

SuperBlade® Server Solutions

Best Density

- Up to 40 processors (640 cores) per 7U enclosure
- Up to 40 2.5" SATA HDD/SSDs per 7U enclosure

Fastest and Most Cost-Effective Networking Solution

- FDR/QDR InfiniBand switch
- 10GbE switch - layer 2/3 switch
- 1/10GbE switch - layer 2/3 switch
- 1GbE switch - layer 2 switch
- 1GbE and 10GbE pass-through modules
- Data Center Converged Switch with FCoE

High Efficiency Power for Earth-Friendly Operations

- 96%+ efficiency Titanium Level, N+1 or N+N redundant digital power supplies
- Multiple Choices - 1620W, 2500W, 3000W or 3200W

Outstanding Storage Flexibility

- Up to four hot-plug 2.5" SATA hard drive support
- IPMI 2.0 remote management, Virtual media over LAN and KVM over IP capabilities

Lower TCO

- Modular design reduces deployment costs
- High computational density reduces facility costs
- High efficiency power supply reduces electricity costs
- Cable reduction improves cooling
- Remote management reduces maintenance cost

SuperBlade® Enclosures and Cabinet



* SBE-710E Shown

Model	SBE-710E/Q Series
Server Blade	Up to 10 hot-plug server blades
Module Support	Supports Intel®/ AMD based blades
LED	Power LED, Fault LED
InfiniBand Switch	One hot-plug 4x DDR IB switch (710E) or up to two hot-plug 4x FDR/QDR IB switches (710Q)
Gigabit Ethernet Switch	Up to two hot-plug Gigabit Ethernet switches or pass-through modules Up to two hot-plug 10G pass-through modules (710E) Up to two hot-plug 10G Ethernet Switches (710Q)
Management Module	Up to two hot-plug management modules providing remote KVM and IPMI 2.0 functionalities
Power Supply	Hot-swap 1620W/2500W (710E) or 1620W/2500W/3000W (710Q) power supplies, N+1 redundancy
Cooling Design	Front to back
Dimensions (HxWxD)	12.2" x 17.6" x 29"

TwinBlade® Enclosure



* SBE-720E Shown

Model	SBE-720D/E/F Series
Server Blade	Up to 10 hot-plug server blades and TwinBlades
Module Support	Supports Intel®/ AMD based blades
LED	Power LED, Fault LED
InfiniBand Switch	Up to two hot-plug 4x FDR/QDR IB switches (720F Only)
Gigabit Ethernet Switch	Up to 2 hot-plug Gigabit Ethernet switches or Pass thru model
Management Module	One hot-plug management module providing remote KVM and IPMI 2.0 functionalities
Power Supply	Hot-swap 2500W/3000W/3200W power supplies, N+1 redundancy
Cooling Design	Front to back
Dimensions (HxWxD)	12.2" x 17.6" x 29"

SuperBlade® Management

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
- VGA port, 2x USB ports
- Remote Management Processor and sub-system

Specifications

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



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



SBM-CMM-001



SBM-CMM-003
TwinBlade® CMM Module

SuperBlade® Servers

Space Optimization

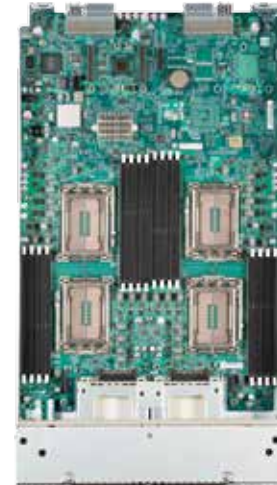
When housed within a 19" EIA-310D industry-standard 42U rack, SuperBlade® servers reduce server footprint in the datacenter. Power, cooling and networking devices are removed from each individual server and positioned to the rear of the chassis thereby reducing the required amount of space while increasing flexibility to meet changing business demands. Up to twenty DP blade nodes can be installed in a 7U chassis. Compared to the rack space required by twenty individual 1U servers, the SuperBlade® provides over 65% space savings.

G34 TwinBlade®
2 DP Nodes in 1 Blade

G34 4-way Blade



CPU Socket cap
MUST always
be in position
when the CPU is
not installed.



Model	SBA-7222G-T2 (two nodes)	SBA-7142G-T4
Processors	Two 16/12/8/4-Core Opteron™ 6000 Series per node	Four 16/12/8/4-Core Opteron™ 6000 Series per node
CPUs per 42U Rack	240	240
Chipset	AMD SR5650+SP5100	AMD SR5650+SP5100
Memory Support	RDIMM or UDIMM DDR3 1866/1600/1333/1066 in 8 DIMMs slots /node	RDIMM or UDIMM DDR3 1866/1600/1333/1066 in 16 DIMMs slots
Max Memory	256GB(RDIMM)/32GB(UDIMM) /node	512GB(RDIMM)/64GB(UDIMM)
Expansion & Hard Disk Drive	Two hot-plug 2.5" SATA/SSD drives per node	Four hot-plug 2.5" SATA/SSD drives
Storage RAID	AMD SP5100 SATA RAID 0, 1	AMD SP5100 SATA RAID 0, 1
InfiniBand/10GbE Option	FDR/QDR(40Gb/s) InfiniBand or 10GbE/FCoE mezzanine HCA /node	FDR/QDR(40Gb/s) InfiniBand or 10GbE/FCoE mezzanine HCA
Ethernet Interface	Intel 82576 dual-port Gigabit Ethernet controller /node	Intel 82576 dual-port Gigabit Ethernet controller
Management	IPMI 2.0, KVM over IP, Virtual Media over LAN	IPMI 2.0, KVM over IP, Virtual Media over LAN
Graphics	Matrox G200eW	Matrox G200eW
LED Indicators	Power LED, UID/KVM LED, Networking LED, Fault LED /node	Power LED, UID/KVM LED, Networking LED, Fault LED
Operating Temp.	10-35° C non-condensing	10-35° C non-condensing
Dimensions	11.32" x 1.67" x 20.5"	11.32" x 1.67" x 20.5"

* Opteron 6370P & 6338P are AMD new Opteron Processors w/ TDP 99W support (code named: Warsaw)

SuperBlade® Networking

1Gb Ethernet Switch Solutions



Model	SBM-GEM-001	SBM-GEM-X2C+	SBM-GEM-X3S+
Type	Layer-2 Ethernet switch	Layer-2/3 Ethernet switch	Layer-2/3 Ethernet switch
Internal Ports	Fourteen 1-Gbps downlink ports for LAN interfaces of the server blades	Fourteen/Twenty 1-Gbps downlink ports for LAN interfaces of server blades	Fourteen/Twenty 1-Gbps downlink ports for LAN interfaces of server blades
External Ports	Ten 1-Gbps uplink RJ-45 ports	Three 10-Gbps (Two CX4 & One SFP+) and two 1-Gbps RJ-45 uplink ports, stackable	Three 10-Gbps SFP+ and four 1-Gbps RJ-45 uplink ports
Trunking	Link aggregation support - static (802.3ad)	Link aggregation support - full (802.3ad)	Link aggregation support - full (802.3ad)
Jumbo Frame	Up to 9k bytes	Up to 16k bytes (10G) or 9K bytes (1G)	Up to 16k bytes (10G) or 9K bytes (1G)
Remote Management	Browser-based management	Browser-based management / CLI	Browser-based management/CLI
Layer 2 Capabilities	VLANs, STP, RSTP, 802.1x	VLANs, STP, RSTP, MSTP, IGMP snooping, 802.1x	VLANs, STP, RSTP, MSTP, IGMP snooping, 802.1x
Layer 3 Capabilities		BGP, DVMRP, IGMP, IPv6, OSPF, PIM, RIP, QoS	BGP, DVMRP, IGMP, IPv6, OSPF, PIM, RIP, QoS
OS	Software upgradeable	Software upgradeable	Software upgradeable

10Gb Ethernet and Converged Network Solutions



NEW!



Model	SBM-XEM-X10SM*	SBM-XEM-F8X4SM*
Type	Layer 2/3 10Gb Ethernet Switch	Data Center Converged Switch with FCoE
Internal Ports	10/20x internal 10Gb links to ports on mezzanine cards	10/20x internal 10Gb links to ports on mezzanine cards, support DCB, FCoE
External Ports	10/4x 10Gb Ethernet ports with SFP+ connectors	Ethernet: 4x 10Gb Ethernet ports with SFP+ connectors** Fibre Channel: 6x Fibre Channel ports: N ports, support 2, 4, 8Gbps
Jumbo Frame	Up to 16K bytes (10G) or 9K bytes (1G)	Up to 12K bytes (10 GbE) or 2112 bytes (FC)
Remote Management	Browser-based management/CLI	Browser-based management/CLI
Layer 2 Capabilities	4K VLANs, STP, RSTP, MSTP, IGMP snooping, 802.1x, 802.3ad (Full Link aggregation)	4K VLANs, STP, RSTP, MSTP, IGMP snooping, 802.1x, 802.3ad (Full Link aggregation)
Layer 3 Capabilities	ACL, DHCP, VRRP, RIP, OSPF, BGP, IPv6, RIPng, OSPFv3, IGMP, PIM, DVMRP, QoS	ACL, DHCP, VRRP, RIP, OSPF, BGP, IPv6, RIPng, OSPFv3, IGMP, PIM, DVMRP, QoS
FC Classes	N/A	2, 3
OS	Software upgradeable	Software upgradeable

Key Advantages of Supermicro SuperBlade® Networking Solutions

Highly Integrated- Connection to SuperBlade® backplane optimizes networking flexibility

Easy-to-Manage- Unified and cost-effective solution for both LAN and SAN networking

Power and Space Saving- Compact designs for maximum efficiency

Easy to Install and Service- Quick snap-in/out installation from chassis rear

Reliability- Shared and redundant power supplies and cooling

Cutting-Edge Technology- Including 10GbE, Fiber Channel and FDR InfiniBand

Ethernet Pass-Through Solutions



Model	SBM-GEP-T20	SBM-GEM-002	SBM-XEM-002M*
Internal Ports	Twenty 1-Gbps downlink ports for LAN interfaces of TwinBlade server blades	Fourteen 1-Gbps downlink ports for LAN interfaces of Server blades	Fourteen 10-Gbps downlink XAUI ports
External Uplink Ports	Twenty 1-Gbps uplink RJ45 ports	Fourteen 1-Gbps uplink RJ-45 ports (Speed fixed at 1-Gbps - no auto negotiation)	Fourteen 10-Gbps uplink SFP+ ports (Speed fixed at 10-Gbps - no auto negotiation)
Type	Ethernet pass-through module for TwinBlade SBE-720D and SBE-720E enclosure	Ethernet pass-through module for 10-Blade and 14-Blade enclosure	10G Ethernet pass-through module for 10-Blade (SBE-710E) and 14-Blade (SBE-714E) enclosure

InfiniBand Switch Solutions

NEW!



Model	SBM-IBS-F3616(M)*	SBM-IBS-Q3618/Q3616(M)*	SBM-IBS-001
Internal Ports	20 4x FDR downlink ports	18/20 4x QDR downlink ports	14 internal 4x DDR
External Uplink	16 4x FDR QSFP uplink ports	18/16 4x QDR QSFP uplink ports	10 external ports: 4x DDR-copper
Type	4x FDR InfiniBand Switch	4x QDR InfiniBand switch	4x DDR InfiniBand switch

InfiniBand/10GbE Mezzanine HCA

NEW!

NEW!



Model	AOC-XEH-iN2	AOC-IBH-X3QD	AOC-IBH-X3QS	AOC-IBH-XQD	AOC-IBH-XQS	AOC-IBH-XDD/XDS
Chipset	Intel® 82599 (Niantic)	Mellanox ConnectX3	Mellanox ConnectX3	Mellanox ConnectX2	Mellanox ConnectX	Mellanox ConnectX
Ports	Dual-port 10Gbps Ethernet (FCoE support)	Dual-port 4x FDR-10 IB or 10GbE	Single-port 4x FDR-10 IB or 10GbE	Dual-port 4x QDR IB or 10GbE	Single-port 4x QDR IB or 10GbE	Dual/Single-port 4x DDR IB or 10GbE

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

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 96%+ Titanium 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-swappable 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

New!



Model	PWS-3K20A-BR	PWS-3K01-BR	PWS-2K53-BR	PWS-1K62-BR
Output	3200W/3050W/2875W/2755W	3000W	2500W	1620W
Type	Redundant Module (N+1)	Redundant Module (N+1)	Redundant Module (N+1)	Redundant Module (N+1)
+12V	266.6A @ 230-240Vac 254.2A @ 220-230Vac 239.6A @ 208-220Vac 229.6A @ 200-208Vac	250A	208A	132A (200-240VAC input) 100A (100-140 VAC input)
5VSB	16A	16A	16A	16A
PFC	Yes	Yes	Yes	Yes
Peak Efficiency	96%+ (Titanium)	94%+ (Platinum)	94%+ (Platinum)	93%+
Input AC Range	200-208Vac/208-220Vac/220-230Vac/230-240Vac	200-240VAC	200-240VAC	100-240VAC
Operating Conditions	Temp: -5 to 50° C Humidity: 5 to 95% RH	Temp: -5 to 50° C Humidity: 5 to 95% RH	Temp: -5 to 50° C Humidity: 5 to 95% RH	Temp: -5 to 50° C Humidity: 5 to 95% RH
Fan Type	4x 90mm fans	4x 90mm fans	4x 90mm fans	2x 90mm fans

At the current time, the Supermicro® SuperBlade® is shipping with power supplies of 1620 Watts, 2500 Watts and 3000 Watts. Although the Power Distribution Unit (Figure 3) 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.

Model	Watts	Low Volts	High Volts	Low Amps	10% Reserve	High Amps	10% Reserve	Max Amps
PWS-3K20A-BR	3200	200	240	15	1.5	16	1.6	16
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

Table 1 - Power Supply Amperage Draw



Figure 1 - CBL-0223L 2500W/3000W Extension Cord



Figure 2 - CBL-0248L 1620W Extension Cord



Figure 3 - MCP-520-00036-0N optional Power Distribution Unit (PDU) with NEMA L6 plug

For a single 30 Amp circuit supplying a PDU, no more than 2 power supplies may be connected to the PDU.

The Supermicro SuperBlade® product includes a power extension cord CBL-0223L for 2500W/3000W (Figure 1) or CBL-0248L for 1400W/1620W (Figure 2) power supplies. The power cord connects the power supply to a Power Distribution Unit (Figure 3 - optional PDU) in an IT room. The PDU should supply input voltage ranging from 200V to 240V AC. As stated above, the circuit that the PDU plugs into should provide 30 Amps that is not shared by any other device.

Before beginning receptacle installation, consider the following:

- Observe all local electrical codes and practices.
- Ensure that the AC power receptacle is wired to the site AC power via conductors routed through flexible metal conduit or via approved AC power cable before installation.
- Ensure that AC power cord is properly sized, service rated, temperature rated, and complies with all applicable codes and regulations.
- Ensure that the conductors in conduit are properly sized, service rated, temperature rated, color coded, and comply with all applicable codes and regulations.
- Ensure that the AC power cord or conduit is long enough to reach from the site AC power junction box to a location within the distance required for the connection.
- Ensure that the number of power supplies connected to one circuit do not exceed the rated amperage of the circuit.

Please see table below which lists some examples of international power cords that are compatible with Supermicro.

Country	Australia	China	Israel	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, SETL, 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
Image									