

Sun SPARC® Enterprise M9000 Server

Mainframe reliable computing with
industry-leading virtualization capabilities



Highlights

- Mix and match the boards with earlier versions of the SPARC processor in a single system for continued investment protection
- Binary compatibility with earlier versions of your applications
- Scalable, mainframe-class computing for the open systems market
- Sun's advanced virtualization technologies plus proven methodologies and services make Sun SPARC Enterprise servers the ultimate consolidation systems
- Maximum investment protection with the Solaris Application Guarantee
- Highly scalable product line, going from a single process system to a 64 processor socket system, up to 512 processing threads
- Expands from 32 CPUs to 64 CPUs by adding an expansion cabinet
- Sun's high availability, Solaris 10 Adoption, and Consolidation services, combined with a global support network, for improved performance, maximum IT asset utilization, fast time to implementation, and a focus on strategic business objectives



Many large organizations depend on a wide array of demanding applications that require mission-critical, 24x7 performance—and for those enterprises, there's the high-end Sun SPARC® Enterprise™ M9000 server. It delivers performance world records, flexibility and reliability without the cost, complexity, and vendor lock-in. And with the advanced SPARC64 VII quad-core or SPARC64 VI dual-core processors and Solaris™ 10 Operating System as its foundation, the Sun SPARC Enterprise M9000 server is optimized for enterprise-class applications such as ERP, CRM, BIDW, large databases, HPC/scientific/engineering applications, and large-scale OLTP.

Investment protection, RAS and scalability features

Sun's SPARC Enterprise M9000 server provides the scalability and investment protection that enterprise customers require. Sun's long term SPARC Enterprise roadmap, binary compatibility and mix and match of different speeds/generations of SPARC64 processors, provide the level of investment protection and scalability not offered by IBM or HP.

In addition, mainframe-class RAS features come standard in the Sun SPARC Enterprise M9000 server, including automatic recovery with instruction retry, up to 2 TB of system memory error-correcting code (ECC) protection with extended ECC support, guaranteed data-path integrity, total SRAM and register protection, configurable memory mirroring, and many more. What's more, major system components are redundant and hot-swappable, for increased availability and serviceability.

Solaris 10: the most advanced OS on the planet

The Sun SPARC Enterprise M9000 server is built on the Solaris 10 OS, which comes preinstalled on every system. The Solaris 10 OS delivers revolutionary new features, including Dynamic Tracing (DTrace), Solaris ZFS, cryptographic infrastructures, IP filter, and User and Process Rights Management. Predictive Self-Healing automatically identifies and isolates faults and provides guidance when remediation is required. And fault isolation is provided down to the ASIC level.

Advanced virtualization and consolidation

Sun SPARC Enterprise servers are some of the industry's best consolidation virtualization platforms. The Sun SPARC Enterprise M9000 server supports up to 24 Dynamic Domains, enabling massive server consolidation and virtualization. Each physical domain can also be further optimized through the use of Solaris Containers, supporting thousands of software partitions.

Sun SPARC Enterprise M9000 Server

Processor	
CPU	Choice of up to 32 SPARC64 VII quad-core or 32 SPARC64 VI dual-core processors (up to 64 processors with expansion cabinet)
SPARC V9 architecture, ECC protected	
Cache per SPARC64 Level 1	<ul style="list-style-type: none"> SPARC64 VII: 64 KB D-cache and 64 KB I-Cache SPARC64 VI: 128 KB D-cache and 128 KB I-Cache
Cache per SPARC64 Level 2	<ul style="list-style-type: none"> SPARC64 VII: 6 MB on-chip SPARC64 VI: 5 MB to 6 MB on-chip
Clock speed	<ul style="list-style-type: none"> SPARC64 VII: 2.52 GHz SPARC64 VI: 2.28 GHz to 2.4 GHz
System	
System bus	<ul style="list-style-type: none"> High-speed, low-latency interconnect with redundant data, address, and response crossbar
Two redundant service processors	
Up to 24 Dynamic Domains	
32 CPU system	
CPU	<ul style="list-style-type: none"> Up to eight CPU memory boards; up to four processors and 128 GB memory per board based on 4 GB DIMMs
Main memory	<ul style="list-style-type: none"> Up to 1 TB
I/O	<ul style="list-style-type: none"> Up to eight I/O units (IOU) with eight PCIe slots each/64 PCIe slots per system; up to 224 PCIe and PCI-X slots with the optional External I/O Expansion Unit
System bus bandwidth (memory)	<ul style="list-style-type: none"> 368 GB/sec peak, 149.920 GB/sec stream (copy)
System bus bandwidth (I/O)	<ul style="list-style-type: none"> 122 GB/sec peak
64 CPU system	
CPU	<ul style="list-style-type: none"> Up to 16 CPU memory boards; up to four processors and 128 GB memory per board based on 4 GB DIMMs
Main memory	<ul style="list-style-type: none"> Up to 2 TB
I/O	<ul style="list-style-type: none"> Up to 16 I/O units (IOU) with eight PCIe slots each/128 PCIe slots per system; up to 288 PCIe and PCI-X slots with the optional External I/O Expansion Unit
System bus bandwidth (memory)	<ul style="list-style-type: none"> 737 GB/sec peak, 224.401 GB/sec stream (copy)
System bus bandwidth (I/O)	<ul style="list-style-type: none"> 244 GB/sec peak
Storage	
External boot devices supported	<ul style="list-style-type: none"> Sun StorageTek 2540, 3120, 3510FC, 9980, 9985
External	<ul style="list-style-type: none"> Direct, SAN or NAS attached to Sun StorageTek compatible tape libraries and disk arrays, including StorageTek 3X00, 5X00, 6X00, and 9X00 families
32 CPU system	<ul style="list-style-type: none"> Up to 32 internal, 2.5-in. SAS boot disks/four per IOU
64 CPU system	<ul style="list-style-type: none"> Up to 64 internal, 2.5-in. SAS boot disks/four per IOU
Resource management	
Dynamic Domains	
Solaris 10 Resource Manager including Solaris Containers	
Software	
Operating system	<ul style="list-style-type: none"> SPARC64 VII: Solaris 10 (8/07) SPARC64 VI: Solaris 10 (11/06)
Languages	<ul style="list-style-type: none"> C, C++, Pascal, FORTRAN, Java™
Networking	<ul style="list-style-type: none"> ONC™/NFS™, TCP/IP, SunLink™, Netware
System monitoring	<ul style="list-style-type: none"> Sun Management Center Solaris Web Start Solstice Domain Manager Solstice Enterprise Manager™ Solstice Backup™ xVM Ops Center
Value added software	<ul style="list-style-type: none"> VERITAS File System VERITAS Volume Manager Sun Cluster™ Sun HPC ClusterTools™ Sun Java Enterprise System
Environmental	
32 CPU system	
Power Option 1	<ul style="list-style-type: none"> AC power: 200–240 VAC 1-phase (50/60 Hz), 30 A Power cords: Five cords (10 with the optional dual power feed; 3 m/9.8 ft in length) Plug: NEMA-L6-30P or EN60309 (32A)
Power Option 2	<ul style="list-style-type: none"> AC power: 208 VAC 3-phase DELTA (50/60 Hz), 50 A Power cords: Two direct-wired power connections; includes dual power feed
Power Option 3	<ul style="list-style-type: none"> AC power 415 VAC 3-phase STAR (50/60 Hz), 30 A Power cords: Two direct-wired power connections; includes dual power feed
64 CPU system	
Power Option 1	<ul style="list-style-type: none"> AC power: 200–240 VAC 1-phase (50/60 Hz), 30 A Power cords: 10 cords (20 with the optional dual power feed; 3 m/9.8 ft in length) Plug: NEMA-L6-30P or EN60309 (32A)
Power Option 2	<ul style="list-style-type: none"> AC power: 208 VAC 3-phase DELTA (50/60 Hz), 50 A Power cords: Two direct-wired power connections; includes dual power feed
Power Option 3	<ul style="list-style-type: none"> AC power 415 VAC 3-phase STAR (50/60 Hz), 30 A Power cords: Four direct-wired power connections; includes dual power feed
Operating temperature	<ul style="list-style-type: none"> 5°C to 32°C (41°F to 89.6°F), 20% to 80% relative humidity, noncondensing
Nonoperating temperature	<ul style="list-style-type: none"> 0°C to 50°C (32°F to 122°F) 8% to 80% relative humidity, noncondensing
Altitude	<ul style="list-style-type: none"> Up to 3000 m (9843 ft.)

Regulations (meets or exceeds the following requirements)

Safety	<ul style="list-style-type: none"> • CSA/UL-60950, EN60950, IEC950 CB Scheme with all national deviations
RFI/EMC	<ul style="list-style-type: none"> • EN55022/CISPR22 Class A, FCC CFR47 Part 15 Class A, EN61000-3-2, EN61000-3-3
Immunity	<ul style="list-style-type: none"> • EN55024, EN61000-4-2, -4-3, -4-5, -4-6, -4-8 and -4/11
Regulatory markings	<ul style="list-style-type: none"> • CE, FCC, ICES, C-tick, VCCI, GOST-R, BSMI, MIC, CSA/UL
Other marks	<ul style="list-style-type: none"> • WEEE and Chinese RoHS

Key RAS features

End-to-end ECC protection; guaranteed data-path integrity; automatic recovery with instruction retry; total SRAM and register protection; ECC and Extended ECC protection for memory, memory mirroring, and Predictive Self-Healing; full hardware redundancy; fault-isolated Dynamic Domains; Dynamic Reconfiguration; Auto Diagnosis and Recovery; online upgrades; concurrent maintenance; redundant network connections; redundant storage connections; live operating system upgrades; journaling file system; hardened I/O drivers; CPU off-lining; memory page retirement; and cluster support.

Sun Upgrade Advantage Program

The Sun Upgrade Advantage Program (UAP) offers investment protection programs to migrate customers from Sun and competitor platforms, with discounts for trade-in of qualified Sun and competitive servers toward new Sun SPARC Enterprise servers. For more information visit sun.com/ibb/enterprise.

Dimensions and weight**32 CPU systems**

H:	180 cm (70.9 in.)
W:	85 cm (33.5 in.)
D:	126 cm (49.6 in.)
Weight:	940 kg (2,068 lb)

64 CPU systems

H:	180 cm (70.9 in.)
W:	167.4 cm (65.9 in.)
D:	126 cm (49.6 in.)
Weight:	1880 kg (4,136 lb)

Optional Power Expansion Cabinet

(Required for 1-phase DPF or 3 phase power distribution; one cabinet required for the 32 CPU system, two for the 64 CPU system)

H:	180 cm (70.9 in.)
W:	31.7 cm (12.5 in.)
D:	124.4 cm (49 in.)
Weight:	350 kg (770 lb)

Remote services

Sun Connect

Services

Sun provides an end-to-end portfolio of services designed to accelerate the alignment of IT infrastructure with business needs, optimize usage of IT assets, and contain costs. Sun's expertise helps you address key datacenter challenges, including consolidation, availability, clustering, optimization, and disaster recovery. Leverage Sun's more than 25 years of relentless innovation and depth of expertise to help you architect and deploy a reliable, high-performance Sun SPARC Enterprise M9000 solution that gives you a competitive edge.

Sun System Performance Packs combine top-rated SunSpectrumSM support with your Sun SPARC Enterprise M9000 server to provide optimized services that save you money compared to purchasing them separately. Sun System Performance Packs include integrated hardware and OS coverage, including Sun technical support, expedited hardware service, SunVIPSM support, and premium online resources such as on-demand health checks and OS update services.

Learn More

The Sun SPARC Enterprise M9000 server belongs to a family of servers designed to satisfy a large range of workloads and applications. For more information, visit sun.com/m9000 or talk to a local Sun sales representative.