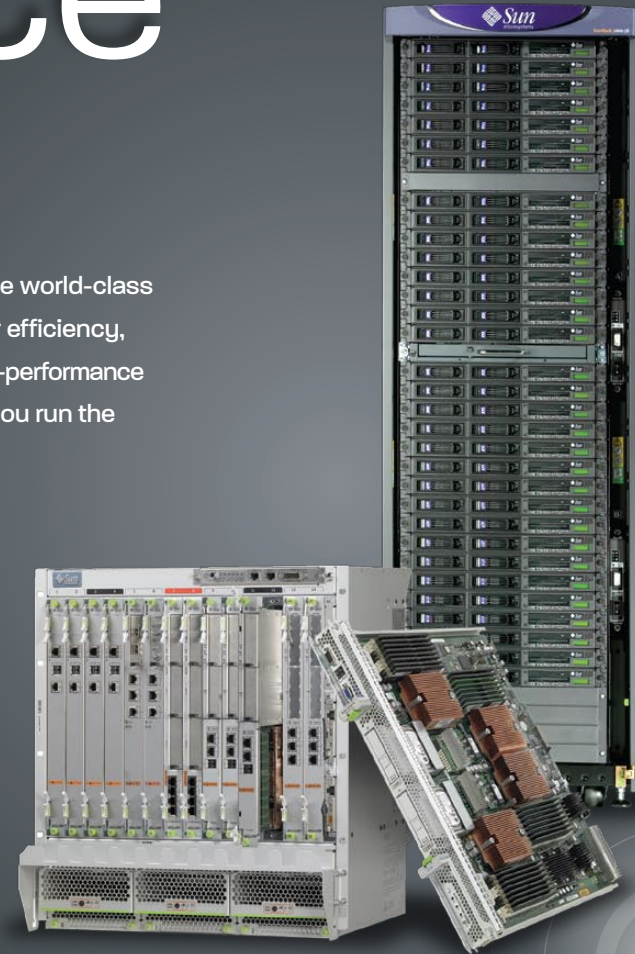


Sun x64 Systems at a glance

Meet the AMD Opteron™ processor-based line of Sun x64 systems. These world-class servers deliver some of the industry's top performance, scalability, power efficiency, manageability, and longevity benefits. Plus, they can help you meet your high-performance computing, server consolidation, and Web infrastructure goals, whether you run the Solaris™, Linux™, or Windows™ operating systems.

Highlights:

- » Sun's blade servers are high-performance systems designed to handle large workloads in a small footprint
- » Rackmount servers are easy to scale, easy to manage, and easy on your budget
- » Netra servers optimize network throughput, density, and power consumption for the telecom industry



AMD
The future is fusion

Sun Fire™ Servers



Sun Fire™ X2100 M2 server

Processor	One Dual-Core AMD Opteron™ processor
Memory	Support up to 8GB DDR1
Mass storage	Support for up to 1TB SATA II; 300GB for SAS; RAID 0/1/0+1
Optical drive	One DVD-ROM or DVD ± RW
Network	Four integrated 10/100/1000 Ethernet ports
I/O options	Two eight-lane PCIe® slots
Power	90 – 264 V AC hot-swappable power supplies
Rack unit	One rack unit
Physical specifications	Height: 43mm Width: 425.5mm Depth: 550mm
Operating system/software	Solaris 10 OS, Red Hat Enterprise Linux®, SUSE Linux® Enterprise Server, Microsoft® Windows®
Services/warranty	Three years (limited); next business day.



Sun Fire™ X2200 M2 server

Processor	Up to two Quad-Core AMD Opteron™ processors
Memory	Up to 64GB DDR2
Mass storage	Support for up to 1TB SATA II; 300GB for SAS; RAID 0/1/0+1
Optical drive	One DVD-ROM or DVD ± RW
Network	Four integrated 10/100/1000 Ethernet ports
I/O options	Two eight-lane PCIe® slots
Power	100 – 240 V AC power supplies
Rack unit	One rack unit
Physical specifications	Height: 43mm Width: 425.5mm Depth: 633.7mm
Operating system/software	Solaris 10 OS, Red Hat Enterprise Linux®, SUSE Linux® Enterprise Server, Microsoft® Windows®
Services/warranty	Three years (limited); next business day.



Sun Fire™ X4100 M2 server

Processor	Up to two Dual- or Quad-Core AMD Opteron™ processors
Memory	Up to 32GB DDR2
Mass storage	Up to 292 GB, SAS, RAID 0/1
Optical drive	Up to four DVD-RW
Network	Four integrated 10/100/1000 Ethernet ports
I/O options	Two eight-lane PCIe® slots
Power	90 – 264 V AC dual-redundant hot-swappable power supplies
Rack unit	One rack unit
Physical specifications	Height: 43.8mm Width: 445mm Depth: 632mm
Operating system/software	Solaris 10 OS, Red Hat Enterprise Linux®, Microsoft® Windows®, Windows Server® 2003 Enterprise Edition, Windows Server® 2003 Standard Edition
Services/warranty	Three years (limited); next business day.



Sun Fire™ X4140 server

Processor	Up to two Dual-Core or Quad-Core or enhanced Quad-Core AMD Opteron™ processors
Memory	Up to 128GB DDR2
Mass storage	Eight 2.5" SAS Drives
Optical drive	One EIDE DVD ± RW Drive
Network	Four integrated 10/100/1000 Ethernet ports
I/O options	Three PCIe® slots; 2x8 lanes of PCIe®, 1x16 lane of PCIe®
Power	100 – 120 V/200 – 240 V AC hot-swappable power supplies
Rack unit	One rack unit
Physical specifications	Height: 44mm Width: 426mm Depth: 714mm
Operating system/software	Solaris 10 OS, Open Solaris OS, Red Hat Enterprise Linux®, SUSE Linux® Enterprise Server, Microsoft® Windows®, VMware
Services/warranty	Three years (limited); next business day.



Sun Fire™ X4200 M2 server

Processor	Up to two Dual- or Quad-Core AMD Opteron™ processors
Memory	Up to 32GB DDR2
Mass storage	Up to 292 GB, SAS, RAID 0/1
Optical drive	One DVD-RW
Network	Four 10/100/1000 Ethernet ports
I/O options	Four eight-lane PCIe® slots, one PCI-X® slot
Power	90 – 264 V AC dual-redundant, hot-swappable power supplies
Rack unit	Two rack units
Physical specifications	Height: 87.6mm Width: 445mm Depth: 632mm
Operating system/software	Solaris 10 OS, Red Hat Enterprise Linux®, Microsoft® Windows®
Services/warranty	Three years (limited); next business day.





Sun Fire™
X4240 server

Processor

Up to two Dual-Core or Quad-Core or enhanced Quad-Core AMD Opteron™ processors

Memory

Up to 128GB DDR2

Mass storage

Hot-swappable 2.5" internal disk; up to 16 SAS disk drives with add-on SAS host bus adapter (HBA)

Optical drive

One EIDE DVD ± RW

Network

Four 10/100/1000 Base-T Ethernet ports

I/O options

Five USB 2.0 ports, six PCIe® slots (1x16, 4x8, and 1x4)

Power

100–120 V/200–240 V AC dual-redundant, hot-swappable power supplies

Rack unit

Two rack units

Physical specifications

Height: 88mm
Width: 426mm
Depth: 714mm

Operating system/
software

Solaris 10 OS, OpenSolaris OS, Red Hat Enterprise Linux®, SUSE Linux® Enterprise, Microsoft® Windows®, VMware

Services/warranty

Three years (limited);
next business day.



Sun Fire™
X4440 server

Up to four Dual-Core or Quad-Core or enhanced Quad-Core AMD Opteron™ processors

Up to 256GB DDR2

Hot-swappable 2.5" internal disk; up to eight SAS disk drives with add-on SAS host bus adapter (HBA)

One EIDE DVD ± RW (optional)

Four 10/100/1000 Ethernet ports

Six PCIe® slots

90 – 264 V AC dual-redundant, hot-swappable power supplies

Two rack units

Height: 87.85mm
Width: 425.5mm
Depth: 711.2mm

Solaris 10 OS, OpenSolaris OS, Red Hat Enterprise Linux®, SUSE Linux® Enterprise, Microsoft® Windows®, VMware

Three years (limited);
next business day.



Sun Fire™
X4500 server

Two Dual-Core AMD Opteron™ processors

Up to 16GB DDR1

Up to 48TB direct-attach SATA II HDD

N/A

Four 10/100/1000 Ethernet ports

Two PCI-X® slots

2 x 200 – 220 V AC dual-redundant, hot-swappable power supplies

Four rack units

Height: 175.05mm
Width: 439mm
Depth: 749.9mm

Solaris 10 OS, Red Hat Enterprise Linux®, Microsoft® Windows®, SUSE Linux® Enterprise Server 2003 SE and EE

Three years (limited);
next business day.



Sun Fire™
X4540 server

Two Quad-Core AMD Opteron™ processors

Up to 64GB DDR2

Up to 48TB direct-attach SATA II HDD

N/A

Four 10/100/1000 Base-T Ethernet ports

Three eight-lane PCIe® slots, one compact flash drive

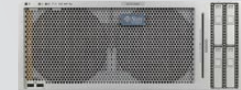
2 x 200 – 220 V AC dual-redundant, hot-swappable power supplies

Four rack units

Height: 175.05mm
Width: 439mm
Depth: 749.9mm

Solaris 10 OS, Red Hat Enterprise Linux®, Microsoft® Windows®

Two years, (limited);
next business day



Sun Fire™
X4600 M2 server

Up to eight Dual-Core or Quad-Core or enhanced Quad-Core AMD Opteron™ processors

Up to 512GB DDR2

Up to four hot-swappable 146 GB SAS HDDS

One DVD-ROM

Four 10/100/1000 Ethernet ports

Two PCI-X® slots, six PCIe® slots

Four 90 – 264 V AC; four hot-swappable power supplies, redundant in 2+2 configuration

Four rack units

Height: 176mm
Width: 432mm
Depth: 609mm

Solaris 10 OS, OpenSolaris OS, Red Hat Enterprise Linux®, Microsoft® Windows®, VMware

Three years (limited);
next business day.



Sun Netra™ Servers

Network equipment providers (NEPs) have been leveraging Sun's open-standards-based, carrier-grade systems to help accelerate time to market, manage development costs, and meet the needs of their service provider customers. Sun builds systems certified to NEBS Level 3 requirements and provides your choice of server architectures (ATCA blades or rackmount)

and operating systems (the Solaris, Linux®, or Windows® operating systems), augmented by specialized telecom software and solutions. Sun's telecom customers can take advantage of these advanced solutions to accelerate the delivery and help reduce the startup costs of their next-generation voice, video, and data services.



**Sun Netra™
X4200 M2 server**



**Sun Netra™
CP3020 ATCA blade server**



**Sun Netra™
CP3220 ATCA blade server**



**Sun Netra™
CT900 ATCA blade server**

Processor

Up to two Dual- or Quad-Core AMD Opteron™ processors

Single- or Dual-Core AMD Opteron™ processors

Dual- or Quad-Core AMD Opteron™ processors

Supports all Sun Netra™ CP300 series blades

Memory

Up to 32GB DDR2

Up to 8GB DDR1

Up to 32GB DDR2

See Sun Netra™ CP3020, CP3260

Mass storage

Up to 584 GB, SAS, RAID 0/1

Two 73 GB drives, SAS/SATA controller chip

8 – 16 GB CompactFlash

See Sun Netra™ CP3020, CP3260

Optical drive

One DVD-RW

N/A

N/A

N/A

Network

Four 10/100/1000 Ethernet ports

Two 10/100/1000 Ethernet ports

Two 10/100/1000 Base-T Ethernet management ports (front/rear)

Two 10/100/1000 Base-T Ethernet management ports

I/O options

One eight-lane PCIe® slot, three PCI-X® slots

Two 1000 Base-T base fabric, two 1000 series extended fabric

Two 1000 Base-T base fabric, two 10 GbE extended fabric, two 1 GbE Zone 3 (AdvancedRTM-specific)

Two 1000 Base-T base fabric, two 1000 series/10GbE extended fabric

Power

100 – 240 V AC dual-redundant

Up to 200 W

Up to 200 W

40 – 72 V DC

Rack unit

Two rack units

N/A

N/A

Twelve rack units

Physical specifications

Height: 89mm
Width: 508mm
Depth: 442mm

Height: 322.25mm
Width: 280mm
Depth: 30.48mm

Height: 322.25mm
Width: 30mm
Depth: 280mm

Height: 533mm
Width: 444mm
Depth: 482mm

Operating system/ software

Solaris 10 OS, Red Hat Enterprise Linux®, SUSE Linux® Enterprise Server

Solaris 10 OS, MontaVista CGL, WindRiver PNE, Linux®

Solaris 10 OS x64, Linux®, Microsoft® Windows Server® 2003

Solaris 10 OS preinstalled

Services/warranty

One year (limited)

One year (limited)

One year (limited)/return to Sun

Up to three years (limited)



Sun Blade™ Modular Systems

Please see corresponding Sun Blade Server Modules



**Sun Blade™ 6000
Modular System**

Up to ten Sun Blade™ X6220, X6250, X6450, T6320, or T6300 server modules per chassis

Two on-board using the GbE 10-port passthru PCIe® NEM; up to two ExpressModules per server module — available options: 1 GbE 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand dual-port, up to two NEMs — available options: GbE 10-port passthru; up to two ExpressModules per server module — available options: one dual-port 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand dual-port

200 – 240 V AC

Ten rack units

Three years (limited)



**Sun Blade™ 8000
Modular System**

Up to ten Sun Blade™ X8420, X8440, or X8450 server modules per chassis

Up to four NEMs — available options: 1 x GbE dual-port, 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand; up to two ExpressModules per server module — available options: 1 GbE dual-port, 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand dual-port, up to four NEMs — available options: GbE 20-port passthru, 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand; up to two ExpressModules per server module — available options: 1 GbE dual-port, 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand dual-port

200 – 240 V AC

Nineteen rack units

Three years (limited)



**Sun Blade™ 8000 P
Modular System**

Up to ten Sun Blade™ X8420, X8440, or X8450 server modules per chassis

Up to two NEMs — available options: 1 x GbE dual-port, 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand, up to two NEMs — available options: GbE 20-port passthru, 4 Gbps Fibre Channel dual-port, 4x SDR InfiniBand

200 – 240 V AC

Fourteen rack units

Three years (limited)



**Sun Blade™ 6048
Chassis**

Sun Blade™ X6220, X6250, X6450, T6300, or T6320 server modules per chassis

PCIe®, GbE, 10 GbE, Fibre Channel, and InfiniBand; each server module has a direct connection to two PCIe® ExpressModules for discrete I/O connectivity and two PCIe® NEMs for aggregate I/O connectivity

200 – 240 V AC

Forty-Two rack units

Three years (limited)

Blade server

I/O options

Power

Physical specifications

Services/warranty



Sun™ Grid Rack System



Sun™ Grid Rack System

Server nodes

Sun Fire™ X2100, X2200, X4100, X4200, X4500, and X4600 servers;
Sun Blade™ 8000/8000 P modular systems

Operating system

Solaris 10 OS; Red Hat Enterprise Linux®;
SUSE Linux® Enterprise Server

Infrastructure

Sun Rack 1000, industry-standard 19-inch rack with 38 or 42 rack units;
includes cabling and options for management

Interconnect

GbE networking and InfiniBand fabric options, for management and data traffic

System management

Sun NI™ System Manager software, can be preloaded at factory

HPC model

Sun Grid Engine Software for distributed resource management, can be preloaded at factory

Web services

Includes Sun Secure Application Switch N1000 Series and NI Service Provisioning system software

Database model

Includes select Sun StorEdge™ or disk arrays



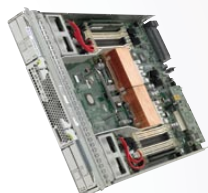
Sun Blade™ Server Modules

Please see corresponding Sun Blade™ Modular Systems

Try it for free

TAKE SUN SERVERS FOR A TEST DRIVE IN YOUR OWN ENVIRONMENT AND FIND OUT JUST HOW MUCH FASTER AND COOLER WE CAN HELP YOU MAKE YOUR DATACENTER. WITH OUR TRY AND BUY PROGRAM, YOU GET TO TRY OUR SERVERS FREE FOR 60 DAYS WITH FULL TECHNICAL SUPPORT AT NO COST.

CERTAIN RESTRICTIONS APPLY; FOR DETAILS SEE www.sun.com/tryandbuy



Sun Blade™ X6220 Server Module

Processor

Two Dual-Core AMD Opteron™ processors

Memory

Up to 64GB DDR2

Mass storage

Up to four SAS or SATA disks, with RAID 0, 1 support

I/O options

Four eight-lane PCIe® slots, Four 3 Gbps SAS interfaces

Power

200 – 240 V AC

Operating system/ software

Supports Solaris 10 OS, Linux®, Microsoft® Windows®, VMware ESX

Services/warranty

Included with the chassis service contract



Sun Blade™ X6240 Server Module

Two Quad- or enhanced Quad-Core AMD Opteron™ processors

Up to 64GB DDR2

Up to eight SAS interfaces

Four eight-lane PCIe® slots, Four 3 Gbps SAS interfaces

200 – 240 V AC

Supports Solaris 10 OS, Linux®, Red Hat Enterprise Linux®, SUSE Linux® Enterprise, Microsoft® Windows®, VMware ESX

Included with the chassis service contract



Sun Blade™ X6440 Server Module

Four Quad- or enhanced Quad-Core AMD Opteron™ processors

Up to 256GB DDR2

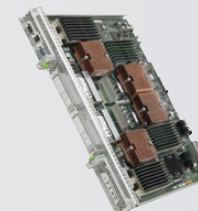
Four SAS

Four eight-lane PCIe® slots and two four-lane PCIe® slots

200 – 240 V AC

Supports Solaris 10 OS, Red Hat Enterprise Linux®, SUSE Enterprise Linux®, Microsoft® Windows®, VMware ESX

Included with the chassis service contract



Sun Blade™ X8440 Server Module

Two or four Dual- or Quad-Core AMD Opteron™ processors

Up to 128GB DDR2

Up to two SAS or SATA disks, with RAID 0, 1 support

Up to six eight-lane PCIe® slots

200 – 240 V AC

Supports Solaris 10 OS, Linux®, Microsoft® Windows®, VMware ESX

Included with the chassis service contract



Offering Industry-Leading Performance-Per-Watt and Superior Virtualization Capabilities

Building on the strengths of the original Quad-Core AMD Opteron™ processor, the new Quad-Core AMD Opteron™ processor represents the most thermally efficient, highest performing server processor that AMD has ever produced – while further enhancing AMD’s already leading capabilities for efficient server virtualization.

Optimal Virtualization

Quad-Core AMD Opteron™ processors with AMD Virtualization™ (AMD-V™) technology are designed to greatly increase the performance of many virtualized applications, helping to minimize overhead and allowing for a highly flexible virtual environment.

Power Efficiency

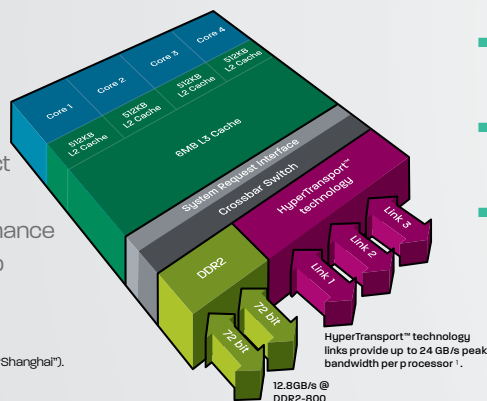
Enhanced AMD PowerNow!™ technology in AMD Opteron™ processors provides you with performance-on-demand capabilities for optimum performance-per-watt and power savings.

Investment Protection

AMD Opteron™ processors with AMD64 technology and our common core strategy simplify your IT investment planning by helping you to minimize the cost of transitions and maximize past investments in hardware, software, and personnel.

Performance

AMD Opteron™ processors with Direct Connect Architecture are designed to simplify your business and deliver industry-leading performance and performance-per-watt solutions that help enhance productivity.



¹Applicable only to enhanced Quad-Core AMD Opteron™ processors (codenamed “Shanghai”).
²Compared to previous generation AMD Opteron™ processor-based systems.

Product Features and Benefits

- Rapid Virtualization Indexing improves performance of many virtual workloads, helping more virtual machines to run per server.
- Enhanced AMD PowerNow!™ technology works with the operating system to provide performance-on-demand capabilities for precise power management, CPU power savings, and low TCO.
- AMD Smart Fetch technology helps reduce CPU power consumption by up to 21% during idle times¹.
- AMD CoolCore™ technology automatically turns off blocks of logic when they are not in use for reduced power consumption.
- Dual Dynamic Power Management™ allows for greater application performance while providing more opportunities to save system power with AMD PowerNow!™ technology.
- AMD Wide Floating Point Accelerator significantly improves performance on HPC, scientific, and workstation applications².
- AMD Memory Optimizer Technology helps increase memory throughput and supports quad-core technology.
- AMD Balanced Smart Cache offers better support for multi-threaded environments with a highly efficient cache structure that helps reduce latency to main memory.

