

X14 BigTwin®

Industry-leading Multi-node Architecture



Highly configurable 2U 4-node and 2U 2-node systems optimized for compute or storage density

- Dual socket architecture featuring Intel® Xeon® 6700 series processors with E-cores
- X14 BigTwin will also support Intel Xeon 6700 with P-cores in Q1'25
- Optimized thermal design with liquid cooling options
- All-hybrid hot-swappable NVMe/SAS/SATA drive bays with new support for EDSFF E3.S drives
- Resource Saving Architecture with shared power and cooling for increased efficiency
- Flexible networking with up to 400G Ethernet per node

Highly Modular Multi-Node Systems with Tool-Less Design

Supermicro X14 BigTwin® systems provide maximum performance and serviceability in a multi-node architecture, with dual Intel® Xeon® 6700 series processors with E-cores per node and a hot-swappable tool-less design. Optimized for density (2U4N) or storage (2U2N), BigTwin systems with shared components can be up to 8% more power efficient than standard 1U servers, with Supermicro's Resource Saving Architecture of shared power and cooling reducing TCO and TCE. A range of storage configurations are also available, including new support for EDSFF E3.S drives, providing even higher throughput and density for cloud storage and CDN applications.

Efficiency and Density for Cloud-native Deployments

Supermicro's X14 BigTwin offers a range of configurations ideal for hyperscale cloud data centers, with high density compute and storage options enabling customers to maximize space utilization and increase efficiency. The dual processor architecture, high memory density and NVMe storage also make BigTwin well suited to content distribution network (CDN) workloads where maximum core density and data throughput are essential. For

HCI environments, the 2U 4-Node BigTwin configuration enables three compute nodes to operate with an additional hot spare in the same chassis, eliminating the need for multiple discrete rackmount systems.

Optimized for Green Computing

BigTwin's Resource Saving Architecture significantly reduces power consumption thanks to shared power and cooling components and optimized airflow for more efficient cooling. All BigTwin systems can be air cooled, with liquid cooling options available to not only further reduce power consumption and noise levels, but also allow maximum compute density of up to eight 350W TDP CPUs in a 2U chassis.

AIOM for Powerful yet Flexible Networking

Each hot-swappable BigTwin node features a PCIe 5.0 Supermicro Advanced I/O Module (AIOM) slot to enable flexible, high-speed networking based on workload requirements. Both Ethernet and InfiniBand networking are supported, with speeds of up to 400Gb per node.

Powered by Intel Xeon 6 Processors

The new Intel Xeon 6700 series processors with E-cores bring up to 2.5x higher core density per rack compared to 4th Gen Intel Xeon and improved performance per watt to enable Supermicro X14 multi-node solutions to deliver significantly more compute capacity in a smaller physical footprint.



BigTwin	SYS-222BT-HER/HNR/HNC8R/HNC9R	SYS-222BT-DNR
Processor Support (node)	Dual Intel® Xeon® 6700 series processors with E-cores Up to 205W TDP (air cooled) [†] Up to 330W TDP (liquid cooled) [†]	Dual Intel® Xeon® 6700 series processors with E-cores Up to 330W TDP (air cooled) [†] Up to 330W TDP (liquid cooled) [†]
Memory Slots & Capacity (node)	16 DIMM slots; up to 4TB DDR5-6400MT/s	16 DIMM slots; up to 4TB DDR5-6400MT/s
I/O Ports (node)	Networking via AIOM 1 VGA port 1 RJ45 dedicated BMC LAN port 2 USB 3.0 ports (rear)	Networking via AIOM 1 VGA port 1 RJ45 dedicated BMC LAN port 2 USB 3.0 ports (rear)
Motherboard (node)	X14DBT-B	X14DBT-B
Form Factor	2U Rackmount 730mm/28.75" depth	2U Rackmount 730mm/28.75" depth
Expansion Slots (node)	Up to 2 PCIe 5.0 x16 LP slots 1 PCIe 5.0 x16 AIOM slot (OCP 3.0)	1 PCIe 5.0 x16 LP slot 2 PCIe 5.0 x8 LP slots 1 PCIe 5.0 x16 AIOM slot (OCP 3.0)
Drive Bays (node)	8 hot-swap E3.S 1T PCIe 5.0 NVMe drive bays (SYS-222BT-HER) 6 front hot-swap 2.5" PCIe 5.0 NVMe drive bays (SYS-222BT-HNR) 6 hot-swap 2.5" NVMe/SAS drive bays; HBA support via SAS3808 adapter (SYS-222BT-HNC8R) 6 hot-swap 2.5" NVMe/SAS drive bays; optional RAID support via Broadcom® 3908 AOC (SYS-222BT-HNC9R)	12 front hot-swap PCIe 5.0 2.5" NVMe drive bays
Cooling	4 16K RPM 8cm counter-rotating fans	4 heavy duty 16.5K RPM 8cm fans
Power	Redundant 3600W Titanium level (96%)	Redundant 2200W Titanium level (96%)

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



BigTwin	SYS-622BT-HNC8R	SYS-622BT-DNC8R
Processor Support (node)	Dual Socket Intel® Xeon® 6700 series processors with E-cores Up to 165W TDP (air cooled) [†] Up to 330W TDP (liquid cooled) [†]	Dual Socket Intel® Xeon® 6700 series processors with E-cores Up to 250W TDP (air cooled) [†] Up to 330W TDP (liquid cooled) [†]
Memory Slots & Capacity (node)	16 DIMM slots; up to 4TB DDR5-6400MT/s	16 DIMM slots; up to 4TB DDR5-6400MT/s
I/O Ports (node)	Networking via AIOM 1 VGA port 1 RJ45 dedicated BMC LAN port 2 USB 3.0 ports (rear)	Networking via AIOM 1 VGA port 1 RJ45 dedicated BMC LAN port 2 USB 3.0 ports (rear)
Motherboard (node)	X14DBT-B	X14DBT-B
Form Factor	2U Rackmount 774mm/30.5" depth	2U Rackmount 774mm/30.5" depth
Expansion Slots (node)	2 PCIe 5.0 x16 LP slots 1 PCIe x16 AIOM slot (OCP 3.0)	2 PCIe 5.0 x8 LP slots 1 PCIe 5.0 x16 LP slot 1 PCIe x16 AIOM slot (OCP 3.0)
Drive Bays (node)	2 hot-swap 3.5" PCIe 5.0 NVMe/SAS drive bays + 1 hot-swap 3.5" PCIe 4.0 NVMe/SAS drive bays; SAS support via Broadcom® 3808 adapter	2 hot-swap 3.5" PCIe 5.0 NVMe/SAS drive bays + 4 hot-swap 3.5" PCIe 4.0 NVMe/SAS drive bays; SAS support via Broadcom® 3808 adapter
Cooling	4 heavy duty 14.9K RPM 8cm fans	4 heavy duty 14.9K RPM 8cm fans
Power	Redundant 3600W Titanium level (96%)	Redundant 2200W Titanium level (96%)

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