



SuperBlade® / MicroBlade™

Resource Saving Architecture: Save Money & the Earth



4U SuperBlade®
Up to 14x 2S Blade Servers



6U SuperBlade®
Up to 14x 1S/2S Blade Servers



3U MicroBlade™
Up to 28x 1S or 14x 2S Nodes



Battery Backup Power



8U SuperBlade®
Up to 20x 1S/2S or 10x 4S Blade Servers



6U MicroBlade™
Up to 112x 1S or 28x 2S Nodes

Advantages

- New 2nd Generation Intel® Xeon® Scalable processors supported
- New Intel® Xeon® W-2100, E-2100, and D-2100 series processors supported
- 2-socket(2S), 4-socket (4S) and 1-socket (1S) blade servers
- Up to 280 nodes per rack, up to 200 GPUs per rack
- Hot-plug U.2 **NVMe** SSD supported, up to 8 drives per blade server
- 100G EDR InfiniBand, 100G Intel® Omni-Path, and 25G/10G/1G Ethernet switches
- Redundant AC/DC power supplies and Battery Backup Power (BBP®) modules
- New long-life components with up to 12 years of warranty
- Supermicro RSD and Redfish RESTful APIs supported
- Free-air cooling designs deliver lowest PUE



September 2019

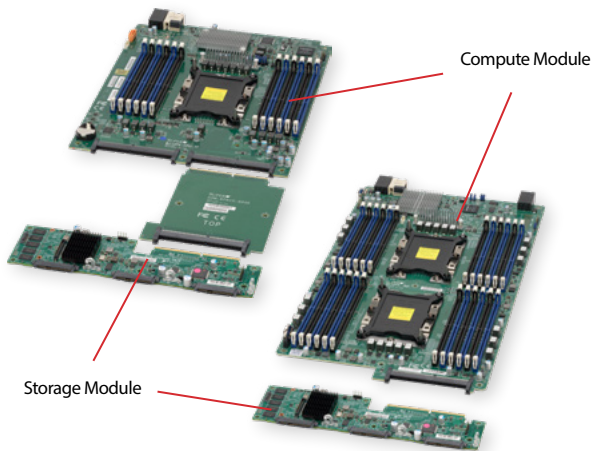
New Generation SuperBlade®

- Systems in 8U, 6U and 4U form factors
- 1-socket (1S), 2-socket (2S) and 4-socket (4S) blade servers
- Support up to 205W TDP 2nd Generation Intel® Xeon® Scalable processors
- Redundant (N+1/N+N) 2200W **Titanium Level** (96%+ efficiency) AC power supplies
 - Redundant (N+1/N+N) 2000W DC power supplies
 - Battery Backup Power (**BBP**) modules
 - Free-Air Cooling
- Supermicro RSD and Redfish RESTful APIs supported

6U SuperBlade®

Enables the independent upgrade of compute modules

- 10/14 1S/2S blade servers per enclosure, up to 98x nodes per 42U rack
- Maximum memory capacity - 24 DIMMs (2S), 12 DIMMs (1S)
- 10 blade system supports redundant 25G Ethernet switches
- Up to 3 hot-plug **NVMe** drives per blade server



Supermicro Disaggregated Server Design

Intel® Xeon® W-2100

1-Socket



SBI-6119R-C3N/T3N¹

2nd Gen Intel® Xeon® Scalable Processors

1-Socket



SBI-6119P-C3N/T3N¹
SBI-6419P-C3N/T3N²

2-Socket



SBI-6129P-C3N/T3N¹
SBI-6429P-C3N/T3N²

¹ Models configurable for up to 10 blade servers in each 6U enclosure.

² Models configurable for up to 14 blade servers in each 6U enclosure.

Actual product may look different depending on blade server, networking and power supply options.



8U SuperBlade®

Performance and Density Optimized with 100G Networking

- Up to 100x 2S nodes and 50x 4S nodes per 42U rack
- Highest density platform for machine learning and deep learning
- 10x 4-socket (48 DIMM + 14 **NVMe**) blade servers
- 20x 2-socket (16 DIMM + 7 **NVMe**) blade servers
- 20x 1-socket GPU blade servers (40 **GPUs**)
- 100G EDR IB or Intel Omni-Path, 10G/25G Ethernet switches

Intel® Xeon® E-2100

1-Socket + GPU



NEW!

SBI-4119MG-X

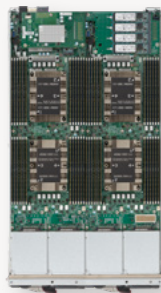
2nd Gen Intel® Xeon® Scalable Processors

2-Socket



SBI-4129P-C2N/T3N

4-Socket



SBI-8149P-C4N/T8N



4U SuperBlade®

Cost and Density Optimized with Lowest Initial Hardware Acquisition Cost

- Up to 140x 2S nodes per 42U rack
- Highest density with 14x 2-socket blades (12 VLP DIMM + 2 **NVMe**) blade servers
- 2x 10G Ethernet switches



Intel® Xeon® Scalable Processors

2-Socket



SBI-4429P-T2N

8U SuperBlade®

Designed for High-Performance Computing and Most Demanding Enterprise Workloads



An 8U SuperBlade® system supports up to 20x 1-socket or 2-socket blade servers, or 10x 4-socket servers. As well, it can support 1x 100G Intel® Omni-Path Architecture or 100G EDR InfiniBand switch and 2x 10G/1G Ethernet switches optimized for HPC use cases, or 2x 10G/1G and 2x 25G Ethernet switches for enterprise applications. SuperBlade also offers an open industry standard remote management software for servers, storage and networking.

The enclosures support optional Battery Backup Power (BBP®) modules for enhanced reliability and data protection and may replace expensive datacenter UPS systems.

8U SuperBlade® Servers

Up to 20x 1S nodes per enclosure

1-Socket, Intel® Xeon® E-2100
GPU, M.2 NVMe/SATA3



SBI-4119MG-X

Up to 20x 2S nodes per enclosure

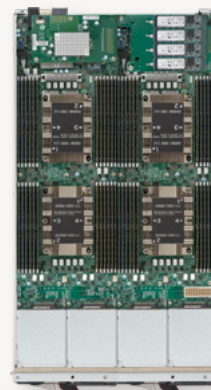
2-Socket, 2nd Gen Intel® Xeon® Scalable
100G, NVMe/SAS3/SATA3



SBI-4129P-C2N/T3N

Up to 10x 4S nodes per enclosure

4-Socket, 2nd Gen Intel® Xeon® Scalable
100G, NVMe/SAS3/SATA3



SBI-8149P-C4N/T8N

8U SuperBlade® Enclosures

Front View



10x 4S Blades



20x 2S Blades



Mixed Configuration

Rear View



SBE-820C



SBE-820J



SBE-820L

HPC Optimized

- 1x 100GbE Switch
- 2x 10GbE Switches
- 1x CMM

Enterprise Optimized

- 2x 25GbE Switches
- 2x 10GbE Switches
- 2x CMM

TCO Optimized

- 2x 10GbE Switches
- 1x CMM

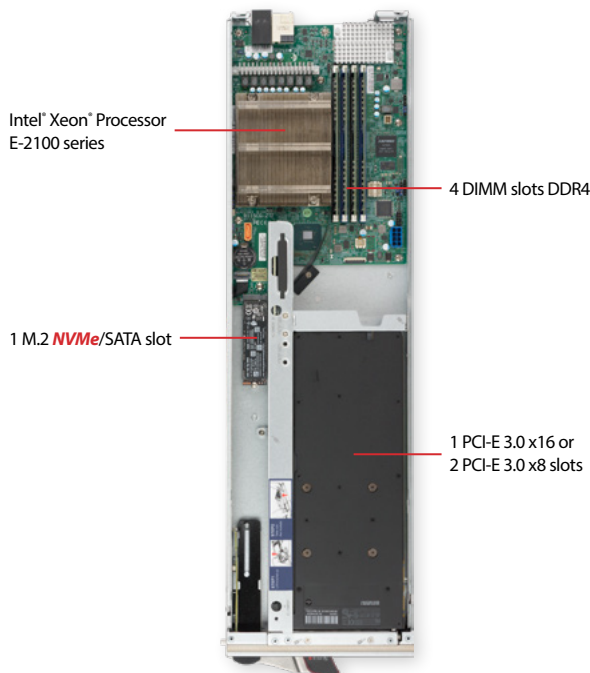
Actual product may look different depending on blade server, networking and power supply options.

8U Enclosure	SBE-820 Series
Processor Blade	<ul style="list-style-type: none"> • Up to 20 hot-pluggable half-height 1-socket or 2-socket blade servers • Up to 10 hot-pluggable full-height 4-socket blade servers • Mixed blade servers in a single enclosure
LED	Power LED, Fault LED
100G Switch	SBE-820C/CB only: Single 100G EDR InfiniBand or Intel® Omni-Path Architecture switch with add-on card
Ethernet Switch	<ul style="list-style-type: none"> • SBE-820J/JB only: Up to 4 switches, 2 hot-pluggable 25G Ethernet switches with add-on card and 2 hot-pluggable 10G Ethernet switches • SBE-820C/CB/L only: Up to 2 hot-pluggable 10G Ethernet switches
Chassis Management Module (CMM)	Single CMM for remote system management with software SBE-820J/JB only: Up to 2 hot-pluggable CMMs for remote system management with software
Available Models	<ul style="list-style-type: none"> • SBE-820C/J/L-822: Enclosure with 8 hot-pluggable 2200W Titanium (96% efficiency) power supplies • SBE-820C/J/L-622S: Enclosure with 6 hot-pluggable 2200W Platinum (94% efficiency) power supplies (long-life) + 2 cooling fans (long-life) • SBE-820C/J/L-622: Enclosure with 6 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 2 cooling fans • SBE-820C/J/L-422: Enclosure with 4 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 4 cooling fans • SBE-820C/J-820D: 8 hot-pluggable 2000W DC power supplies • SBE-820C/J-420D: 4 hot-pluggable 2000W DC power supplies + 4 cooling fans • SBE-820CB/JB-422: 4 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 4 hot-pluggable 1200W BBP[®] modules
Rack Unit	8U
Dimensions (H x W x D)	14" x 17.6" x 32"

8U SuperBlade® Server Technical Specifications

Single Intel® Xeon® E-2100 Series Processor

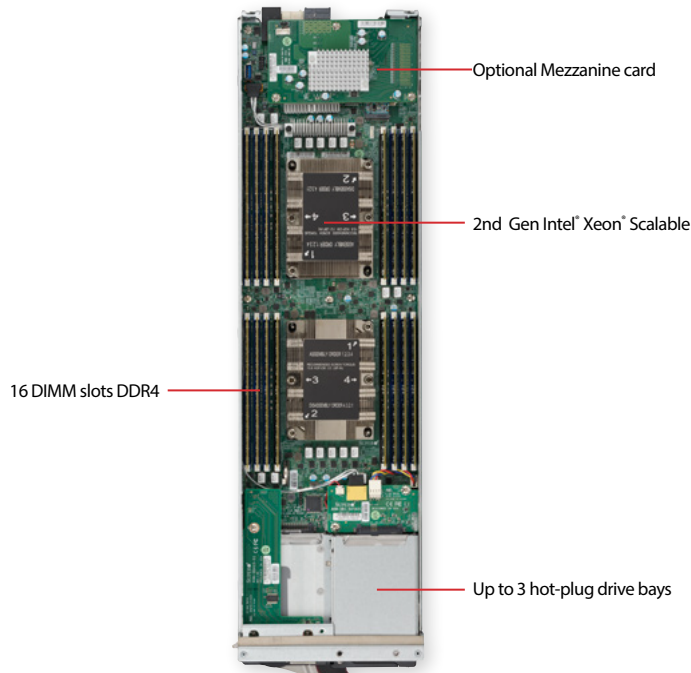
NEW! GPU Optimized



SBI-4119MG-X

Dual 2nd Gen Intel® Xeon® Scalable Processors

Optional 25GbE or 100G EDR/OPA



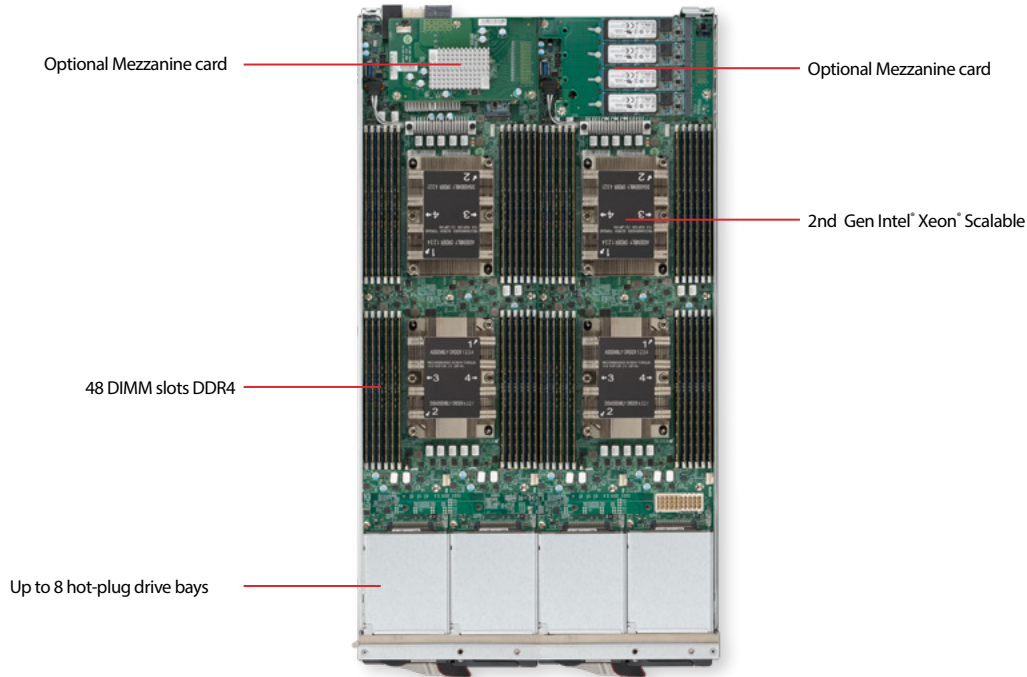
SBI-4129P

Model	SBI-4119MG-X	SBI-4129P-T3N/C2N
Server Nodes/8U	20	20
Processor	Single Intel® Xeon® E-2100 Series processor	Dual 2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)
Chipset	Intel® C246 series	Intel® C620 series
Memory Support	4 DDR4-2933 DIMM slots	16 DDR4-2933 DIMM slots
Max Memory	128GB	2TB
Expansion & Drive Bays	<ul style="list-style-type: none"> Support 1 PCI-E 3.0 x16 or 2 PCI-E 3.0 x8 slots 1 M.2 NVMe/SATA slot 1 SATA DOM 	<ul style="list-style-type: none"> 2 hot-plug 2.5" NVMe and 1 SATA3 drive bays or 3 SATA3 drive bays 1 M.2 NVMe/SATA slot 4 M.2 NVMe via mezzanine card
Storage RAID	N/A	Intel® PCH SATA3 RAID 0,1,5 Broadcom® 3108 RAID 0,1
InfiniBand / Intel® OPA	N/A	100G EDR InfiniBand / Intel® Omni-Path (Mezzanine card)
Ethernet Interface	Dual 10G Ethernet	<ul style="list-style-type: none"> Dual 10G Ethernet Dual 25G Ethernet (Mezzanine card)
Management	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD 	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD
LED Indicators	<ul style="list-style-type: none"> Fault LED Network Activity LED Power LED UID / KVM LED 	<ul style="list-style-type: none"> Fault LED Network Activity LED Power LED UID / KVM LED
Dimensions (H x W x D)	1.75" x 6.5" x 23.5"	1.75" x 6.5" x 23.5"
Chassis	8U: <ul style="list-style-type: none"> SBE-820C/J/L-422 SBE-820C/J/L-622 SBE-820C/J/L-822 SBE-820CB/JB-422 	8U: <ul style="list-style-type: none"> SBE-820C/J/L-422 SBE-820C/J/L-622 SBE-820C/J/L-822 SBE-820CB/JB-822

8U SuperBlade® Server Technical Specifications

Quad 2nd Gen Intel® Xeon® Scalable Processors

Hot-plug NVMe/SAS3/SATA3 Storage and Optional 25GbE or 100G EDR/OPA Networking



SBI-8149P

Model	SBI-8149P-C4N	SBI-8149P-T8N
Server Nodes/8U	10	10
Processor	Quad 2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)	Quad 2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)
Chipset	Intel® C620 series	Intel® C620 series
Memory Support	48 DDR4-2933 DIMM slots	48 DDR4-2933 DIMM slots
Max Memory	6TB	6TB
Expansion & Drive Bays	<ul style="list-style-type: none"> • 4 hot-plug 2.5" NVMe/SAS3/SATA3 drive bays • 2 M.2 NVMe slots • 4 M.2 NVMe slots on optional Mezzanine card 	<ul style="list-style-type: none"> • 8 hot-plug 2.5" NVMe drive bays or 4 NVMe and 4 SATA3 drive bays • 2 M.2 NVMe slots • 4 M.2 NVMe slots on optional Mezzanine card
Storage RAID	Broadcom® 3108 RAID 0,1,5,10	Intel® PCH SATA3 RAID 0,1,5,10
InfiniBand / Intel® OPA	100G EDR InfiniBand / Intel® Omni-Path (Mezzanine card)	100G EDR InfiniBand / Intel® Omni-Path (Mezzanine card)
Ethernet Interface	<ul style="list-style-type: none"> • Dual 10G Ethernet • Dual 25G Ethernet (Mezzanine card) 	<ul style="list-style-type: none"> • Dual-port 10G • Dual-port 25G (Mezzanine card)
Management	<ul style="list-style-type: none"> • IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD 	<ul style="list-style-type: none"> • IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD
LED Indicators	<ul style="list-style-type: none"> • Fault LED • Network Activity LED • Power LED • UID / KVM LED 	<ul style="list-style-type: none"> • Fault LED • Network Activity LED • Power LED • UID / KVM LED
Dimensions (H x W x D)	1.75" x 13" x 23.5"	1.75" x 13" x 23.5"
Chassis	8U: • SBE-820C/J/L-622 • SBE-820C/J/L-822	8U: • SBE-820C/J/L-622 • SBE-820C/J/L-822

Specifications and images of upcoming products are subject to change without notice.

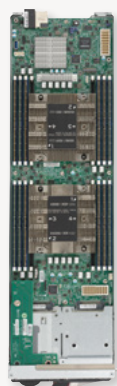
4U SuperBlade®

Cost and Density Optimized with Lowest Initial Hardware Acquisition Cost

4U SuperBlade® Server

2-Socket, Intel® Xeon® Scalable

NVMe/SATA3



SBI-4429P-T2N

Supermicro SuperBlade® systems provide the perfect building blocks for a Rack Scale Design (RSD) data center solution. With up to 97% cabling reduction compared to 1U server solutions, the Total Cost of Ownership (TCO) is lower. Since airflow is significantly improved, the load on the cooling fans is reduced resulting in a lower OPEX. Up to 54% percent cooling fan power efficiency improvement is achieved by sharing eight cooling fans and integrated power modules across all blade servers. Free from vendor lock-in, these solutions ship with open industry standard IPMI 2.0 and Redfish APIs designed to lower management overhead in large scale data centers.



4U SuperBlade® Enclosure

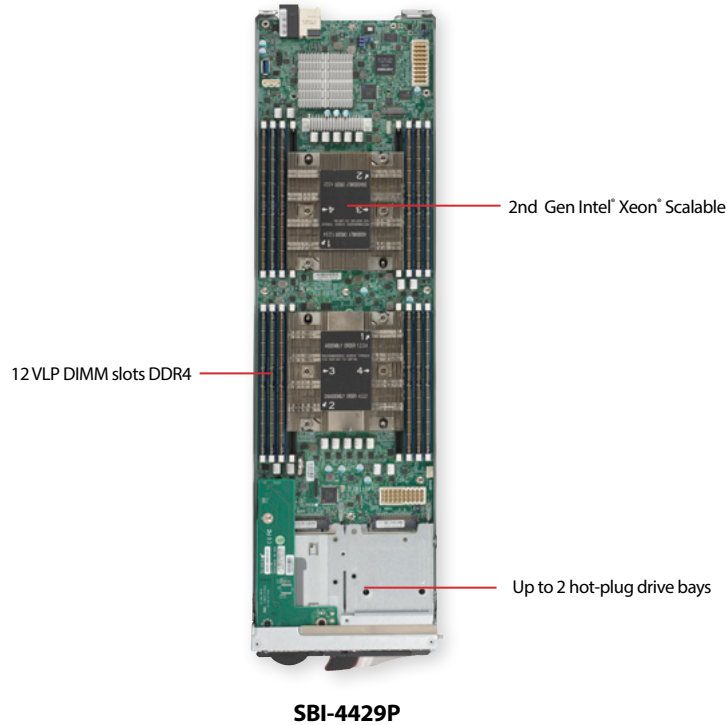


4U Enclosure	SBE-414E
Processor Blade	Up to 14 hot-pluggable 2-socket blade servers
LED	Power LED, Fault LED
Ethernet Switch	Up to 2 hot-pluggable 10G/1G switches
Management Module	Single CMM for remote system management with software
Available Models	<ul style="list-style-type: none"> • SBE-414E-422: Enclosure with 4 hot-pluggable 2200W Titanium (96%+ efficiency) power supplies • SBE-414E-222: Enclosure with 2 hot-pluggable 2200W Titanium (96%+ efficiency) power supplies • SBE-414E-420D: Enclosure with 4 hot-pluggable 2000 DC power supplies • SBE-414E-422S: Enclosure with 4 hot-pluggable 2200 Platinum (94% efficiency) long-life power supplies • SBE-414EB-222: Enclosure with 2 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 2 hot-pluggable 1200W BBP® modules
Rack Unit	4U
Dimensions (H x W x D)	7" x 17.6" x 32"

4U SuperBlade® Server Technical Specifications

Dual 2nd Gen Intel® Xeon® Scalable Processors

Hot-plug U.2 and M.2 NVMe/SATA3



Model	SBI-4429P-T2N	
Server Nodes/4U	14	
Processor	Dual 2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)	
Chipset	Intel® C620 series	
Memory Support	12 DDR4-2933 VLP DIMM slots	
Max Memory	384GB	
Expansion & Drive Bays	<ul style="list-style-type: none"> • 2 hot-plug 2.5" NVMe/SATA3 drive bays • 1 M.2 NVMe/SATA slots 	
Storage RAID	Intel® PCH SATA3 RAID 0,1	
InfiniBand / Intel® OPA	N/A	
Ethernet Interface	<ul style="list-style-type: none"> • Dual 10G Ethernet 	
Management	<ul style="list-style-type: none"> • IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD 	
LED Indicators	<ul style="list-style-type: none"> • Fault LED • Network Activity LED • Power LED • UID / KVM LED 	
Dimensions (H x W x D)	1.2" x 6.5" x 23.5"	
Chassis	4U: <ul style="list-style-type: none"> • SBE-414E-222 • SBE-414E-422 <ul style="list-style-type: none"> • SBE-414EB-222 	

6U SuperBlade®

Innovative Disaggregated Resource Saving Server Architecture for Optimal TCO

Up to 10 Blade Servers in 6U

Intel® Xeon® W-2100

1 Socket
8 DIMM slots



SBI-6119R-C3N/T3N

2nd Gen Intel® Xeon® Scalable Processors

1-Socket
12 DIMM slots



SBI-6119P-C3N/T3N

2-Socket
24 DIMM slots, 25GbE



SBI-6129P-C3N/T3N



6U SuperBlade with 10 Blade Servers

Up to 14 Blade Servers in 6U

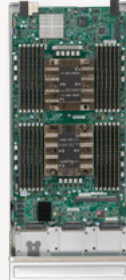
2nd Gen Intel® Xeon® Scalable Processors

1-Socket
12 DIMM slots, 10GbE



SBI-6419P-C3N/T3N

2-Socket
24 DIMM slots, 10GbE



SBI-6429P-C3N/T3N

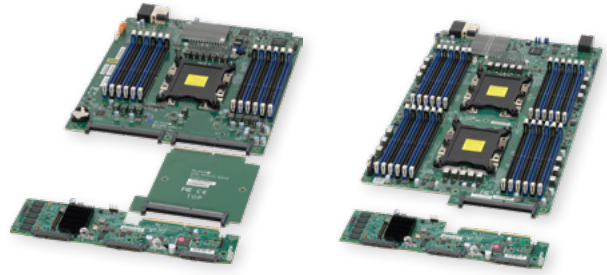


6U SuperBlade with 14 Blade Servers

The new 6U SuperBlade® design builds on a disaggregated server architecture that enables the independent upgrade of compute modules without replacing the rest of the enclosure including networking, storage, fans and power supplies. With up to 14 blade servers in a 6U enclosure, the blade servers support 2nd Gen Intel® Xeon® Scalable processors with 24 DIMM slots (2-socket blade) and 12 DIMM slots (1-socket blade), up to 3 drive bays, and dual 25G/10G Ethernet networking.

Disaggregated Resource Saving Server Design

Enables a high degree of customization for application optimized deployments. The independent upgrade of CPU, memory and storage promotes a higher Return on Investment (RoI).



6U SuperBlade® Enclosure Supporting 10 Blade Servers



6U Enclosure

SBE-610J

Processor Blade	Up to 10 hot-pluggable 1-socket or 2-socket blade servers
LED	Power LED, Fault LED
Ethernet Switch	<p>SBI-6129P</p> <ul style="list-style-type: none"> Up to 2 hot-pluggable 25G Ethernet switches (with add-on card) and 2 hot-pluggable 10G Ethernet switches Up to 4 hot-pluggable 10G Ethernet switches <p>SBI-6119P and SBI-6119R</p> <ul style="list-style-type: none"> Up to 2 hot-pluggable 10G Ethernet switches
Management	Up to 2 CMM for remote system management with software
Available Models	<ul style="list-style-type: none"> SBE-610J-822: Enclosure with 8 hot-pluggable 2200W Titanium (96% efficiency) power supplies SBE-610J-622: Enclosure with 6 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 2 cooling fans SBE-610J-422: Enclosure with 4 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 4 cooling fans SBE-610J-622S: Enclosure with 6 hot-pluggable 2200W Platinum (94% efficiency) power supplies (long-life) + 2 cooling fans (long-life) SBE-610JB-422: Enclosure with 4 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 4 hot-pluggable 1200W BBP* modules
Dimensions (H x W x D)	10.5" x 17.6" x 32"

6U SuperBlade® Enclosure Supporting 14 Blade Servers



6U Enclosure

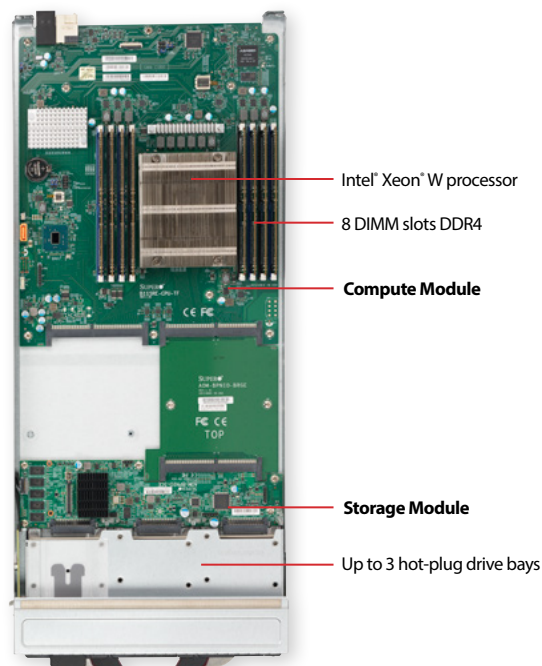
SBE-614E

Processor Blade	Up to 14 hot-pluggable 1-socket or 2-socket blade servers
LED	Power LED, Fault LED
10G Ethernet Switch	Up to 2 hot-pluggable 10G Ethernet switches
Management	Single CMM for remote system management with software
Available Models	<ul style="list-style-type: none"> SBE-614E-822: Enclosure with 8 hot-pluggable 2200W Titanium (96% efficiency) power supplies SBE-614E-622: Enclosure with 6 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 2 cooling fans SBE-614E-422: Enclosure with 4 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 4 cooling fans SBE-614EB-422: Enclosure with 4 hot-pluggable 2200W Titanium (96% efficiency) power supplies + 4 hot-pluggable 1200W BBP* modules
Dimensions (H x W x D)	10.5" x 17.6" x 32"

6U SuperBlade® Server Technical Specifications

Single Intel® Xeon® W-2100 Series Processor

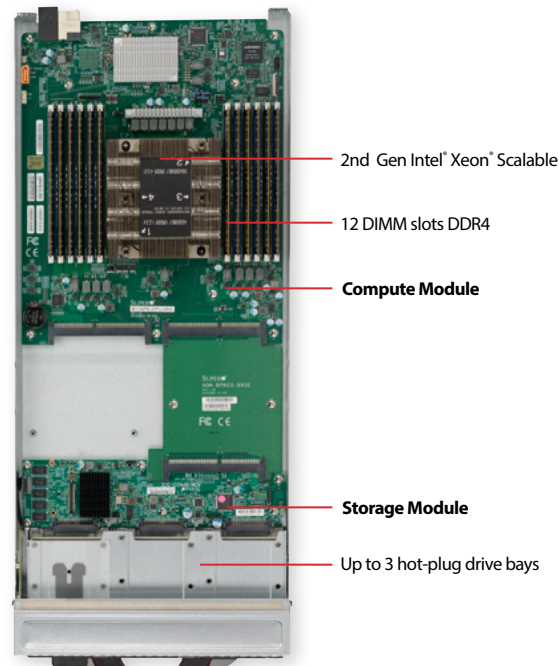
NEW! Intel® Xeon® W Processor



SBI-6119R

Single 2nd Gen Intel® Xeon® Scalable Processors

Intel® Xeon® Scalable Processor



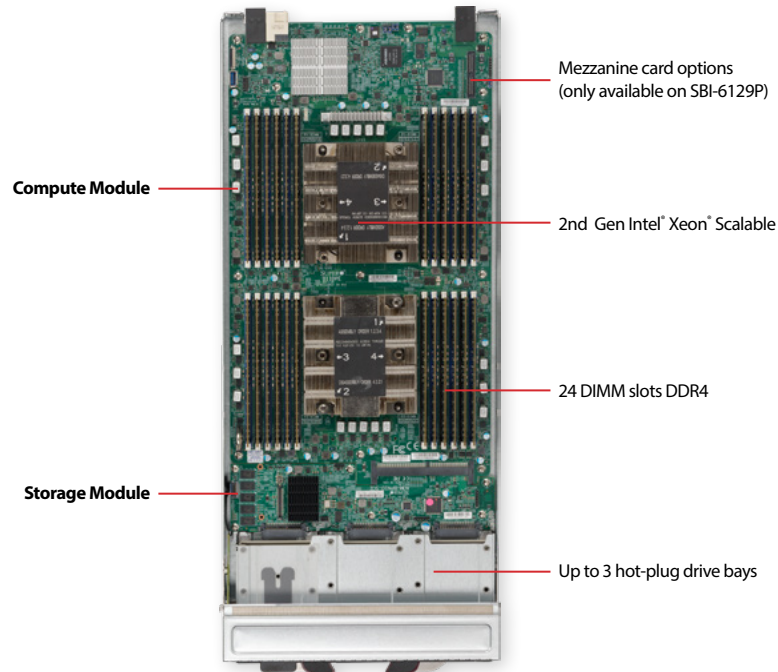
SBI-6119P or SBI-6419P

Model	SBI-6119R-C3N/T3N	SBI-6119P-C3N/T3N	SBI-6419P-C3N/T3N
Server Nodes/6U	10	10	14
Processor	Single Intel® Xeon® W-2100 Series processor	2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)	2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)
Chipset	Intel® C422	Intel® C620 series	Intel® C620 series
Memory Support	8 DDR4-2933 DIMM slots	12 DDR4-2933 DIMM slots	12 DDR4-2933 VLP DIMM slots
Max Memory	512GB	1.5TB	384GB
Expansion & Drive Bays	-C3N: • 2 hot-plug 2.5" NVMe and 1 SAS3/SATA3 drive bays or 3 SAS3/SATA3 drive bays -T3N: • 3 hot-plug 2.5" NVMe /SATA3 drive bays		
Storage RAID	-C3N: • Broadcom® 3108 RAID 0,1,5 -T3N: • Intel® PCH SATA3 RAID 0,1,5		
InfiniBand / Intel® OPA	N/A	N/A	N/A
Ethernet Interface	• Dual 10G Ethernet	• Dual 10G Ethernet	• Dual 10G Ethernet
Management	• IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD	• IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD	• IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD
LED Indicators	• Fault LED • Network Activity LED • Power LED • UID / KVM LED	• Fault LED • Network Activity LED • Power LED • UID / KVM LED	• Fault LED • Network Activity LED • Power LED • UID / KVM LED
Dimensions (H x W x D)	1.75" x 9.75" x 23.5"	1.75" x 9.75" x 23.5"	1.2" x 9.75" x 23.5"
Chassis	6U: <ul style="list-style-type: none"> • SBE-610J-822 • SBE-610J-422 • SBE-610J-622 • SBE-610JB-422 	6U: <ul style="list-style-type: none"> • SBE-610J-822 • SBE-610J-622 <ul style="list-style-type: none"> • SBE-610J-422 • SBE-610JB-422 	6U: <ul style="list-style-type: none"> • SBE-614E-822 • SBE-614E-622 <ul style="list-style-type: none"> • SBE-614E-422 • SBE-614EB-422

6U SuperBlade® Server Technical Specifications

Dual 2nd Gen Intel® Xeon® Scalable Processors

24 DIMM Slots and Optional Dual 25GbE



SBI-6129P or SBI-6429P

Model	SBI-6129P-C3N/T3N		SBI-6429P-C3N/T3N	
Server Nodes/6U	10		14	
Processor	2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)		2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP)	
Chipset	Intel® C620 series		Intel® C620 series	
Memory Support	24 DDR4-2933 DIMM slots		24 DDR4-2933 VLP DIMM slots	
Max Memory	3TB		768GB	
Expansion & Drive Bays	-C3N: • 2 hot-plug 2.5" NVMe and 1 SAS3/SATA3 drive bays or 3 SAS3/SATA3 drive bays	-T3N: • 3 hot-plug 2.5" NVMe /SATA3 drive bays	-C3N: • 2 hot-plug 2.5" NVMe and 1 SAS3/SATA3 drive bays or 3 SAS3/SATA3 drive bays	-T3N: • 3 hot-plug 2.5" NVMe /SATA3 drive bays
Storage RAID	Broadcom® 3108 RAID 0,1,5	Intel® PCH SATA3 RAID 0,1,5	Broadcom® 3108 RAID 0,1,5	Intel® PCH SATA3 RAID 0,1,5
InfiniBand / Intel® OPA	N/A		N/A	
Ethernet Interface	<ul style="list-style-type: none"> Dual 10G Ethernet Dual 25G Ethernet (Mezzanine card) 		<ul style="list-style-type: none"> Dual 10G Ethernet 	
Management	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD 		<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD 	
LED Indicators	<ul style="list-style-type: none"> Fault LED Network Activity LED Power LED UID / KVM LED 		<ul style="list-style-type: none"> Fault LED Network Activity LED Power LED UID / KVM LED 	
Dimensions (H x W x D)	1.75" x 9.75" x 23.5"		1.2" x 9.75" x 23.5"	
Chassis	6U: <ul style="list-style-type: none"> SBE-610J-822 SBE-610J-622 	<ul style="list-style-type: none"> SBE-610J-422 SBE-610JB-422 	6U: <ul style="list-style-type: none"> SBE-614E-822 SBE-614E-622 	<ul style="list-style-type: none"> SBE-614E-422 SBE-614EB-422

MicroBlade™

- Best density and power efficiency with up to 56x 1-socket or 28x 2-socket nodes
 - U.2/M.2 NVMe SSD and HW SAS3 RAID support
- Ethernet switches supporting 1G, 2.5G and 10G downlinks (pass-through module available)
 - Redundant 2200W Titanium Level (96%+ efficiency) AC power supplies
 - Battery Backup Power (BBP) modules



6U MicroBlade™



3U MicroBlade™

MicroBlade™ Servers

Intel® Xeon® Processor E5-2600 v4/v3

2S with 4x 1G



MBI-6128R-T2

2S with 2x 10G



MBI-6128R-T2X

Intel® Xeon® Processor E-2100

1S with 2 NVMe



MBI-6119M-T2N

1S with 2 SAS3



MBI-6119M-C2

Intel® Xeon® processor D-2100

2x 1S (8-core)



MBI-6219B-T41N

2x 1S (12-core)



MBI-6219B-T63N

2x 1S (16-core)



MBI-6219B-T83N

Intel® Xeon® Processor E3-1500 v5

2x 1S, 2x 10G, NVMe



MBI-6219G

1S, 2x 10G, NVMe



MBI-6119G

Intel® Xeon® Processor E3-1200 v6/v5

1S with 2 SAS3



MBI-6119G-C2

1S with 4 SAS3



MBI-6119G-C4

1S with 4 SATA3



MBI-6119G-T4

2x 1S with 2 SATA3



MBI-6219G-T

Intel® Xeon® processor D-1500

2x 1S with 2x 10G



MBI-6218G

1S with 2x 10G



MBI-6118G

MicroBlade™ Enclosures

Ultra High Density and Performance/Watt In 6U/3U

- 112 Intel® Atom™ processor (C2750/C2550) nodes
- 56/28/14 Intel® Xeon® processor D-1500 (1581/1541) 1S nodes
- 56/28/14 Intel® Xeon® processor E3-1500 v5 (1585/1578L) 1S nodes
- 56/28/14 Intel® Xeon® processor E3-1200 v6/v5/v4/v3 1S nodes
- 28/14 Intel® Xeon® processor E5-2600 v4/v3 2S nodes

High-Efficiency Power Supply

- Titanium Level (96%+ efficiency) 2200W/2000W digital power supplies with N+N or N+1 redundancy
- Platinum Level (94%+ efficiency) 1600W digital power supplies with N+N or N+1 redundancy
- 2000W DC power supplies with N+N or N+1 redundancy



Model	MBE-314E-422/420(D)/416/222/220(D)
Processor Blade	Up to 14 hot-pluggable blade servers
Node Support	Intel® Xeon® processor based blades
Networking	Up to 2 hot-pluggable 10G/1G Ethernet switches
Management	Single hot-pluggable management module providing remote KVM and IPMI 2.0 functionalities
Power Supply	<ul style="list-style-type: none"> • -420(D): 4 hot-pluggable 2000W; (D) for DC power • -416: 4 hot-pluggable 1600W • -220(D): 2 hot-pluggable 2000W; (D) for DC power • -422: 4 hot-pluggable 2200W • -222: 2 hot-pluggable 2200W
Cooling Design	4 cooling fans
LED	Power LED, Fault LED
Rack Unit	3U
Dimensions (H x W x D)	5.21" (132.5mm) x 17.67" (449mm) x 36.10" (917mm)

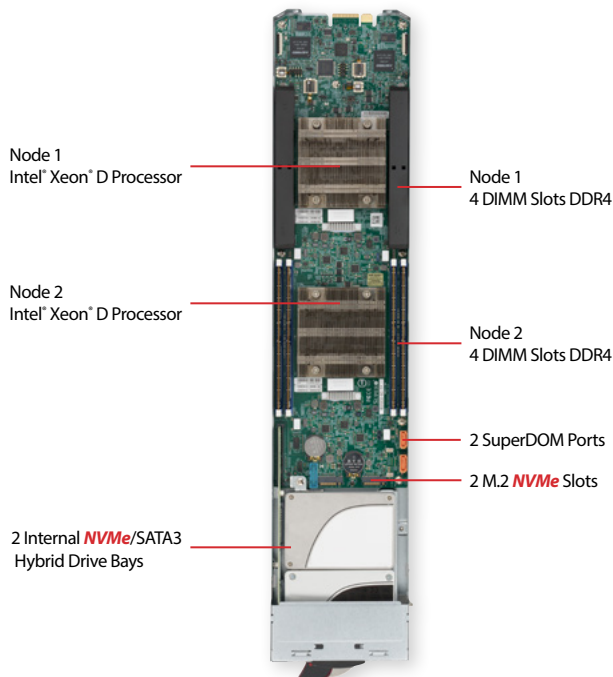


Model	MBE-628E-820(D)/816/420(D)/416	MBE-628E/EB-822/622/422
Processor Blade	Up to 28 hot-pluggable blade servers	Up to 28 hot-pluggable blade servers
Node Support	Intel® Xeon® processor based blades	Intel® Xeon® processor based blades
Networking	Up to 2 hot-pluggable 10G/1G Ethernet switches	Up to 2 hot-pluggable 10G/1G Ethernet switches
Management	Up to 2 hot-pluggable management modules providing remote KVM and IPMI 2.0 functionalities	Up to 2 hot-pluggable management modules providing remote KVM and IPMI 2.0 functionalities
Power Supply	<ul style="list-style-type: none"> • -820(D): 8 hot-pluggable 2000W; (D) for DC power • -816: 8 hot-pluggable 1600W • -420(D): 4 hot-pluggable 2000W; (D) for DC power • -416: 4 hot-pluggable 1600W 	<ul style="list-style-type: none"> • -622S: 6 hot-pluggable 2200W (long-life) + 2 cooling fans (long-life) • -822/622/422: 8/6/4 hot-pluggable 2200W • -628EB-422: 4 hot-pluggable 2200W + 4 hot-pluggable 1200W BBP® modules
Cooling Design	8 cooling fans	8 cooling fans
LED	Power LED, Fault LED	Power LED, Fault LED
Rack Unit	6U	6U
Dimensions (H x W x D)	<ul style="list-style-type: none"> • -820(D)/420(D): 10.43" (265mm) x 17.67" (449mm) x 36.10" (917mm) • -816/416: 10.43" (265mm) x 17.67" (449mm) x 34.43" (875mm) 	10.43" (265mm) x 17.67" (449mm) x 34.43" (875mm)

MicroBlade™ X11 Server Technical Specifications

Intel® Xeon® Processor D-2100 Series Processor Supported

NEW! Dual-node 1S with Dual 10G Ethernet



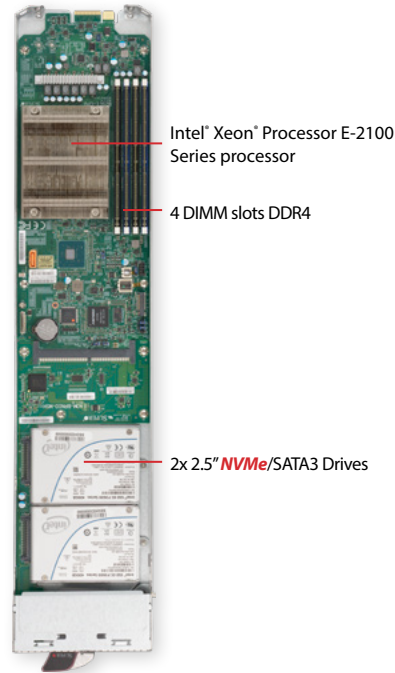
MBI-6219B

Model	MBI-6219B-T41N/T63N/T83N
Server Nodes/42U Rack	392
Processor	- T41N : Intel® Xeon® Processor D-2141I, 8 cores, 65W per node - T63N : Intel® Xeon® Processor D-2163IT, 12 cores, 75W per node - T83N : Intel® Xeon® Processor D-2183IT, 16 cores, 100W per node
Chipset	System-on-Chip
Memory Support	4 DDR4-2133/2400 VLP DIMM slots per node
Max Memory	128 GB per node
Expansion & Drive Bays	<ul style="list-style-type: none"> • 1x 2.5" NVMe/SATA3 internal drive bay per node • 1x M.2 NVMe slot per node (up to 110mm) • 1x SuperDOM port per node
Storage RAID	N/A
Ethernet Interface	Dual 10G Ethernet per node
Management	<ul style="list-style-type: none"> • IPMI 2.0 • KVM over IP • Virtual Media over LAN
LED Indicators	<ul style="list-style-type: none"> • Power LED • UID / KVM LED • Network Activity LED • Fault LED
Dimensions (H x W x D)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (489.28mm)
Chassis	6U: <ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 3U: <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416 • MBE-628E-420 • MBE-628E-820(D) • MBE-628EB-622 • MBE-314E-220(D) • MBE-314E-422/222

MicroBlade™ X11 Server Technical Specifications

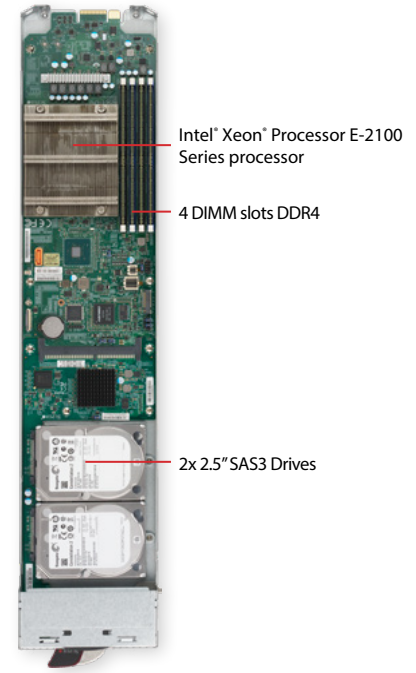
Intel® Xeon® Processor E-2100 Series Processor Supported

NEW! Single-node 1S with 2 NVMe



MBI-6119M-T2N

NEW! Single-node 1S with 2 SAS3



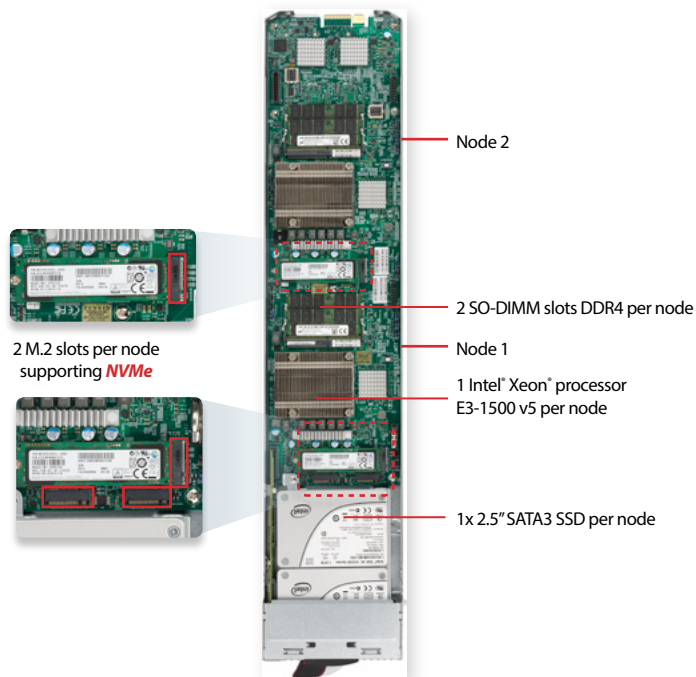
MBI-6119M-C2

Model	MBI-6119M-T2N	MBI-6119M-C2
Server Nodes/42U Rack	196	
Processor	Intel® Xeon® Processor E-2100 Series	
Chipset	Intel® C246	
Memory Support	4 DDR4-2666 VLP UDIMM slots	
Max Memory	128GB	
Expansion & Drive Bays	<ul style="list-style-type: none"> • 2x 2.5" NVMe/SATA3 drives • 1x Super DOM • M.2 Interface: 1 PCI-E 3.0 x4 / 1 SATA3 • M.2 Form Factor: 2280, 2210 • M.2 Key: M-Key 	<ul style="list-style-type: none"> • 2x 2.5" 12Gb/s SAS3 drives • 1x Super DOM • M.2 Interface: 1 PCI-E 3.0 x4 / SATA3 • M.2 Form Factor: 2280/2210 • M.2 Key: M-Key
Storage RAID	Intel® PCH SATA3 RAID 0,1	Broadcom® 3008 SAS3/SATA3 RAID 0,1
Ethernet Interface	Dual 1G Ethernet	
Management	IPMI 2.0, KVM over IP, Virtual Media over LAN	
LED Indicators	<ul style="list-style-type: none"> • Power LED • Fault LED • Network Activity LED • UID / KVM LED 	
Dimensions (H x W x D)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)	
Chassis	6U: <ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 3U: <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416 	<ul style="list-style-type: none"> • MBE-628E-420 • MBE-628E-820(D) • MBE-628EB-622 • MBE-314E-220(D) • MBE-314E-422/222

MicroBlade™ X11 Server Technical Specifications

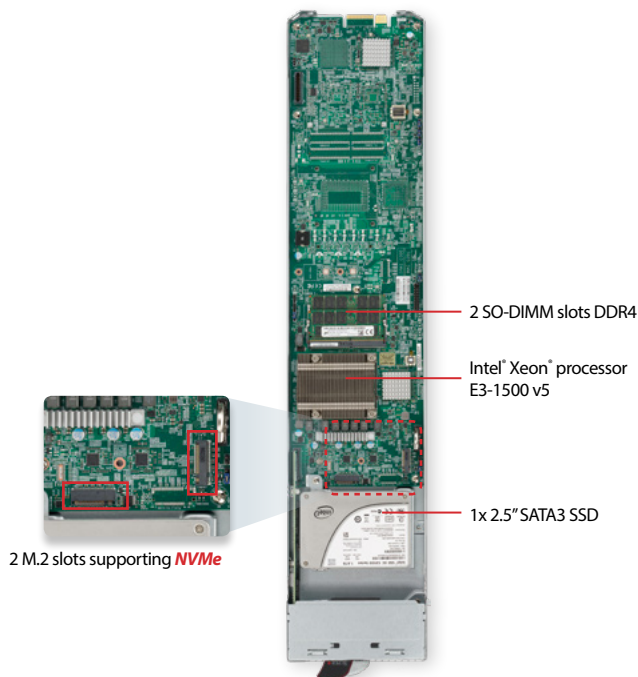
Intel® Xeon® Processor E3-1500 v5 (1585/1578L) Product Family Supported

Dual-node 1S with Dual 10G Ethernet and M.2 NVMe



MBI-6219G-T8HX/T7LX

Single-node 1S with Dual 10G Ethernet and M.2 NVMe



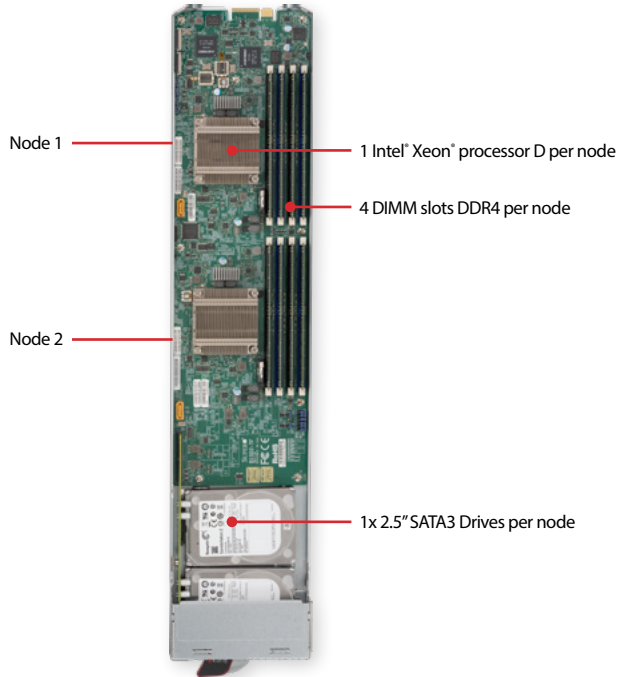
MBI-6119G-T8HX/T7LX

Model	MBI-6219G-T8HX/T7LX		MBI-6119G-T8HX/T7LX	
Server Nodes/42U Rack	392		196	
Processor	- T8HX : Intel® Xeon® processor E3-1585 v5, 4 core, 65W with Integrated Intel® Iris™ Pro Graphics P580 per node	- T7LX : Intel® Xeon® processor E3-1578L v5, 4 core, 45W with Integrated Intel® Iris™ Pro Graphics P580 per node	- T8HX : Intel® Xeon® processor E3-1585 v5, 4 core, 65W with Integrated Intel® Iris™ Pro Graphics P580	- T7LX : Intel® Xeon® processor E3-1578L v5, 4 core, 45W with Integrated Intel® Iris™ Pro Graphics P580
Chipset	Intel® C236		Intel® C236	
Memory Support	2 DDR4-2400 SO-DIMM slots per node		2 DDR4-2400 SO-DIMM slots	
Max Memory	32GB per node		32GB	
Expansion & Drive Bays	<ul style="list-style-type: none"> • 1x 2.5" SATA3 SSD per node • 1x SuperDOM Port per node • 2x M.2 NVMe per node 		<ul style="list-style-type: none"> • 1x 2.5" SATA3 SSD • 1x SuperDOM Port • 2x M.2 NVMe 	
Storage RAID	N/A		N/A	
Ethernet Interface	Dual 10G Ethernet per node		Dual 10G Ethernet	
Management	IPMI 2.0, KVM over IP, Virtual Media over LAN, Supermicro RSD		IPMI 2.0, KVM over IP, Virtual Media over LAN, Supermicro RSD	
LED Indicators	<ul style="list-style-type: none"> • Power LED • Fault LED • Network Activity LED • UID / KVM LED 		<ul style="list-style-type: none"> • Power LED • Fault LED • Network Activity LED • UID / KVM LED 	
Dimensions (H x W x D)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)		1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)	
Chassis	6U: <ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 3U: <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416 		6U: <ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 3U: <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416 	

MicroBlade™ X10 Server Technical Specifications

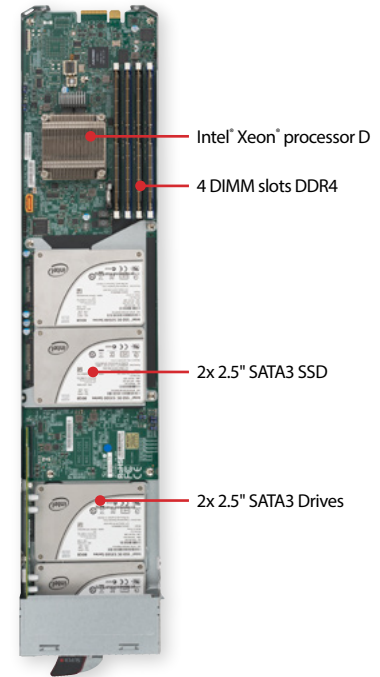
Intel® Xeon® processor D-1500 (1581/1541) Product Family Supported

Dual-node 1S with Dual 10G Ethernet



MBI-6218G-T81X/ T41X

Single-node 1S with Dual 10G Ethernet



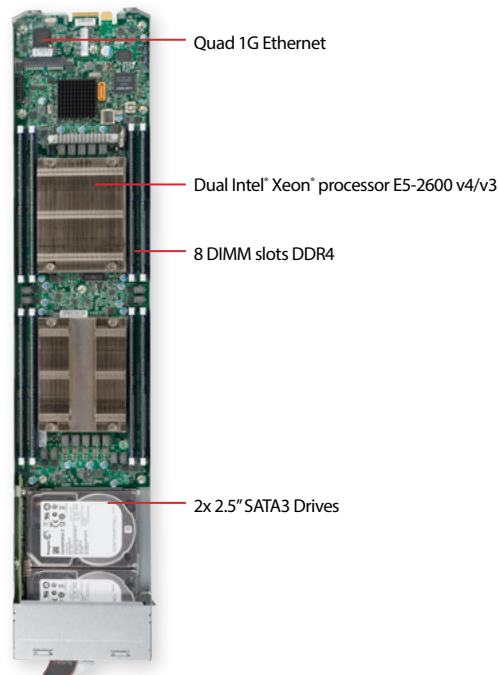
MBI-6118G-T81X/ T41X

Model	MBI-6218G-T81X/ T41X		MBI-6118G-T81X/ T41X	
Server Nodes/42U Rack	392		196	
Processor	- T81X : Intel® Xeon® processor D-1581 per node, 16 cores, 65W	- T41X : Intel® Xeon® processor D-1541 per node, 8 cores, 45W	- T81X : Intel® Xeon® processor D-1581, 16 cores, 65W	- T41X : Intel® Xeon® processor D-1541, 8 cores, 45W
Chipset	System-on-Chip		System-on-Chip	
Memory Support	4 DDR4-2400 VLP DIMM slots per node		4 DDR4-2400 VLP DIMM slots	
Max Memory	128GB per node		128GB	
Expansion & Drive Bays	<ul style="list-style-type: none"> 1x 2.5" SATA3 Drives per node 1x SuperDOM Port per node 		<ul style="list-style-type: none"> 4x 2.5" SATA3 SSD or 2x Drives + 2x SSD 1x SuperDOM Port 	
Storage RAID	N/A		Intel® SATA3 RAID 0,1,5,10	
Ethernet Interface	Dual 10G Ethernet per node		Dual 10G Ethernet	
Management	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN 		<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN 	
LED Indicators	<ul style="list-style-type: none"> Fault LED Network Activity LED Power LED UID / KVM LED 		<ul style="list-style-type: none"> Fault LED Network Activity LED Power LED UID / KVM LED 	
Dimensions (H x W x D)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)		1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)	
Chassis	6U: <ul style="list-style-type: none"> MBE-628E-416 MBE-628E-816 MBE-628EB-422 MBE-628EB-822 3U: <ul style="list-style-type: none"> MBE-314E-420(D) MBE-314E-416 		6U: <ul style="list-style-type: none"> MBE-628E-420 MBE-628E-820(D) MBE-628EB-622 3U: <ul style="list-style-type: none"> MBE-314E-220(D) 	

MicroBlade™ X10 Server Technical Specifications

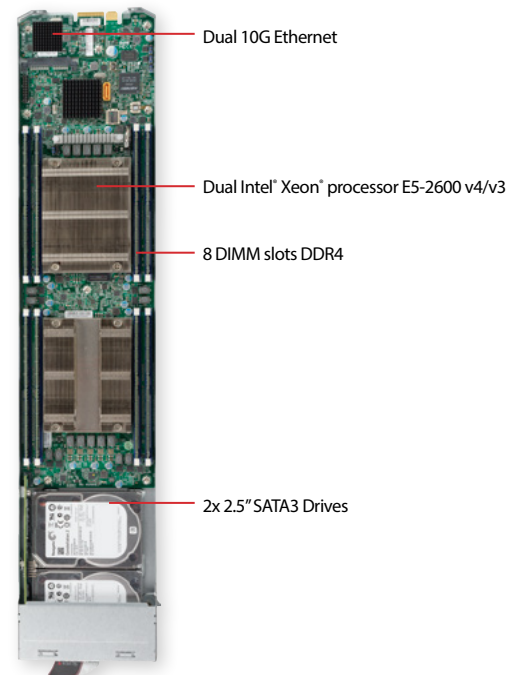
Dual Intel® Xeon® Processor E5-2600 v4/v3 Product Families Supported

Single-node 2S with Quad Gigabit Ethernet



MBI-6128R-T2

Single-node 2S with Dual 10G Ethernet



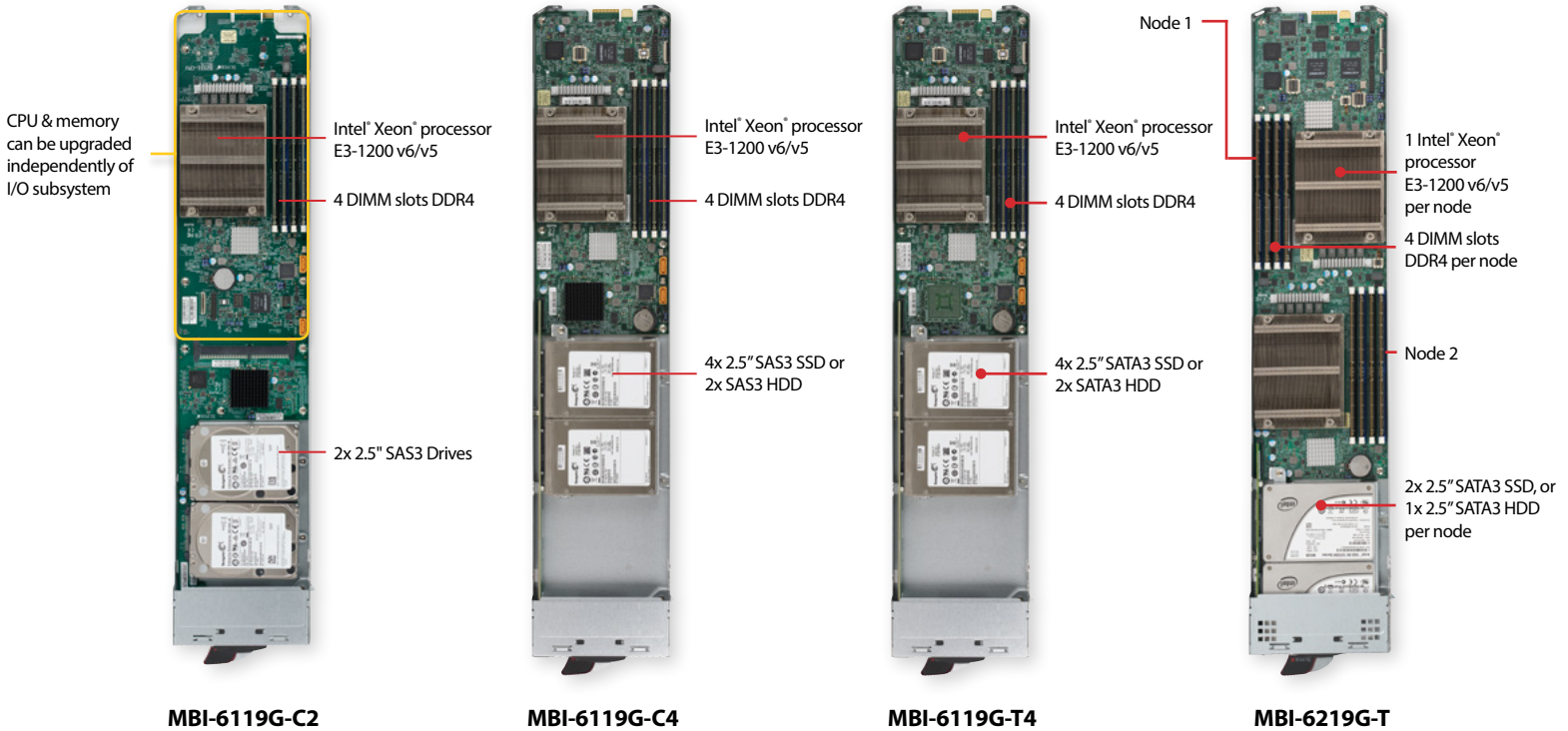
MBI-6128R-T2X

Model	MBI-6128R-T2	MBI-6128R-T2X
Server Nodes/42U Rack	196	196
Processor	Dual Intel® Xeon® processor E5-2600 v4/v3 product families with QPI up to 9.6GT/s	Dual Intel® Xeon® processor E5-2600 v4/v3 product families with QPI up to 9.6GT/s
Chipset	Intel® C612	Intel® C612
Memory Support	8 DDR4-2400 VLP DIMM slots	8 DDR4-2400 VLP DIMM slots
Max Memory	256GB	256GB
Expansion & Drive Bays	<ul style="list-style-type: none"> • 2x 2.5" SATA3 Drives • 1x SuperDOM Port 	<ul style="list-style-type: none"> • 2x 2.5" SATA3 Drives • 1x SuperDOM Port
Storage RAID	Intel® PCH SATA3 RAID 0,1	Intel® PCH SATA3 RAID 0,1
Ethernet Interface	Quad Gigabit Ethernet	Dual 10 Gigabit Ethernet
Management	<ul style="list-style-type: none"> • IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD 	<ul style="list-style-type: none"> • IPMI 2.0 • KVM over IP • Virtual Media over LAN • Supermicro RSD
LED Indicators	<ul style="list-style-type: none"> • Power LED • UID / KVM LED • Network Activity LED • Fault LED 	<ul style="list-style-type: none"> • Power LED • UID / KVM LED • Network Activity LED • Fault LED
Dimensions (H x W x D)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)
Chassis	<p>6U:</p> <ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 <p>3U:</p> <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416 	<p>6U:</p> <ul style="list-style-type: none"> • MBE-628E-420 • MBE-628E-820(D) • MBE-628EB-622 <p>3U:</p> <ul style="list-style-type: none"> • MBE-314E-220(D)

MicroBlade™ X11 Server Technical Specifications

Intel® Xeon® Processor E3-1200 v6/v5 Product Families Supported

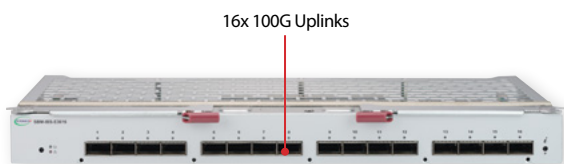
Single-node 1S with 2 SAS3 Single-node 1S with 4 SAS3 Single-node 1S with 4 SATA3 Dual-node 1S with 2 SATA3



Model	MBI-6119G-C2/C4		MBI-6119G-T4	MBI-6219G-T
Server Nodes/42U Rack	196		196	392
Processor	Intel® Xeon® processor E3-1200 v6/v5 product families		Intel® Xeon® processor E3-1200 v6/v5 product families	Intel® Xeon® processor E3-1200 v6/v5 product families per node
Chipset	Intel® C236		Intel® C236	Intel® C236
Memory Support	4 DDR4-2400 VLP DIMM slots		4 DDR4-2400 VLP DIMM slots	4 DDR4-2400 VLP DIMM slots per node
Max Memory	64GB		64GB	64GB per node
Expansion & Drive Bays	-C2: <ul style="list-style-type: none"> • 2x 2.5" SAS3 Drives • 2x SuperDOM Port 	-C4: <ul style="list-style-type: none"> • 2x 2.5" SAS3 HDD or 4x 2.5" SAS3 SSD • 2x SuperDOM Port 	-T4: <ul style="list-style-type: none"> • 2x 2.5" SATA3 HDD or 4x 2.5" SATA3 SSD • 2x SuperDOM Port 	-T: <ul style="list-style-type: none"> • 1x 2.5" SATA3 HDD or 2x 2.5" SATA3 SSD per node
Storage RAID	Broadcom® 3008 SAS3/SATA3 RAID 0,1	Broadcom® 3008 SAS3/SATA3 RAID 0,1,1E,10	Intel® PCH SATA3 RAID 0,1,5,10	Intel® PCH SATA3 RAID 0,1
Ethernet Interface	Dual 1G Ethernet		Dual 1G Ethernet	Dual 1G Ethernet
Management	IPMI 2.0, KVM over IP, Virtual Media over LAN		IPMI 2.0, KVM over IP, Virtual Media over LAN	IPMI 2.0, KVM over IP, Virtual Media over LAN
LED Indicators	<ul style="list-style-type: none"> • Power LED • Fault LED • Network Activity LED • UID / KVM LED 		<ul style="list-style-type: none"> • Power LED • Fault LED • Network Activity LED • UID / KVM LED 	<ul style="list-style-type: none"> • Power LED • Fault LED • Network Activity LED • UID / KVM LED
Dimensions (H x W x D)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)		1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)	1.2" (30.48mm) x 4.94" (125.48mm) x 23.2" (589.28mm)
Chassis	6U: <ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 3U: <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416 		<ul style="list-style-type: none"> • MBE-628E-420 • MBE-628E-820(D) • MBE-628EB-622 3U: <ul style="list-style-type: none"> • MBE-314E-220(D) 	<ul style="list-style-type: none"> • MBE-628E-416 • MBE-628E-816 • MBE-628EB-422 • MBE-628EB-822 3U: <ul style="list-style-type: none"> • MBE-314E-420(D) • MBE-314E-416

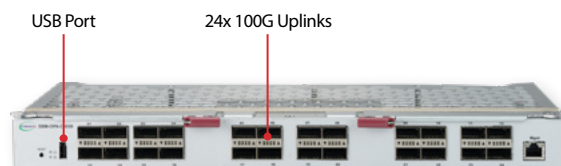
100G Switches

100G EDR InfiniBand Switch



SBM-IBS-E3616

100G Intel® Omni-Path Architecture Switch

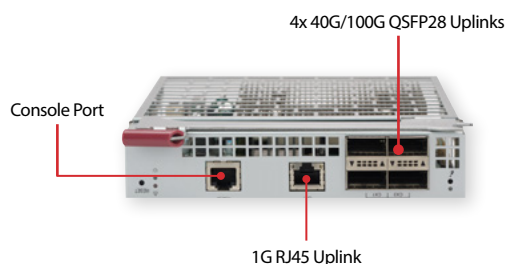


SBM-OPA-C4020

Model	SBM-IBS-E3616	SBM-OPA-C4020
General Specifications	<ul style="list-style-type: none"> • 20x 100G EDR InfiniBand downlinks • 16x 100G EDR InfiniBand uplinks 	<ul style="list-style-type: none"> • 20x 100G Intel® Omni-Path Architecture downlinks • 24x 100G Intel® Omni-Path Architecture uplinks • 1x USB port
Switching Capacity	7.62Tbps	9.6Tbps
Physical Layer Features	100G optical/copper QSFP28	100G optical/copper QSFP28
System Management	Unmanaged mode	Unmanaged mode

25G Ethernet Switch

25G Ethernet Switch with MLAG



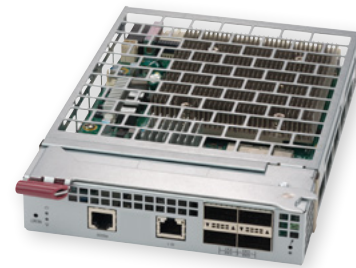
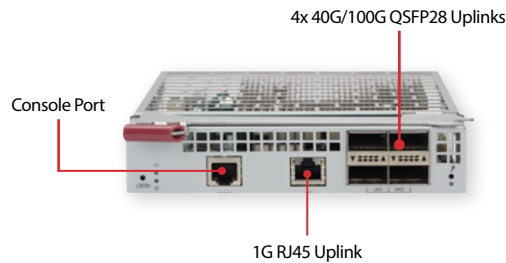
SBM-25G-100



Model	SBM-25G-100			
General Specifications	<ul style="list-style-type: none"> • 20x 25G Ethernet downlink (backward compatible to 20x10G) • 4x 100G/40G Ethernet uplinks, each can split into 4x 25G or 4x 10G uplinks with optional fan-out cables • 1x Gigabit Ethernet uplink • 1x console port 			
Switching Capacity	<ul style="list-style-type: none"> • 1802Gbps 			
Physical Layer Features	<ul style="list-style-type: none"> • 100G/40G optical/copper QSFP28 • Gigabit Ethernet copper RJ45 • Pass-through mode supported on SBE-610J enclosures with additional breakout cables 			
Layer 2 Features	<ul style="list-style-type: none"> • 4K VLANs • Spanning Tree Protocol (802.1D) • Rapid Spanning Tree Protocol (802.1w) 	<ul style="list-style-type: none"> • IEEE 802.1Q VLANs/ port-based VLANs • Multiple Spanning Tree Protocol (802.1s) • Jumbo frames up to 9KB 	<ul style="list-style-type: none"> • IEEE 802.1AX LAG • IEEE 802.3ac VLAN tagging • IEEE 802.1AB Link Layer Discovery Protocol (LLDP) 	
System Management	<ul style="list-style-type: none"> • Industry Standard CLI • Web-based management interface – HTTP/HTTPS 	<ul style="list-style-type: none"> • Syslog • SSH 	<ul style="list-style-type: none"> • SNMP v1/v2/v3 • NTP 	<ul style="list-style-type: none"> • Content-sensitive “Help” • Auto Command completion • TFTP Client • XML-RPC

NEW! 10G Ethernet Switch

10G Ethernet Switch with MLAG



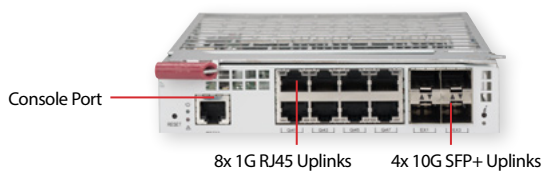
MBM-XEM-100

Model	MBM-XEM-100				
General Specifications	<ul style="list-style-type: none"> • 56x 10G Ethernet downlink (backward compatible to 20x10G) • 4x 100G/40G Ethernet uplinks, each can split into 4x 25G or 4x 10G uplinks with optional fan-out cables • 1x Gigabit Ethernet uplink • 1x console port 				
Switching Capacity	• 1922Gbps				
Physical Layer Features	<ul style="list-style-type: none"> • 100G/40G optical/copper QSFP28 • Gigabit Ethernet copper RJ45 • Pass-through mode supported on SBE-610J enclosures with additional breakout cables 				
Layer 2 Features	<ul style="list-style-type: none"> • 4K VLANs • Spanning Tree Protocol (802.1D) • Rapid Spanning Tree Protocol (802.1w) 	<ul style="list-style-type: none"> • IEEE 802.1Q VLANs/ port-based VLANs • Multiple Spanning Tree Protocol (802.1s) • Jumbo frames up to 9KB 	<ul style="list-style-type: none"> • IEEE 802.1AX LAG • IEEE 802.3ac VLAN tagging • IEEE 802.1AB Link Layer Discovery Protocol (LLDP) 		
System Management	<ul style="list-style-type: none"> • Industry Standard CLI • Web-based management interface – HTTP/HTTPS 	<ul style="list-style-type: none"> • Syslog • SSH 	<ul style="list-style-type: none"> • SNMP v1/v2/v3 • NTP 	<ul style="list-style-type: none"> • Content-sensitive “Help” • Auto Command completion 	<ul style="list-style-type: none"> • TFTP Client • XML-RPC

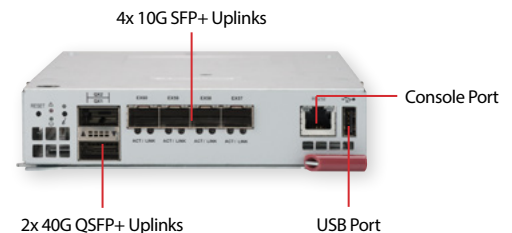
10G and 1G Ethernet Switches

Gigabit Ethernet Layer L2 Switch with MLAG

10G/2.5G/1G Ethernet L3 Switch with MLAG



MBM-GEM-004



MBM-XEM-002

Model	MBM-GEM-004		MBM-XEM-002		
General Specifications	<ul style="list-style-type: none"> • 40x 1G Ethernet downlinks • 8x 1G Ethernet RJ45 and optional 4x 10G Ethernet Uplinks • 1x console port 		<ul style="list-style-type: none"> • 56x 10G/2.5G/1G Ethernet downlinks • 2x 40G Ethernet QSFP+ or, 1x 40G and 4x 10G Ethernet uplinks • 1x console port • 1x USB port 		
Switching Capacity	176Gbps		1280Gbps		
Physical Layer Features	<ul style="list-style-type: none"> • Optional 10G optical/copper SFP+ • Gigabit Ethernet copper RJ45 		<ul style="list-style-type: none"> • 40Gbps optical/copper QSFP+ • Optional 10G Ethernet optical/copper SFP+ 		
Layer 2 Features	<ul style="list-style-type: none"> • 4K VLANs, Jumbo frames up to 9KB • IEEE 802.1Q VLANs/ port-based VLANs • Spanning Tree Protocol (802.1D) 	<ul style="list-style-type: none"> • IEEE 802.1AB Link Layer Discovery Protocol (LLDP) • IEEE 802.3ad with LACP • Multiple Spanning Tree Protocol (802.1s) 	<ul style="list-style-type: none"> • Multi-Chassis Link Aggregation (MLAG) • MAC Address: -XEM-002: 128K -GEM-004: 64K • Rapid Spanning Tree Protocol (802.1W) 		
Advanced Layer 2 Features	<ul style="list-style-type: none"> • Storm control 	<ul style="list-style-type: none"> • Port mirroring 	<ul style="list-style-type: none"> • Flow control 	<ul style="list-style-type: none"> • Uplink Failure Detection 	
Layer 3 Features	N/A		<ul style="list-style-type: none"> • OSPF, BGP and VRRP 		
System Management	<ul style="list-style-type: none"> • Industry Standard CLI • Web-based management interface 	<ul style="list-style-type: none"> • RMON • DHCP (Client) 	<ul style="list-style-type: none"> • SNMP v1/v2/v3 • Zero Touch Provisioning 	<ul style="list-style-type: none"> • NTP • SSH 	<ul style="list-style-type: none"> • Syslog

Switch and Enclosure Compatibility Matrix

SuperBlade® and MicroBlade®

Enclosures		SBM-IBS-E3616	SBM-OPA-C4020	SBM-25G-100	MBM-XEM-100	MBM-XEM-002	MBM-GEM-004
		EDR InfiniBand	Intel® Omni-Path	Ethernet			
		100G	100G	25G	10G	10G	1G
8U	SBE-820C(B)	● Up to 1	● Up to 1	● Up to 2 (10G)	● Up to 2	● Up to 2	● Up to 2
	SBE-820J(B)	-	-	● Up to 2	● Up to 2	● Up to 4	● Up to 4
6U	SBE-610J	-	-	● Up to 2	● Up to 2	● Up to 4	● Up to 4
	SBE-614E(B)	-	-	● Up to 2 (10G)	● Up to 2	● Up to 2	● Up to 2
	MBE-628E	-	-	-	-	● Up to 2	-
	MBE-628EB	-	-	-	-	● Up to 2	● Up to 2*
	MBE-628L	-	-	-	-	● Up to 4	-
4U	SBE-414E(B)	-	-	● Up to 2 (10G)	● Up to 2	● Up to 2	● Up to 2
3U	MBE-314E	-	-	-	-	● Up to 2	● Up to 2

In some configurations, up to 2 different switch models can be installed on a single enclosure. Due to the complexity of switch configuration and compatibility, please confirm with your Supermicro sales representative.

* Single node blade servers only.

Pass-through Networking

Flexible Networking Options

Model	SBM-25G-P10	MBM-25G-P20
Compatibility	<ul style="list-style-type: none"> SuperBlade Ethernet Pass-Thru 	<ul style="list-style-type: none"> MicroBlade Ethernet Pass-Thru
Downlink Ports	<ul style="list-style-type: none"> 20x 25G/10G Downlink Ports 	<ul style="list-style-type: none"> 28x 25G/10G Downlink Ports
Uplink Ports	<ul style="list-style-type: none"> 5x QSFP28 Uplink Ports (100G/40G) which can break into 20x SFP28 (25G/10G) uplink ports using a breakout cable 	<ul style="list-style-type: none"> 7x QSFP28 Uplink Ports (100G/40G) which can break into 28x SFP28 (25G/10G) uplink ports using a breakout cable

SuperBlade® Networking Mezzanine Card

Flexible Networking Options

The new generation of SuperBlades can be further customized to accommodate current and future needs. Networking mezzanine cards include options for 100G EDR InfiniBand, 100G Intel Omni-Path, and Dual Port 25G Ethernet. These cards, paired with the appropriate switch, result in a blade server tuned for high-performance.

100G EDR InfiniBand



AOC-IBH-X4ES
Compatible with SBE-820C

100G Intel® Omni-Path



AOC-OPH-WFR
Compatible with SBE-820C

Dual-Port 25G Ethernet



AOC-B25G-X4D
Compatible with SBE-820J

Dual-Port 25G Ethernet





AOC-B25G-6X4D
Compatible with SBE-610J

Cabling Options for Blade Switches


For more details and pricing information, visit store.supermicro.com/cable/networking.html




Ethernet

	Type	Part Number	Description
	SFP+ Cable	CBL-SFP+AOC-10M	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,10M
	SFP+ Cable	CBL-SFP+AOC-1M-1	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,1M
	SFP+ Cable	CBL-SFP+AOC-3M-1	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,3M
	SFP+ Cable	CBL-SFP+AOC-3M-1-ORG	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,3M,Orange
	SFP+ Cable	CBL-SFP+AOC-5M-1	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,5M
	SFP+ Cable	CBL-SFP+AOC-5M-1-ORG	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,5M,Orange
	SFP+ Cable	CBL-SFP+AOC-7M-1-ORG	ETHERNET,SFP+,10GbE,FIBER,ACTIVE,PULL,7M,Orange
	QSFP Cable	CBL-NTWK-0417-01	ETHERNET, QSFP, 40GbE, PASSIVE, 1M
	QSFP Cable	CBL-NTWK-0325-02	ETHERNET, QSFP, 40GbE, PASSIVE, 2M
	QSFP Cable	CBL-NTWK-0446-01	ETHERNET, QSFP, 40GbE, PASSIVE, 3M
	QSFP Cable	CBL-NTWK-0422-01	ETHERNET, QSFP, 40GbE, PASSIVE, 5M
	QSFP Cable	CBL-QSFP+AOC-1M	ETHERNET, QSFP, QDR, 40GbE, FIBER, ACTIVE, PULL, 1M
	QSFP Cable	CBL-QSFP+AOC-5M-1	ETHERNET, QSFP, QDR, 40GbE, FIBER, ACTIVE, PULL, 5M
	QSFP Cable	CBL-QSFP+AOC-10M-1	ETHERNET, QSFP, QDR, 40GbE, FIBER, ACTIVE, PULL, 10M
	QSFP Cable	CBL-NTWK-0719	ETHERNET, 40GbE/QSFP+ to 4x 10GbE/SFP+, PASSIVE, 1M, Mellanox
	QSFP Cable	CBL-NTWK-0720	ETHERNET, 40GbE/QSFP+ to 4x 10GbE/SFP+, PASSIVE, 3M, Mellanox
	QSFP Cable	CBL-NTWK-0721	ETHERNET, 40GbE/QSFP+ to 4x 10GbE/SFP+, PASSIVE, 5M, Mellanox

InfiniBand

	Type	Part Number	Description
	InfiniBand	CBL-NTWK-0942-MQ28E10M	InfiniBand, EDR, QSFP28, 100GbE, PASSIVE, LSZH, 1M, Mellanox
	InfiniBand	CBL-NTWK-0942-MQ28E15M	InfiniBand, EDR, QSFP28, 100GbE, PASSIVE, LSZH, 1.5M, Mellanox
	InfiniBand	CBL-NTWK-0942-MQ28E20M	InfiniBand, EDR, QSFP28, 100GbE, PASSIVE, LSZH, 2M, Mellanox
	InfiniBand	CBL-NTWK-0942-MQ28E30M	InfiniBand, EDR, QSFP28, 100GbE, PASSIVE, LSZH, 3M, Mellanox

Intel® Omni-Path Architecture

	Type	Part Number	Description
	Omni-Path	CBL-NTWK-0892-OPC05	Intel Omni-Path Passive Copper Cable QSFP28, 0.5M
	Omni-Path	CBL-NTWK-0892-OPC10	Intel Omni-Path Passive Copper Cable QSFP28, 1M
	Omni-Path	CBL-NTWK-0892-OPC15	Intel Omni-Path Passive Copper Cable QSFP28, 1.5M
	Omni-Path	CBL-NTWK-0892-OPC20	Intel Omni-Path Passive Copper Cable QSFP28, 2M
	Omni-Path	CBL-NTWK-0892-OPC30	Intel Omni-Path Passive Copper Cable QSFP28, 3M
	Omni-Path	CBL-NTWK-0892-OPF30L	Intel Omni-Path Active Fiber Cable QSFP28, 3M
	Omni-Path	CBL-NTWK-0892-OPF50L	Intel Omni-Path Active Fiber Cable QSFP28, 5M
	Omni-Path	CBL-NTWK-0892-OPF100L	Intel Omni-Path Active Fiber Cable QSFP28, 10M
	Omni-Path	CBL-NTWK-0892-OPF150L	Intel Omni-Path Active Fiber Cable QSFP28, 15M
	Omni-Path	CBL-NTWK-0892-OPF200L	Intel Omni-Path Active Fiber Cable QSFP28, 20M
	Omni-Path	CBL-NTWK-0892-OPF300L	Intel Omni-Path Active Fiber Cable QSFP28, 30M
	Omni-Path	CBL-NTWK-0892-OPF400L	Intel Omni-Path Active Fiber Cable QSFP28, 40M
	Omni-Path	CBL-NTWK-0892-OPF500L	Intel Omni-Path Active Fiber Cable QSFP28, 50M
	Omni-Path	CBL-NTWK-0892-OPF600L	Intel Omni-Path Active Fiber Cable QSFP28, 60M

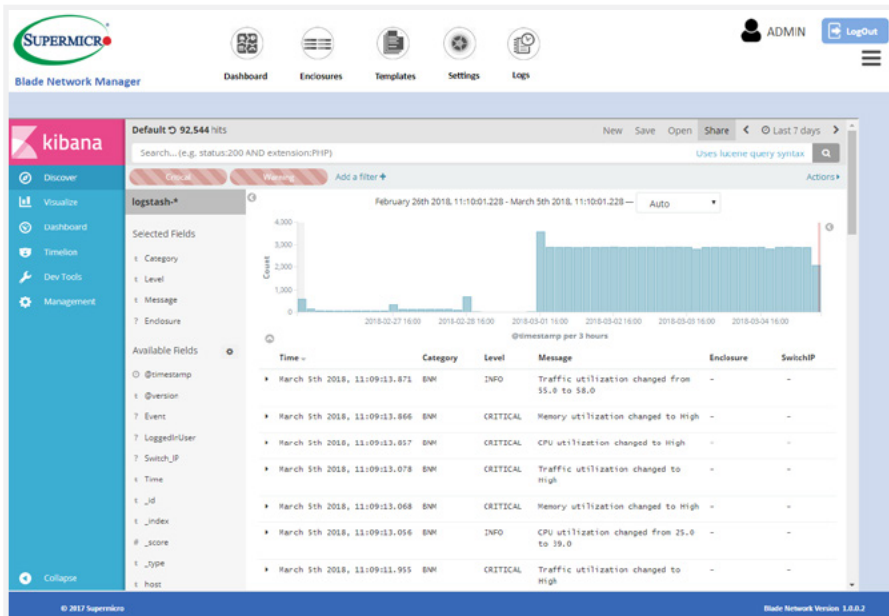
Supermicro Blade Network Manager (BNM)

Supporting MicroBlade and New Generation SuperBlade

Supermicro's industry-leading blade server product family is enhanced by a user-friendly software utility for managing every aspect of network configuration within each SuperBlade1 or MicroBlade enclosure and across multiple enclosures.

The new **Supermicro Blade Network Manager (BNM)** is a part of Supermicro's blade management software suite designed to reduce IT management overhead and minimize network configuration errors within a MicroBlade or SuperBlade enclosure.

BNM offers a single-pane of glass to monitor and manage the network configurations across multiple SuperBlade and MicroBlade enclosures in a data center environment. It displays the network topology from each blade server's perspective, and helps to manage and diagnose network configuration issues.



Volume provisioning of blade server networking can be achieved using templates. Users can define configuration parameters based on type of workload within an enclosure, and save as a configuration template. When new enclosures are added to the environment, the same configuration can be applied and repeated at scale. In addition, multiple configuration templates can be created that are each optimized for different types of workloads.

BNM is a software solution that can be deployed on a physical or virtual machine running Ubuntu Linux, and can be managed through a secure web interface. The BNM software framework is architected with open standards and is flexible enough to be incorporated into existing infrastructure management tools.

¹ Refers to the new generation 8U/6U/4U SuperBlade solutions supporting 2nd Gen Intel® Xeon® Scalable processors.

Supermicro Blade Network Manager (BNM)

Supporting MicroBlade and New Generation SuperBlade

BNM Highlights

Simplicity

The BNM dashboard is designed to present the network topology and configuration in a straightforward interface and minimize the networking expertise required by the user. Setting up a new network switch requires just a few clicks in the BNM UI.

Scalability

The BNM management agent is scalable to manage thousands of SuperBlade and MicroBlade enclosures from a single management interface. Users can deploy network configurations for groups of enclosures based on pre-defined templates, and be ready to move from testing to production in a short amount of time.

Intelligence

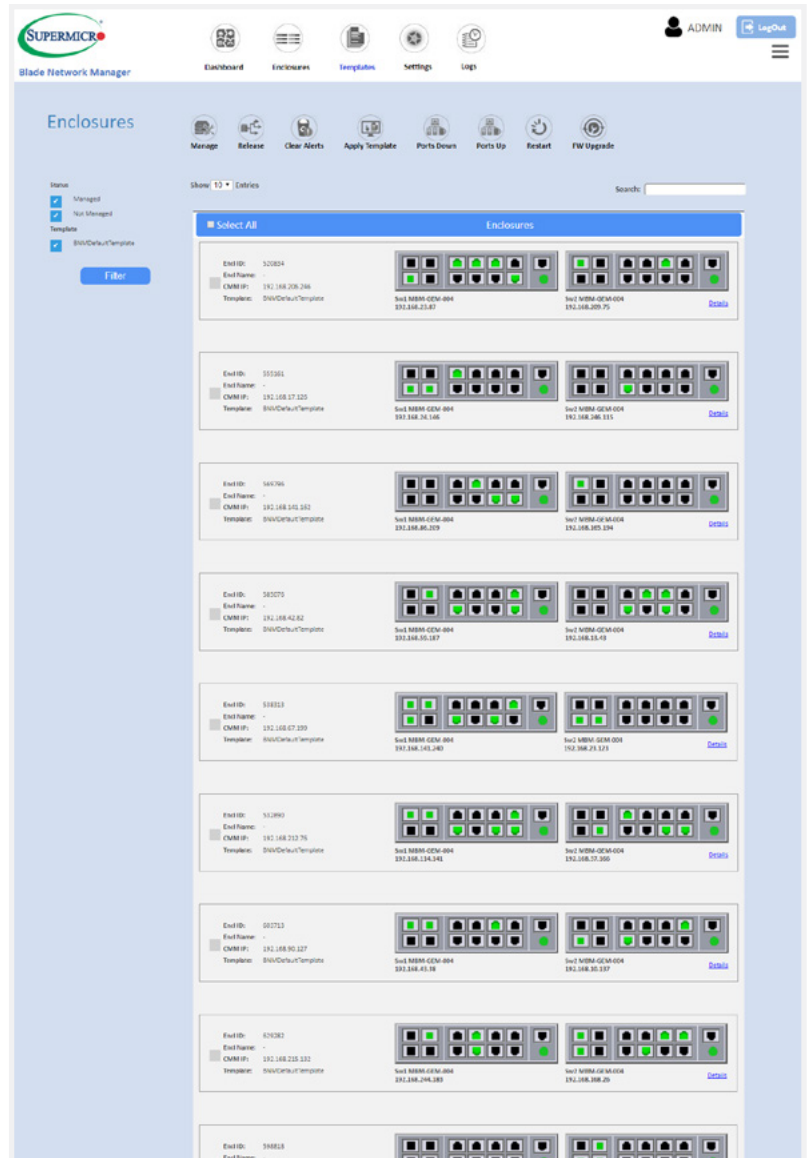
BNM learns the connections between blade servers, blade switches, and uplink ToR (or other switches) using LLDP and LACP messages. Based on the available connections, BNM can intelligently provision link aggregations automatically in the blade switches.

Workflow

BNM includes a template-based configuration capability and comes with several pre-defined configuration templates for different switch models and deployments. These templates can be deployed to multiple enclosures with a few clicks and can result in significant time savings. Modifying a deployed configuration template can automatically trigger the reprovisioning of all applicable blade switches.

Analytics

BNM gathers statistics and logs from the blade switches and presents them using powerful analytics and visualization tools. BNM is built with open source products including Elasticsearch, Logstash, and Kibana.



	MBE-314E	MBE-628E/B	SBE-820C	SBE-820J	SBE-414E	SBE-610J	SBE-614E
MBM-GEM-004	•	•	•	•	•	•	•
SBM-25G-100				•		•	
MBM-XEM-100	•	•	•	•	•	•	•
MBM-XEM-002	•	•	•	•	•	•	•

BNM Support Matrix

BNM is a software solution that can be deployed on any physical or virtual machine running Ubuntu Linux, and can be managed through a secure web interface.

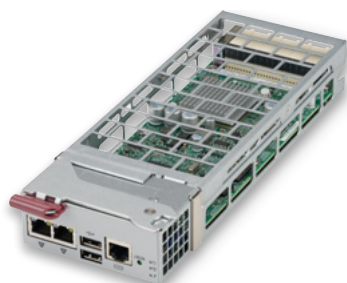
Minimum Requirements

- Physical/VM: 3.5 GHz+ CPU, 8GB RAM and 40GB of storage
- OS: Ubuntu 16.0.4.03 LTS

Chassis Management Modules (CMM)

Supporting MicroBlade and New Generation SuperBlade

- Centralized remote management
 - Server Blades, Power Supplies, Cooling Fans, Switches
- Management tools
 - **IPMView**: CLI, Web-based GUI
 - **CMM**: Enclosure Monitoring
 - **SSM**: Blade Enclosure and Rack
 - **Utilities**: SMCIPMITOOL for CMM and IPMICFG for IPMI
- Redundancy and Fail-over
- IPMI 2.0 and Redfish compliant, with KVM over LAN / KVM over IP
- Virtual Media Over LAN (Virtual USB Floppy/CD and Drive Redirection)
- LAN Alert-SNMP Trap
- Event Log
- Hardware Health Monitor
- Supports RMCP & RMCP+ Protocols

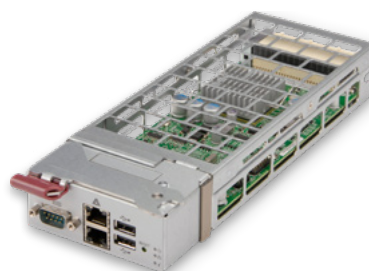


MBM-CMM-FIO

Support Front I/O Ports on Enclosures



2 LAN Ports
Console Port
2 USB Ports



MBM-CMM-001



Console Port
2 USB Ports
2 LAN Ports

Power Supply Modules

Supporting MicroBlade™ and New Generation SuperBlade®



Model	PWS-2K21A-BR	PWS-2K01A-BR	PWS-1K67P-1R	PWS-2K02D-BR
Output	2200W/2090W/1980W/1800W/1200W	2000W/1980W/1800W/1000W	1600W/1400W/1200W	1600W/2000W
Type	Redundant Module (N+1 or N+N)	Redundant Module (N+1 or N+N)	Redundant Module (N+1 or N+N)	Redundant Module (N+1 or N+N)
+12V	<ul style="list-style-type: none"> • 183.33A (2200W) • 174.17A (2090W) • 165A (1980W) • 150A (1800W) • 100A (1200W) 	<ul style="list-style-type: none"> • 166.7A (2000W) • 165A (1980W) • 150A (1800W) • 83.3A (1000W) 	<ul style="list-style-type: none"> • 133A (1600W) • 116.7A (1400W) • 100A (1200W) 	<ul style="list-style-type: none"> • 166.7A (2000W) • 133.3A (1600W)
12V_{SB}	2A	4.2A	2A	4.2A
PFC	Yes	Yes	Yes	No
Peak Efficiency	Titanium Level (96%+ efficiency)	Titanium Level (96%+ efficiency)	Platinum Level (95%+ efficiency)	92%+ efficiency
Input Range	<ul style="list-style-type: none"> • 100-127V (1200W) • 200-220V (1800W) • 220-230V (1980W) • 230-240V (2090W) • 200-220V (2090W for UL & cUL) • 220-240V (2200W for UL & cUL) 	<ul style="list-style-type: none"> • 100-127V (1000W) • 200-220V (1800W) • 220-230V (1980W) • 230-240V (2000W) • 200-240V (2000W for UL & cUL) 	<ul style="list-style-type: none"> • 100-120V (1200W) • 120-140V (1400W) • 200-240V (1600W) 	<ul style="list-style-type: none"> • -40 to -44Vdc (1600W) • -44 to -66Vdc (2000W)
Operating Conditions	<ul style="list-style-type: none"> • Temp: 0 to 50°C • Humidity: 5 to 95% RH 	<ul style="list-style-type: none"> • Temp: 0 to 50°C • Humidity: 5 to 95% RH 	<ul style="list-style-type: none"> • Temp: 0 to 50°C • Humidity: 5 to 95% RH 	<ul style="list-style-type: none"> • Temp: 0 to 50°C • Humidity: 5 to 95% RH

Long-Life Power Supply and Fan Modules

Optimized for Resource Savings and Longevity

- Resource-saving Architecture for reduced TCO and TCE
- Conformal coating to protect from environment impact
- Rigorous component selection process for the highest quality
- MTBF of fans and power supplies are at least 2 million hours (at 30°C ambient temperature)
- Flexible warranty options: standard warranty 8, 8, 1 (labor, parts, advance parts replacement) or extended warranty 12, 12, 1 is available

Model	PWS-2K22P-BR
Output	2200W/2090W/1980W/1800W/1200W
Type	Redundant Module (N+1 or N+N)
+12V	<ul style="list-style-type: none"> • 183.33A(2200W) • 174.17A (2090W) • 165A (1980W) • 150A (1800W) • 100A (1200W)
12V _{SB}	2A
PFC	Yes
Peak Efficiency	Platinum Level (94% efficiency)
Input Range	<ul style="list-style-type: none"> • 100-127V (1200W) • 200-220V (1800W) • 220-230V (1980W) • 230-240V (2090W) • 200-220V (2090W for UL & cUL) • 220-240V (2200W for UL & cUL)
Operating Conditions	<ul style="list-style-type: none"> • Temp: 0 to 50°C • Humidity: 5 to 95% RH



NEW! PWS-2K22P-BR
2200W Long-Life Power Supply



NEW! PWS-DF008-LF
Long-Life Fan Module

Optimized SuperBlade/MicroBlade Enclosures

- SBE-820L-622S
- SBE-820C-622S
- SBE-820J-622S
- SBE-610J-622S
- SBE-414E-422S
- MBE-628E-622S

Battery Backup Power (BBP®) Modules

Supporting MicroBlade™ and New Generation SuperBlade®

Chassis Compatible with BBP®

Model	Output Power	Capacity	8U		6U	4U
			SBE-820CB-422	SBE-820JB-422	MBE-628EB-422	SBE-414EB-422
PWS-1K20B-BR	1200W	68Whr	• 4 modules	• 4 modules	• 4 modules	• 2 modules

Specifications

Model	PWS-1K20B-BR
Total Output Power	1200W
Input	11.2 to 12.9V _{DC}
Output	12V, 12V _{SB}
Battery Cell Capacity	68Whr
Redundant	N+1 / N+N
PC Remote Monitoring	FRU/Smart battery I²C
+12V output	100A
12V _{SB} output	2.5A
Efficiency	Online mode battery power consumption less than 5W
Discharge Duration	1200W for 35 seconds
Cell Chemistry	Lithium-ion
Cooling	Internal 80 x 80mm cooling fan
Operating Temperature	5°C - 50°C

Estimated Runtime

Power Load	Installed BBP Modules	Discharge Duration
1000W	4	180 seconds
2000W	4	120 seconds
3000W	4	60 seconds
4000W	4	35 seconds
4800W	4	35 seconds

Under typical conditions, above is the Estimated Runtime of PWS-1K20B-BR. Runtime can be extended by adding additional BBP® modules to a system.



PWS-1K20B-BR
1200W BBP Module

7U SuperBlade®

Industry's Most Versatile Blade Portfolio for Enterprise, Data Center, HPC and Cloud Computing

7U GPU/Intel® Xeon Phi™ Coprocessor Blade

Up to 20 GPU/Intel® Xeon Phi™ coprocessor or 40 PCI-E cards, or 90 SSD drives



7U TwinBlade®
Double Density



7U DataCenter Blade®
NVMe



7U StorageBlade®
NVMe

7U SuperBlade® Servers

Dual Intel® Xeon® Processor E5-2600 v4/v3

2 GPU/Xeon Phi™



SBI-7128RG-X/F/F2

2x 2S with 10GbE/FDR



SBI-7228R-T2F/T2F2/T2X

6 SAS and NVMe



SBI-7128R-C6(N)

3 SAS and NVMe



SBI-7428R-T3/C3(N)

7U SuperBlade® Enclosures and Cabinet

Best Density

- Up to 20x 2S Nodes (Intel® Xeon® Processor E5-2600 v4/v3)
- Up to 10x 4S Nodes (Intel® Xeon® Processor E5-4600 or Intel® Xeon® Processor E5-4600 v2 product families)

High Efficiency Power for Earth-Friendly Operations

- Platinum Level (94%+) 3000W and 2500W power supplies with N+N or N+1 redundancy
- Flexibility: 1620W, 2500W, or 3000W options



Model	SBE-710E/Q Series	SBE-714D/E/Q Series
Blade Server	Up to 10 hot-pluggable blade servers	Up to 14 hot-pluggable blade servers
InfiniBand Switch	710Q: Up to 2 hot-pluggable FDR/QDR IB switches	714Q: Up to 2 hot-pluggable FDR/QDR IB switches
Ethernet Switch	<ul style="list-style-type: none"> • Up to 2 hot-pluggable Gigabit Ethernet switches or pass-through modules • 710E: Up to two hot-pluggable 10G pass-through modules • 710Q: Up to two hot-pluggable 10G Ethernet switches 	<ul style="list-style-type: none"> • Single (714D) or up to 2 (714E/Q) hot-pluggable Gigabit Ethernet switches • 714E: Up to 2x 10G pass-through modules • 714Q: Up to 2 hot-pluggable 10G Ethernet switches
Management	<ul style="list-style-type: none"> • Up to 2 hot-pluggable management modules providing remote KVM and IPMI 2.0 functionalities 	Single (714D) or up to 2 (714E/Q) hot-pluggable management modules providing remote KVM and IPMI 2.0 functionalities
Power Supply	Hot-pluggable 1620W/2500W (710E) or 1620W/2500W/3000W (710Q) power supplies, N+1 redundancy	Hot-pluggable 1620W (714D/E) or 1620W/2500W (714Q) power supplies, N+1 redundancy
Cooling Design	Front to back	Front to back
LED Indicators	Power LED, Fault LED	Power LED, Fault LED
Rack Unit	7U	7U
Dimensions (H x W x D)	12.2" (309.88mm) x 17.6" (447.04mm) x 29" (736.6mm)	12.2" (309.88mm) x 17.6" (447.04mm) x 29" (736.6mm)



Model	SBE-720D/E/F Series
Blade Server	Up to 10 hot-pluggable blade servers
InfiniBand Switch	<ul style="list-style-type: none"> • 720F: Up to 2 hot-pluggable FDR 56G InfiniBand switches • 720E: Up to 2 hot-pluggable FDR-10/QDR InfiniBand switches
Ethernet Switch	Up to 2 hot-pluggable Gigabit Ethernet switches or pass-through module
Management	Single hot-pluggable management module providing remote KVM and IPMI 2.0 functionalities
Power Supply	Hot-pluggable 2500W/3000W Platinum Level (94%) power supplies, N+1 redundancy
Cooling Design	Front to back
LED Indicators	Power LED, Fault LED
Rack Unit	7U
Dimensions (H x W x D)	12.2" (309.88mm) x 17.6" (447.04mm) x 29" (736.6mm)

Personal Supercomputing Mini-Rack Cabinet



CSE-RACK14U

Mobility, Protection and Security - Ideal for Office Application/Environment or Personal Supercomputing

** Not recommended for SBI-7227R-T2, SBI-7127RG/RG-E, and 7228R-T2F/T2X*

Key Features

- Mobile 14U Rack Space
- Ideal for Office Environments - The same height as standard office furniture (30.64"H)
- Upgradeable - Rear frame mounting
- Mobile - casters for easy mobility

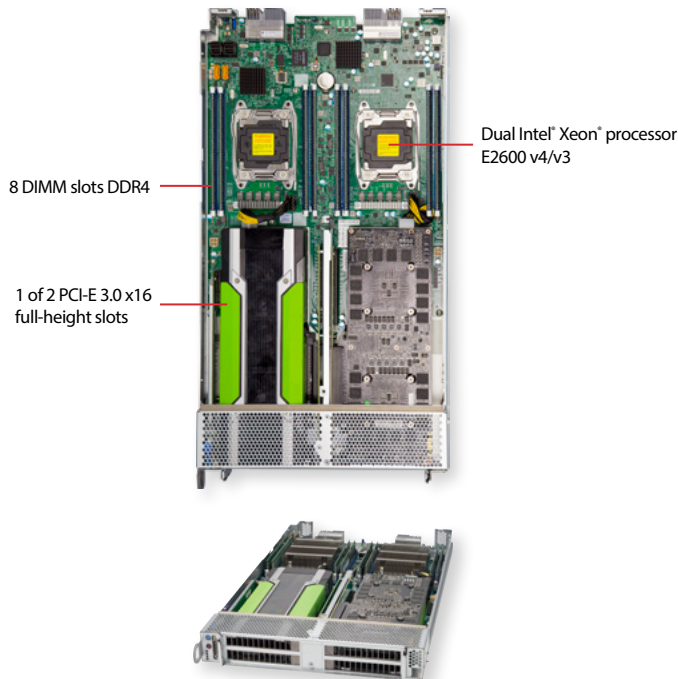
Specifications

- 14U cabinet
- Dimensions (W x D x H): 21.65" (549.91mm) x 34.65" (880.11mm) x 30.64" (778.256mm)
- Supports standard 19" rackmount servers with standard mounting holes
- Front door lock, casters with brakes
- Stability support
- Optional air filter

7U SuperBlade® X10 Server Technical Specifications

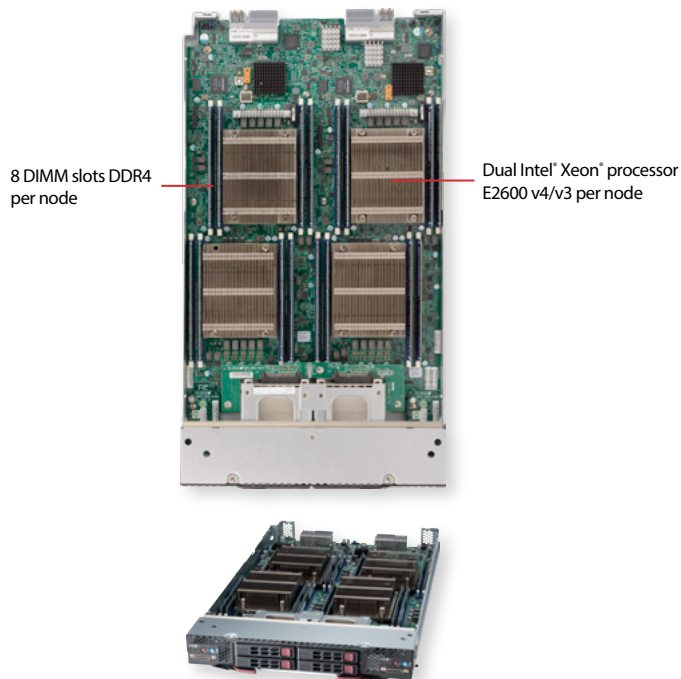
Dual Intel® Xeon® Processor E5-2600 v4/v3 Product Families Supported

2 GPUs or 4 PCI-E 3.0 x8 Cards



2 GPU/Intel® Xeon Phi™ coprocessors Blade

Dual-node 2S with 10G Ethernet or FDR InfiniBand



TwinBlade®

Model	SBI-7128RG-X/F/F2	SBI-7228R-T2F/T2F2/T2X
Server Nodes/42U Rack	60 (+120 GPU/Intel® Xeon Phi™ coprocessor cards)	120
Processor	Dual Intel® Xeon® processor E5-2600 v4/3 product families with QPI up to 9.6 GT/s	Dual Intel® Xeon® processor E5-2600 v4/3 product families with QPI up to 9.6 GT/s per node
Chipset	Intel® C612	Intel® C612
Memory Support	8 DDR4-2400 DIMM slots	8 DDR4-2400 DIMM slots per node
Max Memory	1TB	1TB per node
Expansion & Drive Bays	<ul style="list-style-type: none"> Up to 2 PCI-E 3.0 x16 (full-height) cards optimized for Intel® Xeon Phi™ coprocessors or NVIDIA® Tesla® K80, M40/M60 or 4x PCI-E 3.0 x8 cards 2 SuperDOM Ports or 1 SATA3 SSD or Up to 8x 2.5 SATA3 Drives + 1x 2.5" SSD** 	<ul style="list-style-type: none"> 2 hot-plug 2.5" SATA3 drive bays per node 1 SuperDOM Port per node
Storage RAID	Intel® PCH SATA3 RAID 0,1	Intel® PCH SATA3 RAID 0,1
InfiniBand/10G Option	<ul style="list-style-type: none"> -X: Onboard dual-port 10G Ethernet -F: Onboard single-port FDR InfiniBand* -F2: Onboard dual-port FDR InfiniBand* 	<ul style="list-style-type: none"> -T2X: Onboard dual-port 10G Ethernet per node -T2F: Onboard single-port FDR InfiniBand* per node -T2F2: Onboard dual-port FDR InfiniBand* per node
Ethernet Interface	Dual-port Gigabit	Dual-port Gigabit per node
Management	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD 	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD
LED Indicators	Fault LED, Network Activity LED, Power LED, UID / KVM LED	Fault LED, Network Activity LED, Power LED, UID / KVM LED per node
Dimensions (H x W x D)	1.67" (42.42mm) x 11.32" (287.53mm) x 20.5" (520.7mm)	1.67" (42.42mm) x 11.32" (287.53mm) x 20.5" (520.7mm)
Chassis	7U: <ul style="list-style-type: none"> SBE-720F SBE-720E SBE-710Q 	7U: <ul style="list-style-type: none"> SBE-720F SBE-720E

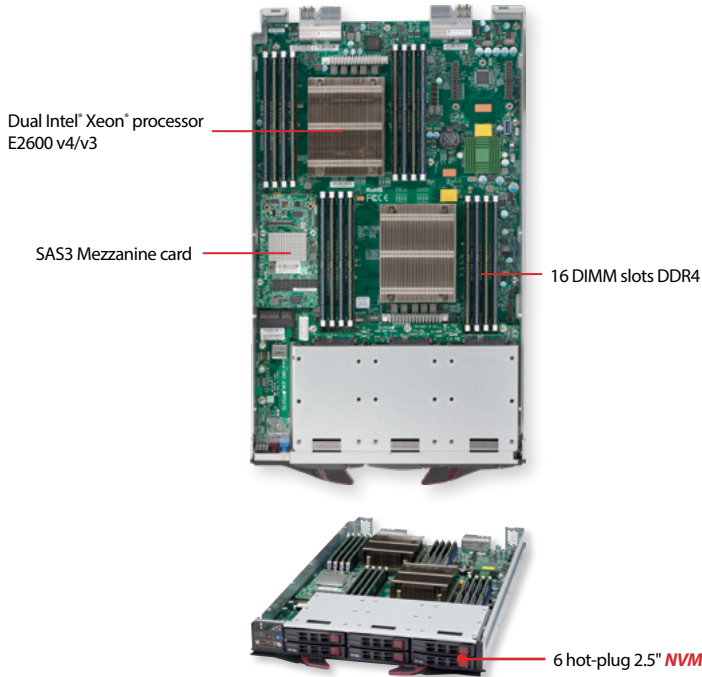
* -X/T2X: Dual 10G Ethernet ports on-board
 -F/T2F: Single InfiniBand port on-board
 -F2/T2F2: Dual InfiniBand ports onboard

** If no GPU/Intel® Xeon Phi™ is installed

7U SuperBlade® X10 Server Technical Specifications

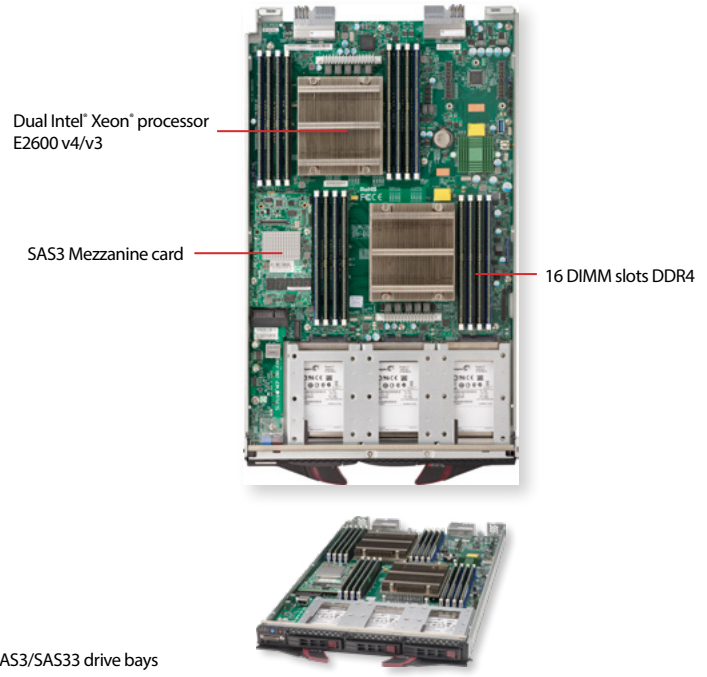
Dual Intel® Xeon® Processor E5-2600 v4/v3 Product Families Supported

SAS 3.0 12Gbps and NVMe



StorageBlade®

SAS 3.0 12Gbps and NVMe



DatacenterBlade®

Model	SBI-7128R-C6(N)	SBI-7428R-T3(N)/C3(N)
Server Nodes/42U Rack	60	84
Processor	Dual Intel® Xeon® processor E5-2600 v4/3 product families with QPI up to 9.6 GT/s	Dual Intel® Xeon® processor E5-2600 v4/3 product families with QPI up to 9.6 GT/s
Chipset	Intel® C612	Intel® C612
Memory Support	16 DDR4-2400 DIMM slots	16 DDR4-2400 VLP DIMM slots
Max Memory	2TB	512GB
Expansion & Drive Bays	<ul style="list-style-type: none"> -C6: 6 hot-plug 2.5" SAS3/SATA3 drive bays -C6N: 3 hot-plug 2.5" SAS3/SATA3 drive bays and 3 hot-plug 2.5" NVMe drive bays 2 SuperDOM Ports 	<ul style="list-style-type: none"> -C3: 3 hot-plug 2.5" SAS3/SATA3 drive bays -T3: 3 hot-plug 2.5" SATA3 drive bays -T3N/-C3N: 3 hot-plug 2.5" NVMe/SATA3/SAS3(-C3N) drive bays 2 SuperDOM Ports
Storage RAID	Broadcom® 3108 with 2G Cache HW RAID 0,1,5,6,10,50 (Optional SuperCap for battery backup)	-T3/-T3N: Intel PCH SATA3 RAID 0,1,5 -C3/C3N: Broadcom® 3108 with 2G Cache HW RAID 0,1,5
InfiniBand/10G Option	<ul style="list-style-type: none"> FDR-10/QDR InfiniBand or 10GbE/FCoE mezzanine HCA 	<ul style="list-style-type: none"> FDR-10/QDR InfiniBand or 10GbE/FCoE mezzanine HCA
Ethernet Interface	Dual-port Gigabit	Dual-port Gigabit
Management	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD 	<ul style="list-style-type: none"> IPMI 2.0 KVM over IP Virtual Media over LAN Supermicro RSD
LED Indicators	Fault LED, Network Activity LED, Power LED, UID / KVM LED	Fault LED, Network Activity LED, Power LED, UID / KVM LED per node
Dimensions (H x W x D)	1.67" (42.42mm) x 11.32" (287.53mm) x 20.5" (520.7mm)	1.19" (30.23mm) x 11.32" (287.53mm) x 18.9" (480.06mm)
Chassis	7U: <ul style="list-style-type: none"> SBE-720F SBE-720D SBE-710Q SBE-720E SBE-710E 	7U: <ul style="list-style-type: none"> SBE-714Q SBE-714D SBE-714E

7U SuperBlade® Networking Solutions

	1G Ethernet		10G Ethernet and Converged Network	
Model	SBM-GEM-001	SBM-GEM-X3S+	SBM-XEM-X8SM*	SBM-XEM-F8X4SM*
Type	Layer 2 Gigabit Ethernet Switch	Layer 2/3 Gigabit Ethernet Switch	Layer 2/3 10G Ethernet Switch	Data Center Converged Switch with FCoE
Downlinks	14x Gigabit Ethernet Downlinks	14/20x Gigabit Ethernet Downlinks	8/20x 10G Ethernet Downlinks	10/20x 10G Downlinks to ports on mezzanine cards, support DCB, FCoE
Uplinks	10x 1G Ethernet RJ45 Uplinks	3x 10G Ethernet SFP+ and 4x 1G Ethernet RJ45 Uplinks	4 (TwinBlade Servers)/10x (10-Blade Servers) 10G Ethernet SFP+ Uplinks	-Ethernet: 4x 10G Ethernet SFP+ Uplinks** -Fibre Channel: 6x Fibre Channel N_Port Uplinks, support 2/4/8G
Stacking	N/A	Up to 8 switches	N/A	N/A
Trunking	Static Link aggregation support (802.3ad)	Full Link aggregation support (802.3ad) MLAG	Full Link aggregation support (802.3ad) MLAG	Full Link aggregation support (802.3ad) MLAG
Jumbo Frame	Up to 9k bytes	Up to 16k bytes (10G) or 9K bytes (1G)	Up to 16K bytes (10G) or 9K bytes (1G)	Up to 12K bytes (10G) or 2112 bytes (FC)
Remote Management	Browser-based management	Browser-based management/CLI	Browser-based management/CLI	Browser-based management/CLI
Layer 2 Features	VLANs, STP, RSTP, 802.1x	VLANs, STP, RSTP, MSTP, IGMP snooping, 802.1x	4K VLANs, STP, RSTP, MSTP	4K VLANs, STP, RSTP, MSTP, IGMP snooping, 802.1x
Layer 3 Features	N/A	ACL, DHCP, VRRP, RIP, OSPF, BGP, IPv6, RIPng, OSPFv3, IGMP, PIM, DVMRP, QoS	ACL, DHCP, VRRP, RIP, OSPF, BGP, IPv6, RIPng, OSPFv3, QoS	ACL, DHCP, VRRP, RIP, OSPF, BGP, IPv6, RIPng, OSPFv3, IGMP, PIM, DVMRP, QoS
OS	Software upgradeable	Software upgradeable	Software upgradeable	Software upgradeable

*"M" version supports Mini-CMM (BMB-CMM-002) ** SBE-710 series enclosure only

	Ethernet Pass-Through		InfiniBand
Model	SBM-GEP-T20	SBM-GEM-002	SBM-IBS-F3616(M)*
Type	Ethernet pass-through module for TwinBlade SBE-720D and SBE-720E enclosures	Ethernet pass-through module for 10-Blade and 14-Blade enclosures	4x FDR InfiniBand Switch
Downlinks	20x 1G Ethernet Downlinks	14x 1G Ethernet Downlinks	20 4x FDR Downlinks
Uplinks	20x 1G Ethernet RJ45 Uplinks	14x 1G Ethernet RJ45 Uplinks (Speed fixed at 1G - no auto negotiation)	16 4x FDR QSFP+ Uplinks

*"M" version supports Mini-CMM (BMB-CMM-002)

	InfiniBand/10G Ethernet/FCoE Mezzanine HCA			
Model	AOC-XEH-IN2	AOC-XEH-B2S	AOC-IBH-X3QD	AOC-IBH-X3QS
Chipset	Intel® 82599 (Niantic)	Broadcom 57402 (Cumulus)	Mellanox ConnectX3	Mellanox ConnectX3
Ports	Dual-port 10G Ethernet (FCoE support)	Dual-port 10G Ethernet (NPAR support)	Dual-port 4x FDR InfiniBand or 10G Ethernet	Single-port 4x FDR InfiniBand or 10G Ethernet

Optional Parts List				
Type	Part Number	Description	Part Number	Description
SFP+ Cable	CBL-0347L	39.37" (100cm) 10GbE SFP+ TO SFP+, Twinax copper cable	CBL-0348L	118.11" (300cm) 10GbE SFP+ TO SFP+, Twinax copper cable
SFP+ Cable	CBL-0456L	78.74" (200cm) 10GbE SFP+ TO SFP+, Twinax copper cable	CBL-0349L	196.85" (500cm) 10GbE SFP+ TO SFP+, Twinax copper cable
QSFP Cable	CBL-NTWK-0417-01	1M INFINIBAND QSFP TO QSFP QDR with EEPROM. 30AWG	CBL-NTWK-0446-01	3M INFINIBAND QSFP TO QSFP QDR with EEPROM. 28AWG
QSFP Cable	CBL-NTWK-0325-02	2M INFINIBAND QSFP TO QSFP QDR with EEPROM. 26AWG	CBL-NTWK-0422-01	5M INFINIBAND QSFP TO QSFP QDR with EEPROM. 26AWG
SFP Transceiver	AOC-TFC8-FS	8G FC SFP Transceiver for Fiber Channel	AOC-E10GSFPSR	10GbE SFP+ Transceiver

7U SuperBlade® Chassis Management Modules

Key Features

- Remotely manage and monitor server blades, power supplies, cooling fans, and networking switches
- IPMI 2.0 compliant, with KVM over LAN / KVM-over-IP
- Serial over LAN (SOL)
- Virtual Media Over LAN (Virtual USB Floppy/CD and Drive Redirection)
- LAN Alert-SNMP Trap
- Event Log
- OS Independent
- Hardware Health Monitor
- Remote Power Control
- Management Tools - IPMIView, CLI (Command Line Interface)
- Supports RMCP & RMCP+ Protocols
- Batch patching and BIOS/IPMI update

Specifications

- VGA port, 2x USB ports
- Remote Management Processor and sub-system
- 1x LAN port
- Video ADC, Video Compress FPGA
- IPMI Management
- Hot-pluggable Capable
- GBX Backplane Connector



SBM-CMM-003
TwinBlade® CMM
Module



BMB-CMM-002
Mini CMM Installs in SBM-XEM-002M, SBM-IBS-Q3616M, SBM-IBS-Q3618M, SBM-XEM-X10SM, SBM-IBS-F3616M and SBM-XEM-F8X4SM CMM (Chassis Management Module)

7U SuperBlade® Power Supply and Power Cable Guide

Key Advantages of Supermicro High-Efficiency SuperBlade® Power Supplies

Availability - Non-stop power with N+1 redundant power supply modules

Cost Saving - With 94% Platinum Level efficiency, power consumption is significantly reduced, providing a real-world advantage for our environment

Investment Protection - Power capacity headroom for future generation processors

Easy Installation - Snap-in installation from the back of the chassis, hot-pluggable in operation

Intelligent Power Infrastructure - Each power enclosure includes a power management module that monitors the power supplies and the power enclosure that connects to the blade management



Model	PWS-3K01-BR	PWS-2K53-BR	PWS-1K62-BR
Output	3000W	2500W	1620W
Type	Redundant Module (N+1)	Redundant Module (N+1)	Redundant Module (N+1)
+12V	250A	208A	132A (200~240VAC input) 100A (100-140 VAC input)
5VSB	16A	16A	16A
PFC	Yes	Yes	Yes
Peak Efficiency	94%+ (Platinum)	94%+ (Platinum)	93%+
Input AC Range	200~240VAC	200~240VAC	100~240VAC
Operating Conditions	Temp: -5 to 50C Humidity: 5 to 95% RH	Temp: -5 to 50C Humidity: 5 to 95% RH	Temp: -5 to 50C Humidity: 5 to 95% RH
Fan Type	4x 90mm fans	4x 90mm fans	2x 90mm fans

At the current time, the Supermicro® SuperBlade® is shipping with power supplies of 1620W, 2500W, and 3000W. Although the Power Distribution Unit that is recommended by Supermicro supports up to four power connections, only two connections should be made to each PDU. The PDU has a NEMA L6 connector that can plug into a NEMA L6 or equivalent socket. Each PDU, supporting two power supplies, must be plugged into a separate circuit that provides 30 Amps of power and a voltage ranging from 200-240V. Table 1 below illustrates the various Power Supplies offered by Supermicro. This table shows the maximum power requirement of each model.

Power Supply Amperage Draw

Model	Watts	Low Volts	High Volts	Low Amps	10% Reserve	High Amps	10% Reserve	Max Amps
PWS-3K01-BR	3000	200	240	15	1.5	17.5	1.8	19.3
PWS-2K53-BR	2500	200	240	12.9	1.3	15.4	1.5	17
PWS-1K62-BR	1620	200	240	8.3	0.9	9.8	1.0	10.8
PWS-1K62-BR	1200	100	134	10.5	1.0	14.0	1.4	15.4

Power Supply Cable Options

Country	Australia	China	Isreal	India / S. Africa	Italy/S. America	Euro	UK	US	US
Model	CBL-0238L (2500W/3000W)	CBL-0239L (2500W/3000W)	CBL-0243L (2500W/3000W)	CBL-0245L (2500W/3000W)	CBL-0244L (2500W/3000W)	CBL-0240L (2500W/3000W)	CBL-0241L (2500W)	CBL-0247L (2500W/3000W)	CBL-0250L (1620W)
Length	2.5m	2.5m	2.5m	2.5m	2.5m	2.5m	2.5m	2.5m	6ft
Inlet	AS 3112	GB-2099-1-1996	SI32	BS 546	CEI 23-16	"Schuko" CEE 7/7	BS 1363	NEMA 6-20P or equivalent	NEMA 5-20P
Equip Outset	IEC-60320-C19	IEC-60320-C19	IEC-60320-C19	IEC-60320-C19	IEC-60320-C19	IEC-60320-C19	IEC-60320-C19	IEC-60320-C19	IEC-60320-C13
Certificate	SAA	CCEE	SII	SABS	VDE, HAR	VDE, KEMA, CEBC, NEMKO, DEMKO, SETI, OVE, SEV	BSI	UL	UL/CUL
Current	15A	16A	16A	16A	16A	15A	15A	20A	15A
Voltage	250V	250V	250V	250V	250V	250V	250V	250V	250V

Resource-Saving Technologies



BigTwin™
4/2 DP Nodes in 2U, 3 UPI
24x 2.5" NVMe/SAS3/SATA3 drives



8U/6U/4U SuperBlade®
Up to 20 DP/10 MP Nodes



3U/6U MicroBlade
0.05/0.1/0.2U MicroBlade Servers in 3U/6U



GPU/Coprocessor Supercomputing
Multi TeraFLOPS Servers/Workstations/Blades

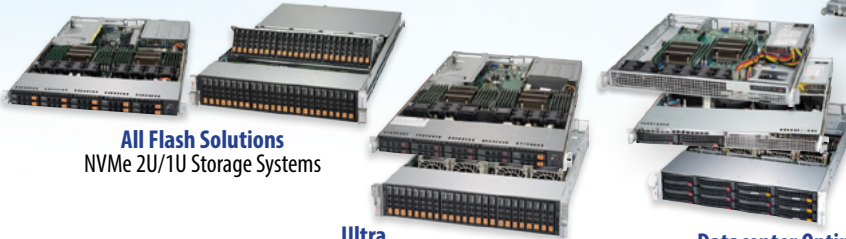


1U 36/32 EDSFF/ NF1/U.2 NVMe Servers and JBOF
Petabyte Scale All-Flash NVMe Storage



60/45x 3.5"
Top-Loading Drives in 4U

26" Depth



All Flash Solutions
NVMe 2U/1U Storage Systems



FatTwin™
8/4 Nodes in 4U
Front or Rear I/O

Ultra
Enterprise Class Computing

Datacenter Optimized
Datacenter PUE < 1.1
47°C Ambient Server Solutions



Comprehensive Server, Storage and Networking Product Lines Optimized for IT, Datacenter, Embedded, HPC and Cloud Computing



Worldwide Headquarters
Super Micro Computer, Inc.
980 Rock Ave.
San Jose, CA 95131, USA
Tel: +1-408-503-8000
Fax: +1-408-503-8008
E-mail: Marketing@Supermicro.com

EMEA Headquarters
Super Micro Computer, B.V.
Het Sterrenbeeld 28, 5215 ML,
's-Hertogenbosch, The Netherlands
Tel: +31-73-640-0390
Fax: +31-73-641-6525
E-mail: Marketing@Supermicro.nl

APAC Headquarters
Super Micro Computer, Taiwan Inc.
3F, No. 150, Jian 1st Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan
Tel: +886-2-8226-3990
Tel: +886-2-8226-3991
E-mail: Marketing@Supermicro.com.tw

www.Supermicro.com

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