated BMC LAN port 2 USB 3.0 ports (rear; shared between 2 nodes) 1 VGA port (rear; shared between 2 nodes)	2 USB 3.0 ports (front) 1 VGA port (front)
Motherboard	X14SBT-G	X14SBT-G	X14SBT-GAP
Form Factor	2U Rackmount 711.2mm/28" depth	2U Rackmount 711.2mm/28" depth	2U Rackmount 711.2mm/28" depth
Expansion Slots (node)	1 PCIe 5.0 x16 LP slots	2 PCIe 5.0 x16 AIOM slots (OCP 3.0)	2 PCIe 5.0 x16 (in x16) FH/10.5"L slots
Drive Bays (node)	Default 8 front hot-swap E1.S PCIe 5.0 x4 NVMe drive bays Option A 4 front hot-swap E1.S PCIe 5.0 x4 NVMe drive bays + 1 PCIe AOC Option B 4 front hot-swap 2.5" PCIe 5.0 x4 NVMe drive bays Option C 2 front hot-swap 2.5" PCIe 5.0 x4 NVMe drive bays + 1 AIOM	6 front hot-swap 2.5" PCIe 5.0 x4 NVMe drive bays	4 front hot-swap 2.5" PCIe 5.0 x4 NVMe drive bays
Cooling	2 heavy duty 8cm fans	2 heavy duty 8cm fans	2 16K RPM heavy duty 8cm fans
Power	Redundant 3000W Titanium level (96%)	Redundant 2200W Titanium level (96%)	Redundant 3000W Titanium level (96%)

†CPUs with high TDP supported under specific conditions. Contact Technical Support for details.

© 2025 Copyright Super Micro Computer, Inc. Specifications subject to change without notice. All other brands and names are the property of their respective owners. All logos, brand names, campaign statements and product images contained herein are copyrighted and may not be reprinted and/or reproduced, in whole or in part, without express written permission by Supermicro Corporate Marketing.