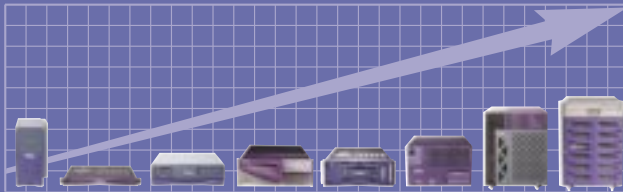


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Sun Fire™ V Series Servers, Netra™ Servers, and Desktop Systems



HEADQUARTERS

SUN MICROSYSTEMS, INC.,
901 SAN ANTONIO ROAD,
PALO ALTO, CA 94303-4900 USA
PHONE: 650 960-1300 OR 800 555-9SUN
INTERNET: www.sun.com



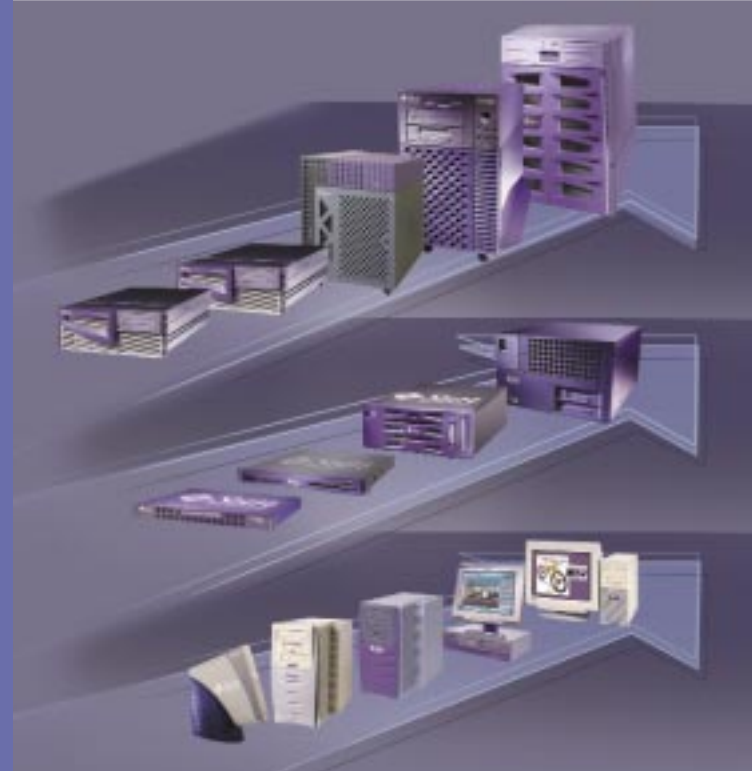
take it to the nth

SUN™

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THE PERFECT PLATFORMS FOR YOUR GROWING BUSINESS.

value⁽ⁿ⁾

SERVERS, DESKTOPS, AND SPECIALIZED HARDWARE PLATFORMS DESIGNED TO LOWER YOUR TOTAL COST OF OWNERSHIP AND GIVE YOU A COMPETITIVE EDGE.



Sun Fire™ V Series Advantage

IT decision makers in small and mid-size companies face a dilemma: If you provide your IT professionals with leading-edge, best-of-breed technologies, you risk blowing a hole in your ever-tightening budget. Until now.

That's because Sun Microsystems, Inc. delivers a whole family of integrated server, desktop, and appliance solutions with exceptional reliability, scalability, and value — from the data center to the network edge. Put that together with integratable hardware and software stacks made possible by alliances with top ISVs, and world-class service and support, and you have the solid — and affordable — foundation for building and growing your business.

BETTER UPTIME

Hot-plug components, remote management features, and Automatic System Recovery mean higher availability — and lower TCO.

BETTER WORKLOAD MANAGEMENT

Policy-based workload management allows you to balance workloads and consolidate applications for less complexity — and cost.

BETTER SCALABILITY

Our Sun Fire™ V series systems deliver exceptional scalability to eight CPUs, 32 GB of memory, and 12 FC-AL disks. The complete Sun Fire™ line can take you even further.

BETTER CLUSTER SUPPORT

Sun Cluster 3.0 software is our most comprehensive cluster solution ever, providing exceptional RAS, manageability, and ease of use.

BETTER ISV SUPPORT

We work closely with top ISVs to deliver and support easy-to-deploy, integrated solution stacks that help lower TCO.

BETTER PERFORMANCE

We're on our second generation of 64-bit hardware and operating environment — can other companies make that claim?



Scalable

From chips to the data center, Sun systems deliver industry-leading scalability.



Aggressively Priced

Why settle for a PC when Sun's UNIX® systems deliver superior RAS — for the same price?



Mature Operating Environment

The tested, proven Solaris™ Operating Environment leads all UNIX implementations — year after year.



Proven Hardware

Our systems are built on the 64-bit SPARC™ architecture — proven technology with a clear roadmap to future generations.



Smart Services

Our Sun ONE framework can enable you to deliver a new generation of smart services to your internal and external customers.



Real-World Applications and Trusted Allies

Strong alliances with top-tier ISVs allow us to bring you scalable, reliable, highly integrated solutions for the way your business works.

Here's your opportunity to take your company to the next level: By re-architecting your IT infrastructures for scalability, responsiveness, and availability, with simple, powerful, integratable solutions from Sun and its allies.

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www.sun.com/desktop

nth
ready

Sun Fire™ V Series Servers, Netra™ Servers, and Desktop Systems



TABLE OF CONTENTS

DESKTOP SYSTEMS

- p. 6 Sun Ray™ Appliances
- p. 8 Sun Blade™ 100
- p. 10 Sun Blade 1000
- p. 12 Ultra™ 10
- p. 14 Ultra 60/80

NETRA SERVERS

- p. 16 Netra™ X1
- p. 18 Netra T1 AC200/DC200
- p. 20 Netra 20
- p. 22 Netra t 1400/1405

SUN FIRE V SERIES SERVERS

- p. 24 Sun Enterprise™ 220R
- p. 26 Sun Enterprise 250
- p. 28 Sun Fire 280R
- p. 30 Sun Enterprise 420R
- p. 32 Sun Enterprise 450
- p. 34 Sun Fire V880

BENEFITS

BUSINESS AND TECHNICAL COMPUTING

Sun's desktop systems combine processing power, an innovative interconnect architecture, affordable high-end graphics, and industrial-strength availability and reliability to help enable companies to address many of their toughest business and technical computing challenges.

TURNKEY DEPLOYMENT

Sun Ray™ appliances require absolutely no maintenance at the desktop—all compute services, maintenance, administration, and upgrades take place on the server. Plus, they're easily managed from a single point on the network.

DENSITY

Thin, compact, and built for maximum compute density in rack-mount configurations, Sun's thin servers are ideal solutions for environments that demand horizontal scaling and load balancing.

PRICE/PERFORMANCE

Sun's deskinde and integrated rack servers deliver two to four processors, with plenty of room for more disk, I/O, and memory—the affordable, high-performance solution for a wide range of enterprise, telco, and wireless applications.

RAS

Sun's mission is to incorporate mainframe-class RAS features into our lower cost data center systems, so small to medium-size businesses can benefit from Sun's high availability today—while positioning themselves for seamless growth.

END-TO-END VALUE

Sun™ ONE An Open Framework for Open Net Environment Smart Services

Tomorrow's Web services won't look anything like the fat-client hosted applications or traditional Web services you're used to. They'll be smart services, delivering context aware-



SOLARIS OPERATING ENVIRONMENT

Unlike our competitors who have to support up to a dozen environments, Sun's SPARC/Solaris platform builds on one UNIX implementation—which cuts complexity and saves you money.

ness, higher service quality, and more personalization and customization than you thought possible. And that's the whole idea behind our Sun™ ONE framework: delivering the tools and technologies companies need to create, deliver, integrate, and maintain this new breed of services—and provide their users real value and a much richer Web experience.

ULTRASPARC™ PROCESSORS

Spanning from chips, boards, and ASICs to huge supercomputers, the UltraSPARC architecture supports continuous availability while delivering extraordinary throughput.



Sun Fire™ V Series Servers, Netra™ Servers, and Desktop Systems

Sun Architecture

TABLE OF CONTENTS

DESKTOP SYSTEMS

- p. 6 Sun Ray™ Appliances
- p. 8 Sun Blade™ 100
- p. 10 Sun Blade 1000
- p. 12 Ultra™ 10
- p. 14 Ultra 60/80

NETRA SERVERS

- p. 16 Netra™ X1
- p. 18 Netra T1 AC200/DC200
- p. 20 Netra 20
- p. 22 Netra t 1400/1405

SUN FIRE V SERIES SERVERS

- p. 24 Sun Enterprise™ 220R
- p. 26 Sun Enterprise 250
- p. 28 Sun Fire 280R
- p. 30 Sun Enterprise 420R
- p. 32 Sun Enterprise 450
- p. 34 Sun Fire V880

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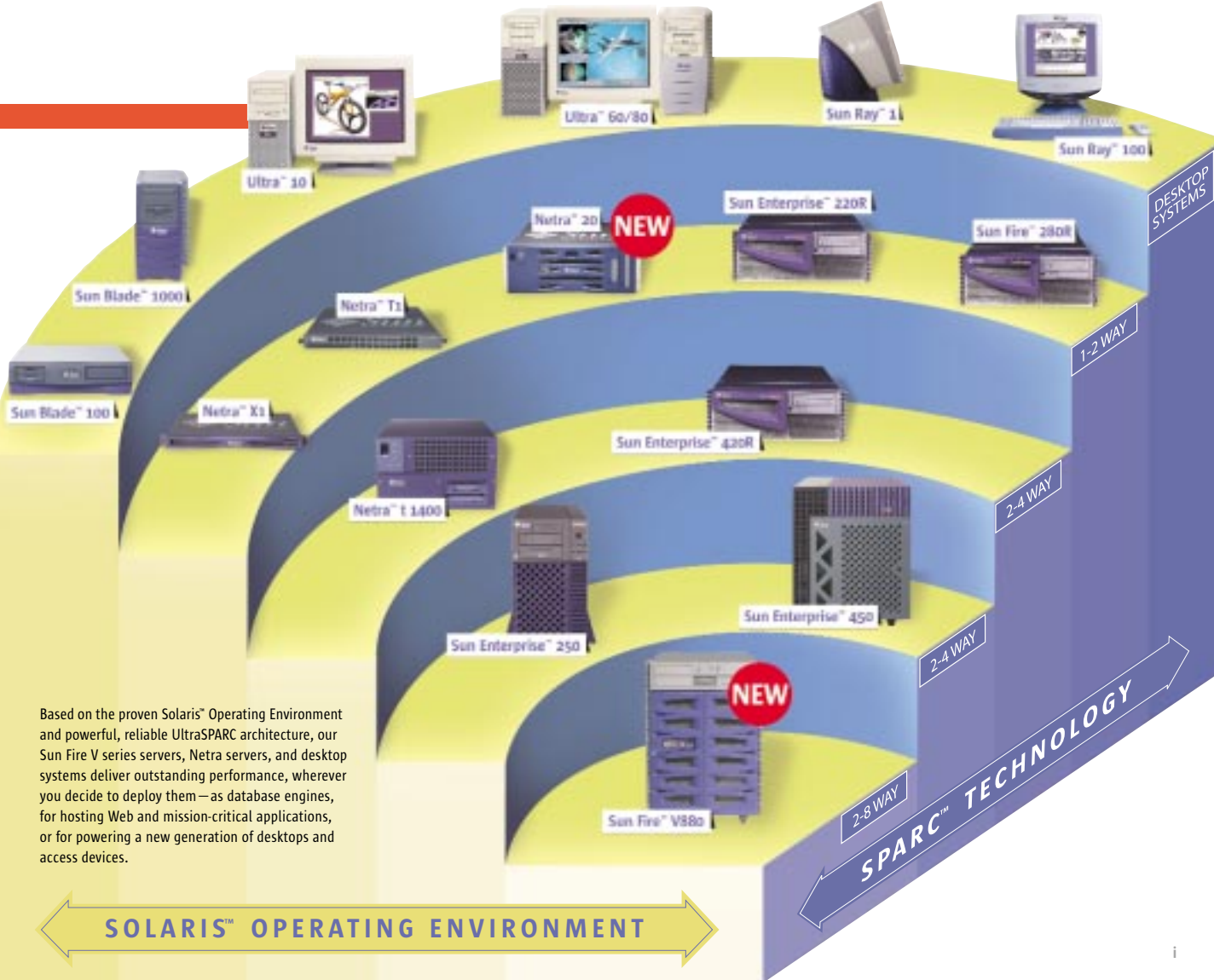
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RAS

Sun's mission is to incorporate mainframe-class RAS features into our lower cost data center systems, so small to medium-size businesses can benefit from Sun's high availability today—while positioning themselves for seamless growth.

END-TO-END VALUE



Based on the proven Solaris™ Operating Environment and powerful, reliable UltraSPARC architecture, our Sun Fire V series servers, Netra servers, and desktop systems deliver outstanding performance, wherever you decide to deploy them—as database engines, for hosting Web and mission-critical applications, or for powering a new generation of desktops and access devices.



SUN RAY™ APPLIANCES

Easy-to-Install, Zero-Maintenance

Sun Ray™ specialized hardware platforms provide seamless access to a wide variety of applications, including the Solaris Operating Environment, Windows NT, and Java technology-based packages. Because the Sun Ray 1 accesses applications that run on the server, it never needs upgrading at the desktop, and all administration and maintenance occurs at the server for very low total cost of ownership. And Sun Ray specialized hardware platforms support smart card technology, giving users access to their customized desktop and enabling them to suspend and restart work in progress on any Sun Ray system on the network—and allowing administrators to keep the network more secure.

HIGHLIGHTS

Delivers server-class performance to the desktop

All maintenance and administration performed at the server—absolutely no desktop administration required

Provides access to applications running on multiple platforms

Ideal front end for technical server farms

Sun Ray™ 1: Compatible with standard VGA monitors

Sun Ray 100: Comes with 17-inch CRT display in compact, all-in-one design

Sun Ray 150: Comes with 15-inch flat-panel display in compact, all-in-one design; built-in projector port and wall or bracket mounting for classroom instruction and presentations

Standard Interfaces

Network: 10/100-BaseT Ethernet required between appliances and server running Sun Ray server software

Peripheral: Four powered USB ports
RGB projector port (Sun Ray 150)

Input devices: Type 6 USB keyboard, USB mouse, smart-card reader, SunMicrophone™ 2 (optional), SunCamera™ (optional; no I/O card required)

Multimedia

24-bit graphics: Sun Ray 1: Compliant with standard VGA monitors; 2-D acceleration; resolutions up to 1280 x 1024 at 75 Hz
Sun Ray 100: 17-in. diagonal shadowmask CRT display; 1280 x 1024 resolution at 75 Hz
Sun Ray 150: 15-in. TFT-LCD flat-panel display with backlight system; resolutions up to 1024 x 768 at 60 Hz

Audio: CD-quality audio I/O, microphone, and headphone jacks

Video input: NTSC/PAL, RCA connector

Software/System Requirements

Operating system: Solaris 2.6 5/98 Operating Environment or higher (Solaris 2.6 5/98, Solaris 7 11/99, and Solaris 8 04/01 are recommended); Sun Ray server software 1.3 and above; Sun Ray server hardware: any Sun platform running Solaris 2.6 or higher; recommend one dedicated Ethernet interface for hosting Sun Ray appliances and another one to connect to local area network; Sun Ray appliance hardware: Interconnect Fabric requires standard Ethernet cables/switches; Sun Ray 1 requires a monitor, keyboard, and mouse; Sun Ray 100/150 requires only a keyboard and mouse.

Powering Environment

AC power: 100-240 V AC, 50-60 Hz

Typical power consumption: Sun Ray 1: Less than 20 W; Sun Ray 100: 95 W; Sun Ray 150: 30 W

Key Applications

Sun Ray appliances enable access to a large number of applications running on the Solaris Operating Environment, Java technology, Microsoft Windows (through interoperability solutions), other UNIX platforms, and 3270/5250 environments. Through Sun Forum 3.2, Sun Ray enables audio/video conferencing, VoIP telephony, electronic whiteboarding and application sharing. Some applications include:

- Call centers
- Education (library, classroom)
- Kiosks
- Technical (EDA, software development)
- Terminal replacement
- Financial (front end, back office)



SUN BLADE™ 100

UNIX Workstation Price/Performance Leader

With the Sun Blade™ 100 workstation, Sun delivers a 64-bit UNIX workstation at an exceptional price point. The system is based on the UltraSPARC IIe processor, boasts up to 2 GB of memory and up to 2 x 20 GB disks, and provides a fast PCI bus for excellent I/O throughput. Its USB and IEEE 1394 interfaces deliver connectivity to a wide range of Sun and third-party peripherals. Plus, it features either onboard Sun™ PGX64 graphics or optional high-performance Sun Expert3D-Lite graphics. Either way, the Sun Blade 100 workstation delivers the combination of performance, features, and functionality you need — at PC price points.

HIGHLIGHTS

64-bit architecture tuned for the 64-bit Solaris Operating Environment

Three industry-standard PCI slots for access to peripheral and networking options

Up to two 20-GB, 7200-rpm EIDE hard drives for expandability and investment protection

Onboard Sun™ PGX64 graphics for 2-D graphics performance at no extra cost; optional Sun Expert3D-Lite graphics for affordable, professional-quality graphics

Built-in USB and IEEE 1394 ports for inexpensive plug-and-play videoconferencing and access to USB devices

Processors

Architecture: Superscalar SPARC Version 9, 500-MHz UltraSPARC IIe
Number of processors: One
Cache: 16-KB data and 16-KB instruction on chip; secondary: 256 KB

Main Memory

2 GB maximum

Standard Interfaces

Network: 10/100-BaseT Ethernet
Serial: One D-sub 9-pin connector, asynchronous
Parallel: One D-sub 25-pin connector, IEEE 1294 (bidirectional)
Audio I/O: Four audio ports: line-in/line-out/microphone-in/speaker-out
Expansion: Three 32-bit PCI slots
Other: Four USB (Type A) connectors, two IEEE 1394 (6-pin) connectors

Mass Storage and Media

Internal CD: 48X speed CD-ROM or 16X speed DVD-ROM
Internal disk: One or two 20-GB, 7200-rpm EIDE hard disks (standard configuration)
Internal floppy disk: One 3.5-in. 1.44-MB floppy
Expansion: Second internal disk drive bay available

Software

Operating system: Preinstalled with Solaris 8 10/00 Operating Environment or higher
Languages: C, C++, Pascal, FORTRAN, Java technology
Networking: ONC/NFS, TCP/IP, SunLink™ OSI, MHS, IPX/SPX, DCE

Graphics and Imaging

Onboard: 24-bit Sun PGX64
Optional: Sun Expert3D-Lite

Powering Environment

AC power: 100-240 V AC, 47-63 Hz, 0.3 KVA
DC power: 200 W (maximum)
Power consumption: 295 W maximum
Input current: 1.2–2.9A maximum
BTU/hr: 1006 maximum

Key Applications

- 64-bit software development
- Financial applications
- Call center/CRM seats



SUN BLADE™ 1000

Exceptional Multiprocessing Workstation Performance

Based on two UltraSPARC™ III processors, the Sun Blade 1000 workstation features a low-latency crossbar-switch interconnect that delivers up to 4 GB/sec. of bandwidth for ultra-high-speed data and graphics performance. Plus, the system delivers plenty of disk connectivity to third-party peripherals. With advanced, high-end graphics and support for dual monitors and a variety of storage options, it's an ideal solution for addressing computation fluid dynamics and other demanding, graphics-intensive applications.

HIGHLIGHTS

Choice of one or two 750/900-MHz UltraSPARC III processors

Large L1 and L2 caches for increased performance for all applications, regardless of size

Large 8-GB RAM capacity for faster completion of calculations

72-GB internal drive capacity, providing more space for faster local disk storage and enhanced performance

Supports a variety of graphics options and combinations of graphics solutions for maximum flexibility

Processors

Architecture: Superscalar SPARC Version 9, 750/900-MHz UltraSPARC III (supports mix of 750- and 900-MHz CPUs running at maximum speed simultaneously); 600 MHz available

Number of processors: Up to two
External cache: 8 GB (750/900-MHz); 4MB (600-MHz)

Main Memory

8 GB maximum

Standard Interfaces

Network: 10/100-BaseT Ethernet (self-sensing)
Serial: Two RS-232C/RS-423 serial ports (DB25); four USB (Type A) connectors; two IEEE 1394 (6-pin) connectors

Parallel: One D-sub 25-pin connector, IEEE 1284 (bidirectional)
Audio I/O: Four audio ports: line-in/line-out/microphone-in/speaker-out

Expansion: Four 64-bit full-size PCI slots, three at 33-MHz, one at 66-MHz; two UPA graphics slots

Mass Storage and Media

Internal disk: Two 18/36-GB, 10,000-rpm FC-AL disk drives

Removable media bays: Three bays for choice of 4-mm tape drive, 10x speed DVD-ROM, or 3.5-in., 1.44-MB floppy disk

External: External SCSI port; optional automated tape devices, FC-AL storage arrays or disk multipacks

Software

Operating system: Preinstalled with Solaris 8 10/00 Operating Environment or higher

Languages: C, C++, Pascal, FORTRAN, Java technology

Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE

Graphics and Imaging

Onboard: 24-bit Sun PGX64

Optional: Sun Creator3D, Sun Elite3D m6, Sun Expert3D, Sun Expert3D-Lite, Sun 1394 Visual Collaboration Kit

Powering Environment

AC power: 100-120; 220-240 V AC, (47-63 Hz), 0.39 KVA, 0.875 KVA (maximum)

Power Supply Output: 670 W (maximum)

Key Applications

- Visual simulation
- Mechanical design/engineering
- Circuit and chip design
- Scientific computing



ULTRA™ 10

3D Workstations for Cost-Sensitive Professionals

With the Ultra™ 10 workstations, Sun delivers exceptional performance and reliability for cost-conscious business and technical professionals. Features include a powerful UltraSPARC Ili processor with a 2-MB L2 cache, Sun Creator3D and Sun Elite3D high-performance graphics accelerators utilizing the Sun UPA architecture, and four PCI/IO ports for expansion—all in a compact mini-tower enclosure. With support for two very high performance displays and excellent performance with huge data sets, it's a great solution for 3-D modeling, MCAD, research and development, and much more.

HIGHLIGHTS

440-MHz UltraSPARC Ili processors with 2-MB cache and up to 1 GB cache memory for exceptional performance

Onboard PGX24 24-bit graphics on both systems; UPA slot for optional Sun Creator3D and Sun Elite3D m6

SunPCI™ coprocessor card enables users to run Solaris and PC-based technical applications alongside productivity packages

Plenty of PCI and networking options available

Processors

Architecture: Superscalar SPARC Version 9, 440-MHz UltraSPARC Ili
Number of processors: One
External cache: 2 MB

Main Memory

1 GB maximum

Standard Interfaces

Network: 10/100-BaseT Ethernet (self-sensing)
Serial: One D-Sub 25-pin, asynchronous/synchronous RS-232C/RS-423A; one D-Sub 9-pin, asynchronous RS-423A
Parallel: One D-sub 25-pin connector, IEEE 1284 (bidirectional)
Audio I/O: Four audio ports: line-in/line-out/microphone-in/speaker-out
Expansion: Four 32-bit; 33MHz, full-size PCI slots
PCMCIA: One front-access bay with flip-up access door

Mass Storage and Media

Internal disk: Two 20-GB, 7,200-rpm EIDE hard disk
Floppy disk: 3.5-in., 1.44-MB disk
Internal CD: 48X EIDE CD-ROM, PhotoCD compatible
Internal tape: Optional tape 12- to 24-GB DDS-3 4 mm; 7- to 14-GB 8 mm

Software

Operating system: Preinstalled with Solaris 7 3/99 and 8 10/00 Operating Environment; Solaris 2.5.1 11/97 or later; Solaris 2.6 3/98 or later
Languages: C, C++, Pascal, FORTRAN, Java technology
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE

Graphics and Imaging

Onboard: 24-bit Sun PGX24
Optional: Sun Creator3D, Sun Elite3D m6

Powering Environment

AC power: 100-240 V AC (47-63 Hz), 0.4 KVA
DC power: 377 W
BTU/hr: 1287

Key Applications

For Solaris 2.5.1 and above:

- EDA
- MCAD/MCAE
- S/W
- Java development



ULTRA™ 60/80 Multiprocessing Workstation for Technical Professionals

An ideal Sun solution for applications running on Solaris versions earlier than Solaris 8, the Ultra™ 60 and Ultra 80 workstations deliver processing power, high performance internal interconnects, plenty of Ultra SCSI disk and memory, and industry-standard PCI bus for additional I/O connectivity. What's more, you can choose from a variety of graphics options to suit any job—or any budget. Put all that together with support for dual-head configurations and 24-inch monitors, and you have a powerful solution for power users.

HIGHLIGHTS

Two or four 450-MHz UltraSPARC II processors for exceptional application performance

100 percent binary compatibility with the entire SPARC/Solaris product line, for great investment protection

120-MHz, 1.9-GB/sec. UPA interconnect allows easy upgrades to next-generation processors, graphics, and peripherals

Supports a wide variety of graphics options for any application or budget

Processors

Architecture: Superscalar SPARC Version 9, 450-MHz UltraSPARC II
Number of processors: Up to two (Ultra 60), up to four (Ultra 80)
Cache: 16-KB data and 16-KB instruction on chip; secondary: 4-MB external

Main Memory

2 GB maximum (Ultra 60)
 4 GB maximum (Ultra 80)

Standard Interfaces

Network: 10/100-BaseT FastEthernet (self-sensing); MII for external transceiver (Ultra 80)
Serial: Two RS-232C/RS-423 ports
Parallel: Centronics-compatible (DB25)
Audio I/O: 16-bit audio, 8 kHz to 48 kHz; four audio ports: line-in/line-out/microphone-in/speaker-out
Expansion: Four PCI slots
UPA: Two graphics slots

Mass Storage and Media

Internal disk: Up to two 36 GB 10,000 RPM, SCSI disk drives
Floppy disk: Optional 3.5-in. MS-DOS/IBM compatible (720 KB, 1.2 MB, 1.44 MB, formatted)
Internal CD: Optional 644-MB Sun CD™; 32x speed, PhotoCD compatible
Internal tape: Optional 12- to 24-GB DDS3 4 mm

Software

Operating system: Solaris 2.5.1 11/97 Operating Environment or higher
Languages: C, C++, Pascal, FORTRAN, Java technology
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE

Graphics and Imaging

Optional: Sun Creator3D, Sun Expert 3D, Sun Expert 3D Lite, Sun Elite3D m6 (Ultra 80)

Powering Environment

AC power: 100-240 V AC, 47-63 Hz, 0.4 K VA
DC power: 350 W maximum (Ultra 60); 400 W maximum (Ultra 80)
BTU/hr: 1194 (Ultra 60); 2047 maximum (Ultra 80)

Key Applications

- Design/engineering analysis (for Solaris 2.5.1 and higher)



NETRA™ X1

Low-Cost, Entry-Level General Purpose Server

The entry point into Sun's line of rack-optimized servers (and the lowest priced branded UNIX server on the market), the single-processor Netra™ X1 server delivers performance, manageability, and value at a breakthrough price point. The Netra X1 server features an array of advanced, rack-optimized management and maintenance features at a sub-\$995 price point. It also employs standard PC memory, IDE disk drives, a system configuration card, and Lights-Out Management for lower total cost of ownership. The entry configuration comes with an UltraSPARC processor, a complete copy of the Solaris 8 Operating Environment preinstalled, 128 MB of RAM (2 GB maximum), dual 10/100-BaseT Ethernet, and a 40-GB disk drive (two drives maximum).

HIGHLIGHTS

1U form factor and small footprint optimized for standard rack deployments

Low cost enables redundant services deployment, for greater availability

Provides a variety of advanced management and maintenance features, including Lights-Out Management, front and back LED indicators, and system configuration card

Complete, fully integrated solution

Preinstalled with Solaris 8 Operating Environment

Processors

Architecture: Superscalar SPARC Version 9, 500-MHz UltraSPARC IIe
Number of processors: One
Cache: 16-KB data and 16-KB instruction on chip; secondary: 256 KB

Main Memory

2 GB maximum

Standard Interfaces

Network: Dual Ethernet/FastEthernet, STP (10-BaseT and 100-BaseT)
Serial: Two RS-232C/RS-423 (RJ45)
Expansion: Two USB (OHCI) ports

Mass Storage and Media

Internal disk: Up to two 40-GB IDE at 7200 rpm

Software

Operating system: Preinstalled with Solaris 8 10/00 Operating Environment or higher
Languages: Java™ technology, all standard Sun-supported languages
Networking: ONC/NFS, SunLink OSI, TCP/IP
System management tools: Sun™ Management Console, SNMP/MIBs, SunVTS™, SRS Ready; Lights-Out Management, system configuration reader and card standard

Powering Environment

AC power: 90-264 V AC (47-63 Hz)
Typical power consumption: Nominal 81 W
Maximum input current: 1.3 A/0.65 A
BTU/hr: Maximum 280/minimum 148 (nominal)

Key Applications

- Web server
- Directory services
- Threat management
- Mail server
- E-mail
- Web hosting
- Network management
- Caching
- Bandwidth/resource management
- Firewall



NETRA™ T1 AC200/DC200

High-Performance, Rack-Optimized Single-Processor Server

The Netra T1 AC200/DC200 server is the ideal system for maximizing price/performance per rack. It boasts a 500-MHz UltraSPARC IIe processor; two hot-swap disks; SCSI, PCI, and dual network connectivity; and advanced reliability features in a rack-optimized 1U package, for excellent compute density, flexibility, and expandability. The system features front and rear LEDs and Lights-Out Management capabilities for easy remote management. And it extends Sun's already broad line of consistent, rack-optimized servers, all running the Solaris 8 Operating Environment.

HIGHLIGHTS

Rack-optimized 1U form factor allows maximum use of rack space

Lights-Out Management, hot-swap disks, front and back LED indicators, system configuration card, Automatic Server Restart, and hot-swap drives maximize availability and minimize overhead

Complete server solution that's ideal for IP-intensive deployments

Ruggedized packaging certified to NEBS Level-3

Preinstalled with the Solaris 8 Operating Environment

Processors

Architecture: Superscalar SPARC Version 9, 500-MHz UltraSPARC IIe
Number of processors: One
Cache: 16-KB data and 16-KB instruction on chip; secondary: 256KB

Main Memory

2 GB maximum

Standard Interfaces

Network: Dual Ethernet/FastEthernet, STP (10-BaseT and 100-BaseT)
I/O: 80-MB/sec. Ultra SCSI
Serial: Two RS-232C/RS-423 (RJ45)
Expansion: One full-length PCI slot; two USB (OHCI) ports

Mass Storage and Media

Internal CD/DVD-ROM: Optional 644-MB slimline CD, 24X speed; optional slimline DVD, 8X speed
Internal disk: Up to two 3.5-in. x 1-in. disks (18 GB or 36 GB)
External storage: All Ultra SCSI devices

Software

Operating system: Preinstalled with Solaris 8 10/00 Operating Environment or higher
Languages: Java technology, all standard Sun-supported languages
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE, SS7, ATM, FDDI
System management tools: Sun Management Console, Sun™ Cluster, SNMP/MIBs, SunVTS, SRS Ready; Lights-Out Management, system configuration reader and card standard

Powering Environment

AC power: 90-264 V AC (47-63 Hz)
Typical power consumption: Nominal 98 W
Input current: Nominal 2 A/1 A
Maximum operating current: 2A at 90 V AC
DC power: -48/-75 V DC
Maximum operating current: 4A at -48 V DC
BTU/hr: 550 maximum, 335 nominal
Certification: NEBS Level-3 Certified

Key Applications

- Firewall
- Caching
- Authentication/gateways
- News server
- Security: threat management, virus detection
- Web server
- Directory services
- Bandwidth/resource management
- Mail/messaging
- Network management



NETRA™ 20

Ruggedized, Rack-Optimized, High-Density Multiprocessing Server

The dual-processor Netra™ 20 server is the perfect solution for companies looking for reliability, compute density, and efficient space utilization with lower total cost of ownership. The system provides up to two UltraSPARC III processors and a variety of rack-optimization features, including front-accessible components and front and back LEDs, removable system configuration card, AC or DC powering options, support for two- and four-post racks, and Lights-Out Management for simple management from anywhere on the network. Plus, its compact, 4U form factor fits cleanly into standard racks.

HIGHLIGHTS

4U packaging with excellent price/performance for maximum processor density

Provides rack-optimization features such as Lights-Out Management, front-accessible components, front and back LED indicators, system configuration card, AC/DC power options

Ruggedized AC server and NEBS Level-3 Certified DC server

Exceptional connectivity capabilities, including USB and FC-AL, for more expansion options

Runs the Solaris 8 Operating Environment

Key Applications

- Signaling gateway server (SS7)
- Session Initiation Protocol (SIP) server
- Media gateway server
- Directory server
- Firewall services
- VPN services
- Mission-critical application hosting
- Web hosting services application hosting
- Encryption services

Processors

Architecture: One or two Superscalar SPARC Architecture Version 9, 64-bit RISC UltraSPARC III processors at 750 MHz

Number of processors: Up to two

Cache: 8-MB integrated second-level cache per processor

Main Memory

Eight slots populated in two banks of four 128-, 256-, 512-, or 1024-MD DIMMs; 8 GB maximum

Standard Interfaces

Network: Ethernet/FastEthernet STP (10-BaseT and 100-BaseT)

SCSI: Fast/Wide SCSI port, DB48 connector, 40-MB/sec.

FC-AL: HSSDC connector, 100 MB/sec.

Serial: Two RS-232C/RS-423 (DB25), single LOM/ console serial port (RJ45)

Parallel: Single parallel port

USB: Four OHCI-compliant ports, 12 Mb/sec. each

Expansion: Four internal PCI 2.1 compliant expansion slots

Alarms: Three dry contact outputs (DB15)

Mass Storage and Media

Internal DVD-ROM: Optional DVD-ROM 10X

Internal tape: Optional DDS-4 DAT tape drive

Internal disk: Up to two 3.5-in. x 1-in. 36-GB FC-AL disks

External disk: Optional Netra st D130, Netra st A1000/D1000, Sun StorEdge™ T3 array

Software

Operating system: Solaris 8 04/01 Operating Environment or higher

Languages: Java technology, all standard Sun-supported languages

Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE

System management tool: Sun Management Center, SNMP/MIBs, SunVTS, SRS Ready, Lights-Out Management, System Configuration Reader and card standard

Powering Environment

AC power: 90-260 V AC (47-63 Hz)

DC power: -48/-60 V DC, (dual isolated inputs)

Power consumption: Nominal 418/388 W (90/240 V AC); 430.3/436 W (-48/60 V DC)

Input current: Nominal 4.685/1.557 A (90/240 V AC); 8.97/7.26 A (-48/60 V DC)

BTU/hr: Nominal 1313/1218 (90/240 V AC); 1351.14/1369 (-48/60 V DC)

Certification: NEBS Level-3 certified (DC only)



NETRA™ t 1400/1405

Rack-Optimized, High-Performance, Highly Configurable Four-Way Server

For mission-critical communications or commercial environments where high performance and availability are the highest priority, Netra™ t 1400/1405 systems are an ideal solution. These rack-optimized servers are designed to deliver sustained, reliable performance even under some of the the harshest environmental conditions. And with AC or DC hot-plug power supplies, Lights-Out Management, telecom alarms for long-distance monitoring, and a ruggedized chassis that fits neatly into 19-, 23-, 24-inch, and 600mm racks, Netra t 1400/1405 servers set the standard for performance, reliability, and uptime.

HIGHLIGHTS

Compact footprint and exceptional processing power maximize service availability while minimizing operational costs

NEBS Level-3 Certified for mission-critical applications

Enhanced RAS features, including alarms card, hot-swappable components, and front and rear access

Redundant, hot-swappable AC/DC power supplies eliminate the need for a rack-mount AC/DC converter

Processors

Architecture: SPARC Version 9 architecture, 440-MHz UltraSPARC II microprocessor
Number of processors: Up to four
Cache: 16-KB data and 16-KB instruction on chip; secondary: 4 MB per CPU

Main Memory

4 GB maximum

Standard Interfaces

Network: Ethernet/FastEthernet, UTP

(10-BaseT and 100-BaseT)

I/O: 40-MB/sec. Ultra SCSI

Serial: Two RS-232C/RS-423 (DB25)

Parallel: Centronics-compatible (DB25) (ECP mode-capable)

Expansion: Four full-size PCI slots

Alarms card: Three dry contact outputs (DB15)

Mass Storage and Media

Internal CD: Optional DVD-ROM (equivalent to 40X speed CD-ROM)

Internal tape: Optional 12- to 24-GB DDS3, 4-mm

Internal disk: Up to two (18 GB or 36 GB)

External storage: All Ultra SCSI devices

Software

Operating system: Solaris 2.6 Operating Environment or higher

Languages: Java technology, all standard Sun-supported languages

Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE, SS7, ATM, FDDI

System management tools: Sun Management Console, Sun Cluster, SNMP/MIBs, SunVTS, Lights-Out Management

Powering Environment

AC power: Three (N + 1) redundant, 100/240 V AC, dual input

DC power: Three (N + 1) redundant, 48/60 V DC, dual input

Typical power consumption: Nominal 330 W
BTU/hr: Nominal 2254

Certification: NEBS Level-3 Certified

Key Applications

- Directory server
- Portal server
- Application server
- Mail server
- Calendar server
- Database
- Storage resource management
- Customer relationship management
- High-availability failover



SUN ENTERPRISE™ 220R

Compact, Multiprocessing Rack-Mount General Purpose Server

Based on UltraSPARC II technology, the Sun Enterprise™ 220R delivers excellent performance and compute density, 2 GB of onboard memory, and plenty of PCI connectivity in a rack-mount 4U form factor with a small footprint. It boasts rack-optimization features such as redundant, hot-swap power supplies with separate power cords and front-accessible, hot-plug disks. It's the ideal workgroup system for compute-intensive financial services, Internet data center environments— any company that needs exceptional compute power in compact packaging.

HIGHLIGHTS

4U form factor with excellent price/performance for maximum processor density

Provides rack-optimization features such as redundant, hot-swap power supplies with separate power cords; front-accessible, hot-plug disks

Two high-performance PCI buses support four PCI slots; onboard Ultra SCSI, Ethernet, and serial and parallel ports for excellent I/O performance

Runs the Solaris 2.6 5/98, 2.7 8/99 Operating Environment or higher

Processors

Architecture: Superscalar SPARC Version 9, 360- or 450-MHz UltraSPARC II
Number of processors: Up to two
Cache: 16-KB data and 16-KB instruction on chip; secondary: 4 MB

Main Memory

2 GB maximum

Standard Interfaces

Network: Dual Ethernet/FastEthernet, STP (10-BaseT and 100-BaseT) or MII port
I/O: 40-MB/sec. Ultra SCSI
Serial: Two RS-232C/RS-423 (DB25)
Parallel: Centronics-compatible (DB25)
Expansion: Four full-length PCI slots

Mass Storage and Media

Internal tape: Optional 12-GB 4 mm DDS3, 20-GB 4-mm DDS4
Internal DVD-ROM: Sun 10x DVD-ROM
Internal disk: Up to two 3.5 x 1 in. disks (18/36 GB formatted)
External storage: All Ultra SCSI devices

Software

Operating system: Solaris 2.5.1 11/97 Operating Environment and higher
Languages: Java technology, all standard Sun-supported languages
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE, SS7, ATM, FDDI
System management tools: Sun Management Console, Sun Cluster, SunVTS

Powering Environment

AC power: (N + 1) redundant, hot-swap power 100-240 V AC, 47-63 Hz, 0.4 KVA, 6.25 A
DC Power: 610 watts maximum
BTU/hr: 2080

Key Applications

- E-mail services
- Internet gateway
- Application hosting
- Online transaction processing
- Web server
- Application server
- Database/data markets
- Modeling/simulations



SUN ENTERPRISE™ 250

Dual-Processor, Compact General Purpose Tower Server

The Sun Enterprise™ 250 server combines performance, capacity, and throughput with business-critical RAS features in a compact tower configuration that's just right for growing businesses. It provides up to two UltraSPARC II processors, six hot-plug SCSI disks, and FastEthernet connectivity for exceptional throughput. It delivers mainframe-class RAS features such as multiple independent data paths, ECC memory and data-path protection, Automatic System Recovery, Remote System Control, and redundant hot-swap power supplies. Plus, it can be deployed on the deskside with casters, in expansion cabinets, or in standard racks, for maximum flexibility.

HIGHLIGHTS

Two-way multiprocessing system with 2 GB of memory, six hot-plug drives, and N + 1 hot-plug power supplies

Compact mini-tower form factor can be deployed on the desktop or a variety of cabinet and rack configurations

RAS features such as multiple independent data paths, ECC memory and data-path protection, and Automatic System Recovery

Remote System Control notifies administrators of problems via the Internet and enables remote rebooting of system

Runs the Solaris 2.5.1 11/97 Operating Environment or higher

Processors

Architecture: Superscalar SPARC Version 9, 300- or 400-MHz UltraSPARC II
Number of processors: Up to two
Cache: 16-KB data and 16-KB instruction on chip; secondary: 256 KB
External cache: 2 MB on 300, 400 MHz

Main Memory

2 GB maximum

Standard Interfaces

Network: One 10/100-Mb/sec. autoselect port, RJ45 or MII
I/O: Two 40-MB/sec. Ultra SCSI-3
Serial: Two EIA-232D or EIA-423 ports
Parallel: 2-MB/sec. Centronics-compatible bidirectional EPP port, DB25
Expansion: Four full-length PCI slots

Mass Storage and Media

Internal disk: Up to six hot-swap 3.5-in. x 1.6-in. (18-GB) or 3.5-in. x 1-in. (36-GB) Ultra SCSI-3 drives
Internal DVD-ROM: Sun 10X speed DVD-ROM
Internal floppy: 1.44-MB 3.5-in. drive
Tape: Optional 5.25-in. x 1.6-in. fast SCSI tape drive, 8-mm, 4-mm DDS3, DDS2, MLR3, SLR5
External storage: All Ultra SCSI devices

Software

Operating system: Solaris 2.5.1 11/97 Operating Environment or higher
Languages: Java technology, all standard Sun-supported languages
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE, SS7, ATM, FDDI
System management tools: Remote System Control, Solstice JumpStart™, Solaris WebStart, Automatic System Recovery, Solstice AdminSuite™, Solstice DiskSuite™, Solstice Backup™, Sun™ Cluster, and other Solstice™ products

Powering Environment

AC power: One or two (N + 1) redundant, hot-swap (one standard) 90-264 Vrms, 47-63 Hz
DC power: 720 W maximum
Max. current AC RMS: 6.0 A at 100 V AC
Max. BTU/hr: 1980

Key Applications

- E-mail/Web-mail
- Database access
- Business applications
- Online transaction processing
- Digital media management
- E-commerce
- Internet gateway



SUN FIRE™ 280R

Rack-Optimized, Multiprocessing, General Purpose UltraSPARC III-Based Server

Based on next-generation UltraSPARC III technology, the Sun Fire™ 280R server is an exceptional solution for Internet data center environments, financial services, branch office operations, or any other environment that demands outstanding performance and reliability in a compact form factor. It includes a variety of RAS and rack-optimization features such as front-accessible, redundant, hot-swap power supplies, Remote System Control, and Automatic System Recovery. And its 4U form factor fits neatly into standard racks with sliders for easy servicing and upgrading of CPUs, PCI cards, memory, and more.

HIGHLIGHTS

Up to two high-performance UltraSPARC III processors

4U form factor fits standard racks, with sliders for easy servicing

Front-accessible power supplies and software-mirrored disk drives

Remote System Control, for simple, remote administration

Processors

Architecture: Superscalar SPARC Version 9, 64-bit RISC 750-MHz UltraSPARC III

Number of processors: Up to two

Cache: 8-MB integrated second-level cache per processor

Main Memory

8 GB maximum

Standard Interfaces

Network: Dual Ethernet/FastEthernet, STP (10-BaseT and 100-BaseT) or MII port

I/O: 40-MB/sec. 16-bit UltraSCSI (SCSI-3), (synchronous), 68-pin SCSI connector

Serial: Two RS-232C/RS-423 DB25

Parallel: Centronics-compatible DB25

Expansion: Four full-length PCI slots

Mass Storage and Media

Internal DVD-ROM: 10X standard

Internal CD: Optional SunCD32 32X speed, PhotoCD compatible

Internal tape: Optional 12 to 24 GB DDS-3 4 mm, 14 GB

Internal disk: Up to two 3.5-in. x 1.0-in. 1000 rpm fibre-channel disks (36-GB formatted)

External storage: All Ultra SCSI devices

Software

Operating system: Solaris 8 04/01 Operating Environment or higher

Languages: Java technology, all standard Sun-supported languages

Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE

System management tools: Sun Management Console, Sun Remote System Control, Sun Cluster, Sun PC NetLink™

Powering Environment

AC power: (N + 1) redundant, hot-swap power, 100-240 V AC, (47-63 MHz), 0.4 KVA

DC power: 560 W maximum

Power consumption: Nominal 483.8 W

Input current: 4.32 A

BTU/hr: Maximum 3140; nominal 1650

Key Applications

- Service provisioning
- Application hosting
- Application server
- Web server
- Data warehousing
- Financial analysis
- Messaging
- Groupware



SUN ENTERPRISE™ 420R

Rack-Optimized, Four-Processor Workgroup Server

The Sun Enterprise™ 420R four-way workgroup server delivers exceptional processing power, Ultra SCSI disk, and industry-standard PCI and network connectivity in a highly modular, compact, rack-optimized 4U form factor. The system enables companies to scale processing power while making the most of precious rack space, making it an excellent solution for Internet data center, financial services, and other space-constrained environments. Plus, it delivers uptime and serviceability features such as dual power cords, redundant AC power, and hot-swap power supplies and disks.

HIGHLIGHTS

Up to four 450-MHz UltraSPARC II processors for outstanding compute density

UPA crossbar-switch interconnect, PCI connectivity, and 40-MB/sec. Ultra SCSI disk for maximum throughput

Dual power cords, redundant AC power, and hot-swap power and disks for reliability and uptime

Solaris PC NetLink software provides Windows NT services, for interoperability and server consolidation

Easy to install and manage

Processors

Architecture: Superscalar SPARC Version 9, 450-MHz UltraSPARC II
Number of processors: Up to four
External cache: 4 MB maximum

Main Memory

4 GB maximum

Standard Interfaces

Network: Dual Ethernet/FastEthernet, STP (10-BaseT and 100-BaseT)
I/O: 40 MB/sec. Ultra SCSI (SCSI-3), (synchronous)
Serial: Two RS-232C/RS-423 (DB25)
Parallel: Centronics-compatible DB25
Expansion: Four PCI slots

Mass Storage and Media

Internal DVD-ROM: 10X (standard)
Internal CD: Optional SunCD32 32X speed, PhotoCD compatible
Internal tape: Optional 12 to 24 GB DDS2 4-mm or 14-GB 8-mm
Internal disk: Up to two 3.5-in. x 1.0-in. Ultra SCSI-3 disks (18-GB, 36-GB formatted)
External storage: All Ultra SCSI devices

Software

Operating system: Solaris 2.6 5/98 Operating Environment or higher
Languages: Java technology, all standard Sun-supported languages
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE
System management tools: Sun Management Console, Sun Remote System Control, Sun Cluster, Sun PC NetLink

Powering Environment

AC power: (N + 1) hot-swap, redundant, 100-240 V AC (47-63 MHz)
Maximum DC output: 380 W
Typical power consumption: 483.8 W
BTU/hr: 2080 maximum

Key Applications

- Web server
- Application hosting
- Decision support
- E-commerce
- Customer relationship management (CRM)
- Application server
- Database/data markets
- Modeling/simulations
- Enterprise resource planning (ERP)
- Supply-chain management (SCM)



SUN ENTERPRISE™ 450

Highly Expandable Four-Processor General Purpose Server

The Sun Enterprise™ 450 server is a flexible, expandable, extremely reliable solution for supporting multiple clients simultaneously, or for running all the applications for a branch office or small business. It delivers exceptional performance for any combination of compute-, data-, or I/O-intensive applications, with up to four UltraSPARC II processors, a 1.6-GB/sec. crossbar-switch interconnect, and a 1.6-GB/sec. PCI I/O subsystem for excellent performance and throughput. Plus, it boasts 4 GB of main memory, more than 720 GB of fast, hot-swap internal storage capacity, and 6-TB of external storage for excellent performance with changing workloads.

HIGHLIGHTS

Up to four 400- or 480-MHz UltraSPARC II processors with 4- or 8-MB e-cache memory for excellent performance

More than 720 GB of internal storage capacity

Six separate PCI buses for more than 1-GB/sec. I/O throughput

Two hot-swap 560-W power supplies standard, with maximum of three

Runs the Solaris 2.5.1 Operating Environment or higher

Processors

Architecture: SPARC Version 9 architecture, 400- or 480-MHz UltraSPARC II
Number of processors: Up to four
Cache: 16-KB data and 16-KB instruction on chip; secondary: 4 MB or 8 MB per CPU

Main Memory

4 GB maximum

Standard Interfaces

Network: Ethernet/FastEthernet, UTP (10-BaseT and 100-BaseT); RJ45 or MII
I/O: One, three, or five 40-MB/sec. Ultra SCSI
Serial: Two EIA-232D or EIA-423 serial ports (DB25)
Parallel: 2-MB/sec. Centronics-compatible (DB25)
Expansion: 10 PCI slots

Mass Storage and Media

Internal DVD-ROM: Internal 10x DVD-ROM drive
Internal tape: Optional 5.25-in x 1.0-in. SCSI tape drive; 8-mm or 4-mm DDS3, or SLR
Internal disk: Up to twenty 36.4-GB, 3.5-in. x 1.0-in. hot-swap Ultra SCSI-3 drives
Internal floppy: 1.44-MB 3.5 in.
External storage: All Ultra SCSI devices

Software

Operating system: Solaris 2.5.1 HW 4/97 Operating Environment or higher
Languages: Java technology, all standard Sun-supported languages
Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE, SS7, ATM, FDDI
System management tools: Sun Management Console, Sun Cluster, SunVTS

Powering Environment

AC power: One, two, or three modular N + 1 redundant, hot-swap, universal input (two supplies standard) 90-264 V AC (47-63 Hz)
Input current: 15 A/7.5 A
Power output: 1120 W maximum (560 W each power supply)
BTU/hr: 5680 maximum

Key Applications

- Database
- Directory
- Backup/storage resource
- Media server
- Customer relationship management (CRM)
- Mail/messaging/collaborative
- Enterprise resource planning (ERP)



SUN FIRE™ V880

High-Performance, Scalable, Reliable, Manageable Workgroup Server

The Sun Fire™ V880 server delivers exceptional scalability and balanced system performance for demanding, mission-critical applications. It boasts from two to eight UltraSPARC™ III processors with a maximum of 32 GB of main memory, and the integrated fibre-channel disk subsystem supports up to twelve disks. Its 9.6 GB/sec. Sun Fireplane interconnect, integrated I/O adapters, and nine PCI slots make it a highly scalable, well-balanced system for any combination of I/O- and compute-intensive applications.

HIGHLIGHTS

From two to eight 750-MHz UltraSPARC III processors

RAS features include Remote System Control and Automatic System Recovery for an extremely high level of system availability

Integrated, high-performance fibre-channel disk subsystem

Supports up to twelve 10,000-RPM, 18.2- or 36.4-GB disks, for a capacity of 437 GB (or 874 GB with available 72.8-GB disks)

Hot-swap PCI cards, power supplies, and cooling fans

Remote System Control notifies administrators of problems via the Internet and enables remote rebooting of system.

Key Applications

- Database
- Application services
- Directory server
- Technical computing
- Mail/messaging/collaborative
- Enterprise resource planning (ERP)
- Customer relationship management (CRM)

Processors

Architecture: Superscalar SPARC Version 9 architecture, 750-MHz UltraSPARC III
Number of processors: Up to eight
Cache: 64-KB data and 32-KB instruction on chip; secondary 8 MB external

Main Memory

32 GB maximum

Standard Interfaces

Network: 1-GB Ethernet and 10/100 BaseT Ethernet

I/O: FC-AL disk controller

Serial: Two EIA-232D/EIA-423 serial ports (DB25) via splitter cable

Expansion: Nine full-size hot-swap PCI slots

Mass Storage and Media

Internal DVD-ROM: 10X (standard) and two optional, removable media devices

Internal tape: Optional 12- to 24-GB DDS3 or 20 GB DDS-4 4 mm; or autoloader

Internal disk: Hot-swap front accessible, up to twelve 3.5-in. x 1.0-in., 10,000-rpm FC-AL disks, 18.2- or 36.4-GB capacity

External disk: All Ultra SCSI devices

External tape: SCSI tape devices via a SCSI host adapter

Host adapters: Internal SCSI to support the internal DVD-ROM and optional removable media device(s); up to nine PCI-to-dual-FC-AL adapters or PCI-to-Ultra SCSI adapters

Software

Operating system: Solaris 8 Operating Environment or higher

Languages: C, C++, Pascal, FORTRAN, Java technology

Networking: ONC/NFS, TCP/IP, SunLink OSI, MHS, IPX/SPX, DCE

System management tools: Sun Management Console, Sun Remote System Control, Sun Cluster, Solaris PC NetLink, Solstice JumpStart, Solaris WebStart, Solstice AdminSuite, Solstice DiskSuite, Solstice Backup, and other Solstice products

Powering Environment

AC Power: (N + 1) redundant, hot-swap, 100-240 V AC (47-63hz), 1.48 KVA

Power requirement: 1500 W input; 1100 W output per power supply (maximum)

BTU/hr: 10,308 maximum