SPARC M6-32 SERVER

Oracle's SPARC M6-32 server is best described as a big memory machine: it is the largest scale server in Oracle's SPARC system portfolio, and provides up to 32 terabytes of memory for hosting databases and applications entirely in system memory. That is twice as much memory per processor than any other data center server. With the new SPARC M6 processors containing 2X more processor cores than its predecessor, the SPARC M6-32 server delivers extreme performance for large mission critical workload, with dramatically better price/performance over comparable enterprise class servers. This system helps maximize IT resources with the industry's most comprehensive suite of built-in, no cost virtualization technologies bringing new levels of server utilization and efficiency. The SPARC M6-32 can minimize downtime offering the highest levels of system availability for Oracle software and core business applications.

Product Overview

The SPARC M6-32 server is the largest scale and highest availability enterprise server of Oracle's SPARC portfolio. The SPARC M6-32 big memory server is designed to meet current and future mission-critical workload requirements by utilizing a highly configurable server enclosure that is optimized for reliability, availability, and serviceability. The SPARC M6-32 server can expand up to 32 processors, 32 TB of system memory, 32 internal disk storage devices, and 64 PCIe 3.0 I/O expansion slots. With the SPARC M6 processor including 12 cores and an extra large shared 48 MB level 3 cache, the SPARC M6-32 server doubles the system throughput performance from the previous SPARC M5-32 server. Unmatched system virtualization capabilities on the SPARC M6-32 server include Dynamic Domain hardware partitions, and Oracle VM Server for SPARC logical domains. Additionally, Oracle Solaris Zones can be used with both Dynamic Domains and Oracle VM Server for SPARC logical domains for greater workload isolation and increased system utilization. Up to four Dynamic Domains are supported on the SPARC M6-32 server, and up to 512 logical domains can be created. All SPARC M6-32 server virtualization technologies are built-in at no additional cost, and introduce zero overhead.

The SPARC M6-32 server provides the highest level of enterprise-class RAS features including redundancy and hot-plug capability of most major components. Other key high-availability features include use of Dynamic Domains for hardware fault isolation, end-to-end ECC memory protection, and Oracle Solaris Fault Management Architecture. These capabilities enable server self-healing, and no single system failure can prohibit system recovery, which is a requirement for mission-critical computing.

All Oracle servers ship with full function server management tools at no additional cost.

Oracle ILOM utilizes industry-standard protocols to provide secure and comprehensive local and remote management. Oracle ILOM includes power management and monitoring, fault detection, and notification. The integrated Oracle System Assistant guides system administrators through rapid server deployment, firmware updates, hardware configuration, and operating system installation with Oracle certified hardware drivers.

The SPARC M6-32 server is part of Oracle's most powerful and efficient SPARC-based server family ever. Oracle's SPARC-based server family provides seamless scalability from 1 up to 32 processors and is designed with mission-critical applications in mind. All of the servers in the SPARC-based family run the Oracle Solaris operating system. They share the same virtualization capabilities through Oracle VM Server for SPARC and leverage the same systems management framework through Oracle Enterprise Manager Ops Center. This leads to unprecedented simplicity in the deployment of all enterprise workloads, enabling reduction of business risk, delivering savings in management costs, and unlocking flexibility to grow your business to any scale, while maximizing reliability and uptime.

Oracle's Premier Support customers have access to My Oracle Support and multiserver management tools in Oracle Enterprise Manager Ops Center. Oracle Enterprise Manager Ops Center, a system management tool, detects, provisions, and monitors servers, storage, and networking components. Oracle Enterprise Manager Ops Center also features an automated service request capability, whereby potential issues are detected and reported to Oracle's support center without user intervention, assuring the maximum service levels and simplified support.

SPARC M6-32 Server Specifications

Key Applications
• Enterprise Applications: Oracle E-Business Suite; Oracle's Siebel Customer Relationship Management (Siebel CRM); Oracle Business Intelligence Suite, Enterprise Edition; Oracle's PeopleSoft applications; JD Edwards Enterprise One applications from Oracle; SAP R/3
• Middleware: Oracle WebLogic Server, Oracle WebCenter suite, IBM WebSphere, JBoss, Apache
• Database: Oracle Database 11g Release 2, IBM DB2, Sybase IQ
Architecture
Processor
• SPARC V9 architecture
• Up to 32 twelve-core 3.6 GHz SPARC M6 processors
• Up to 96 compute threads per processor for a maximum 3,072 threads per system
• Twelve cryptography units per SPARC M6 processor
• On-chip Encryption Instruction Accelerators with direct nonprivileged support for 16 industry-standard cryptographic algorithms plus random number generation in each of the six cores: AES, Camellia, CRC32c, DES, 3DES, DH, DSA, ECC, Kasumi, MD5, RSA, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
• Twelve floating-point units per SPARC M6 processor
Cache Per Processor
• Large shared 48 MB, 8 banked, Level 3 Cache
• 128 KB Level 2 unified cache per core
Main Memory
• System maximum of 32 TB shared using 32 GB 1,066 MHz DDR3 DIMMs

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- 16 GB and 32 GB DIMMs are supported

Standard/Integration Interfaces

- Network: up to 32 10 GbE (100 Mbps/1 Gbps/10 Gbps) using configured Base I/O cards
- Expansion bus: Sixty-four low-profile PCIe 3.0 (x8 wired) slots accessed via a PCIe hot-plug carrier
- Ports: Two RJ45 console ports on each SP (2): one serial management port, one 1 GbE network port

Mass Storage and Media	
Internal disk	Up to thirty-two 600 GB 2.5 in. SAS drives or 400 GB SSDs.
External storage	Oracle offers a complete line of best-in-class, innovative storage, hardware, and software solutions, along with renowned world-class service and support. For more information, please refer to oracle.com/storage.

Power Supplies

- Twelve hot-swappable AC 7,000 w redundant (6 + 6) power supplies
- Maximum operating input current per power cord (3-phase power, 3 + 3 total cords): 200-240 V AC, 48A; 380-415 V AC, 24A; 480 V AC, 20A

Key RAS Features

- Hot-plug disk drives
- Hot-plug PCIe cards
- Hot-plug service processor modules
- Redundant, hot-swappable power supplies and fans
- Environmental monitoring
- Extended ECC, error correction, and parity checking for memory, address, and data paths
- Easy component replacement
- Integrated dual disk controllers providing dual pathways to each drive
- Electronic prognostics
- Dynamic Domains
- Fault Management Architecture including Predictive Self Healing, a feature of Oracle Solaris

Software	
Operating system	Oracle recommends Oracle Solaris 11 for enhanced performance and functionality - Oracle Solaris 11.1 - Oracle Solaris 10 1/13 (in a guest domain) - Applications certified only for Oracle Solaris 8 or Oracle Solaris 9 may be installed in an Oracle Solaris legacy zone in a Oracle Solaris 10 1/13 guest domain
Software included	- Oracle Solaris 11.1 - Oracle VM Server for SPARC 3.1

Virtualization

Built-in, no-cost virtualization technologies include:

- Oracle VM Server for SPARC (up to 512 logical domains)
- Oracle Solaris Zones
- Dynamic Domains (up to four)

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Environment	
Operating temperature	• 5° C to 35° C (41° F to 95° F) up to 500 m (1,640 ft) • 5° C to 29° C (41° F to 84° F) up to 3,000 m (10,000 ft)
Nonoperating temperature	• 0° C to 50° C (32° F to 122° F), maximum altitude 12,000 m (40,000 ft.)
Operating relative humidity	• 20% to 80%, noncondensing, 27° C (81° F) wet bulb
Nonoperating relative humidity	• 93%, noncondensing, 38° C (100.4° F) wet bulb
Operating altitude	• 0 m to 3,000 m (0 ft. to 10,000 ft.) * * Except in China markets where regulations may limit installations to a maximum altitude of 2,000 m
Nonoperating altitude	• 0 m to 12,000 m (0 ft. to 40,000 ft.)
Cooling	• 90,000 Btu/hr / 4,200 CFM max

Regulations (Meets or Exceeds the Following Requirements)
• **Safety**: EN 60950-1: 2006+A11:2009, IEC 60950-1:2005+A1:2009 2nd Edition, UL60950-1 2nd Edition,2011-12-19 ,CAN/CSA-C22.2 No.60950-1-01 2nd Edition 2011-12
• **EMC**: EN55022:2010 Class A, EN55024:2010, EN61000-3-2:2006+A1:2009+A2:2009, EN61000-3-3:2008, ETSI EN300386:2012 (V1.6.1) , 47 CFR15 Subpart B (FCC) Class A, ICES-003 Class A, AS/NZS CISPR22:2009+A1:2010, CISPR22:2008 Class A
• **Regulatory markings**: CE, FCC, ICES-003, C-Tick, VCCI, EAC, BSMI, KC, cULus,
• **European Union directives:** Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU

Dimensions and Weight
• Height: 2,000 mm (78.7 in) • Width: 904 mm (35.6 in.) • Depth: 1,451 mm (57.1 in.), with front and rear doors • Weight: Approx. 1,678 kg (3,700 lbs.) max., varies by configuration

Warranty

The SPARC M6-32 server comes with a one-year warranty. Visit http://www.oracle.com/us/support/policies/index.html for more information about Oracle's hardware warranty.

Services and Support

Oracle Advanced Customer Support Services: Learn best practices for deploying new SPARC M6-32 systems, optimize virtualization features, and safely consolidate older technology.

For more information: http://www.oracle.com/acs

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Migration Services: Execute a migration project faster and with less risk by utilizing the automated tools and product expertise of Oracle Migration Factory.

For more information: http://www.oracle.com/migrationfactory

Oracle Premier Support: With Oracle Premier Support, our customers get complete, integrated support to maximize the return on their Oracle investment—from software updates and operational best practices to proactive support tools and rapid problem resolution. Oracle Enterprise Manager Ops Center data center management software is also included with Oracle Premier Support.

For more information visit http://www.oracle.com/support

Contact Us

For more information about Oracle's SPARC M6-32 server, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Oracle is committed to developing practices and products that help protect the environment

Hardware and Software, Engineered to Work Together

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