SUN SERVER X4-2 SYSTEM

- Compact and energy-efficient 1U enterprise-class server

- Two Intel Xeon processor E5-2600 v2 product family CPUs

- Sixteen DIMM slots

- Four PCIe 3.0 slots

- Four 10GBase-T ports

- Hot-swappable and redundant disks, cooling fans, and power supply units

- Oracle ILOM and Oracle System Assistant

KEY BENEFITS

- Most versatile server for clustered computing and virtualization

- Deliver up to 35 percent in performance improvement over previous-generation server

- Increase application performance and power savings with energy-efficient low-voltage DIMMs running at full 1,600 MHz bandwidth

- Increase network bandwidth and reduce cost with four onboard 10GBase-T ports

- Reduce energy consumption with Oracle Advanced System Cooling

- Reduce operating expenses through a common system management stack across Oracle's systems portfolio

- Maximize IT productivity by running Oracle software on Oracle hardware

Oracle's Sun Server X4-2 system is the most versatile two-socket server for clustered computing and virtualization, packing the optimal balance of compute power, memory capacity, and I/O capability. It is an ideal server for a wide range of mission-critical business applications, such as middleware and enterprise business workloads in virtualized environments. Oracle's x86 systems are designed and engineered to achieve the highest reliability for maximizing up time.

Product Overview

Oracle's Sun Server X4-2 system, powered by the highest performing CPUs from the Intel Xeon processor E5-2600 v2 product family, offers unparalleled performance balanced with compute, memory, and I/O capabilities. It's the most versatile two-socket server for enterprise data centers. It's ideal for running middleware and enterprise business applications such as customer relationship management (CRM), enterprise resource planning (ERP), and supply chain management (SCM) in a virtualized environment. It's also an excellent fit as a software development platform such as Oracle Solaris Studio, and a great choice for running web and IT infrastructure applications such as Oracle WebLogic middleware, Oracle WebCenter middleware, Oracle Enterprise Manager Ops Center, and Oracle Identity Manager.

This server is available in two flexible chassis configurations and offers superior scalability with up to 9.6 TB of disk storage or 3.2 TB of flash storage, and four PCIe 3.0 expansion slots for demanding enterprise business workloads. The four embedded 10GBase-T ports free PCIe slots for additional network and storage connectivity. The Sun Server X4-2 system supports up to 512 GB memory capacity with 32 GB load-reduced dual inline memory modules (DIMMs), achieving full 1,600 MHz bandwidth and can easily meet the demands of current and future memory-intensive business workloads without compromising performance and power. In addition, with an increase of 50 percent in processor cores and threads, the Sun Server X4-2 system produces up to 35 percent performance gains compared to its previous generation, making it the densest and best-performing server in its class.

With an advanced cooling system unique to Oracle, the Sun Server X4-2 system achieves efficiencies which result in power savings and maximum uptime. Oracle Advanced System Cooling utilizes remote temperature sensors for fan speed control, minimizing power consumption while keeping optimal temperatures inside the server. These remote temperature sensors have been designed into key areas of this server to ensure appropriate fan usage in zones which include power supply units, PCIe slots, Ethernet ports, exiting air, entering air, and thermal diodes. Oracle Advanced System Cooling helps reduce energy consumption in a way that other servers cannot.

All Oracle servers ship with full-function server management tools at no additional cost. Oracle Integrated Lights Out Manager (Oracle ILOM) utilizes industry-standard protocols to provide secure and comprehensive local and remote management. Oracle ILOM features also include power management and monitoring and 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.

Oracle 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 critical component of Oracle's application-to-disk system management tool, coordinates servers, storage, and networking for a complete cloud infrastructure as a service (IaaS). 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.

Oracle's Sun x86 systems are the best x86 platforms for running Oracle software. They provide not only optimal performance and reliability based on an integrated and fully supported Oracle stack, but also include everything you need for a cloud deployment. With the purchase of Oracle Premier Support, every Sun x86 system comes complete with virtualization, choice of operating system, cloud provisioning, and Oracle's unique application-to-disk system management environment—all at no extra charge. As a result, Sun x86 systems deliver up to 50 percent cost savings over three years when compared to similarly configured multivendor configurations[1]. Sun x86 systems also serve as a key building block for Oracle's engineered systems, such as Oracle Exadata, which have achieved a 10x performance gain through integration and optimization.

Sun Server X4-2 System Specifications

Architecture
Processor
• One or two processors from the Intel Xeon processor E5-2600 v2 product family (Two processors required for maximum configurations) • Up to 12 cores per processor
Cache
• Level 1: 32 KB instruction and 32 KB data L1 cache per core • Level 2: 256 KB shared data and instruction L2 cache per core • Level 3: Up to 30 MB shared inclusive L3 cache per processor
Main Memory
• Sixteen DIMM slots provide up to 512 GB of DDR3 DIMM memory • Low-voltage RDIMM options: 8 GB at 1,600 MHz and 16 GB at 1,600 MHz • Load-reduced DIMM option: 32 GB at 1,600 MHz
Interfaces
Standard I/O
• Four onboard auto-sensing 100/1000/10G Base-T Ethernet ports • USB: Six 2.0 USB ports (two front, two rear, two internal) • Expansion bus: Four PCIe 3.0 slots: One (1) x16 and three (3) x8 (one internal) slots • Supports storage controllers including FC, FCoE, and SAS HBAs
Storage
Two disk chassis options:

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[1] Source: Edison Group, "The Oracle x86 Portfolio: Competitive Advantages in Total Cost of Ownership." First publication July 2012

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- Eight 2.5-inch front hot-swappable disk bays
- Four 2.5-inch front hot-swappable disk bays and DVD R/W drive
- All 2.5-inch disk bays can be populated with either HDDs or SSDs
- Optional RAID levels: 0, 1, 5, 6, 10, 50, and 60 with 512 MB of DDR2 onboard memory and a battery-backed write cache (BBWC) for 48-hour backup via internal SAS HBA PCIe Card

Graphics

- VGA 2D graphics controller embedded
- Supports resolutions up to 1,280 x 1,024 x 16 bits @ 60 Hz (1,024x768 when viewed remotely via the Oracle ILOM remote keyboard, video, mouse, and storage (RKVMS)
- Rear HD15 VGA port

Systems Management

Interfaces

- Dedicated 10/100 Base-T Ethernet network management port
- In-band, out-of-band and side-band network management access
- RJ-45 serial management port

Service Processor

Oracle Integrated Lights Out Manager (Oracle ILOM) provides:

- Remote keyboard, video, mouse redirection
- Full remote management through command-line, IPMI, and browser interfaces
- Remote media capability (USB, DVD, CD, ISO image)
- Advanced power management and monitoring
- Active Directory, LDAP, RADIUS support
- Dual Oracle ILOM flash
- Signed Oracle ILOM
- Direct virtual media redirection

Installation

- Oracle System Assistant provides:
  - Task-driven hardware updating and configuration
  - OS installation
  - Simple download of latest Oracle firmware, drivers, tools, and documentation
- Cross-OS command-line tools for RAID, BIOS, and Oracle ILOM configuration
- Cross-OS firmware updating tool

Monitoring

- Comprehensive fault detection and notification
- In-band and out-of-band and side-band SNMP monitoring v1, v2c and v3
- Syslog and SMTP alerts, WS-MAN
- Automatically create a service request for key hardware faults with Oracle automated service request (ASR)

Oracle Enterprise Manager Ops Center

- Deployment and provisioning of server bare metal
- Cloud and virtualization management
- Inventory control and patch management
- OS observability for performance monitoring and tuning
- Automated service request (ASR) generation
- Connects to Oracle Enterprise Manager Cloud Control application management

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The Sun Server X4-2 is the most versatile two-socket server for the enterprise data center, packing the optimal balance of compute power, memory capacity, and I/O capacity into a compact and energy-efficient 1U enclosure.

RELATED PRODUCTS

• Oracle Exadata Database Machine

• Oracle Exalogic Elastic Cloud

• Oracle Database Appliance

• Oracle Virtual Compute Appliance

• Sun Server X4-2L system

• Sun Server X2-4 system

• Sun Server X2-8 system

• Sun Blade X4-2B server module

• Oracle Enterprise Manager Ops Center

RELATED SERVICES

The following services are available from Oracle Customer Support:

• Support and installation

• Eco-optimization services

- Enables control of native Oracle Solaris, Oracle Linux, Red Hat Linux, SUSE Linux, and Microsoft Windows when running in virtual machines

Software

Operating Systems

- Oracle Solaris (preinstalled option)
- Oracle Linux (preinstalled option)
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- Microsoft Windows Server

For more information on software go to: Systems Wiki

Virtualization

- Oracle VM (preinstalled option)
- VMware

Environment

- Operating temperature: 5° C to 35° C (41° F to 95° F)
- Non-operating temperature: -40° C to 70° C (-40° F to 158° F)
- Operating relative humidity: 10% to 90%, non-condensing
- Non-operating relative humidity: Up to 93%, non-condensing
- Operating altitude: Up to 9,840 feet (3,000 m*) maximum ambient temperature is derated by 1° C per 300 m above 900 m (*except in China where regulations may limit installations to a maximum altitude of 6,560 feet or 2,000 m)
- Non-operating altitude: Up to 39,370 feet (12,000 m)
- Acoustic noise: 7.91 Bels A weighted operating, 5.28 Bels A weighted idling

Power

- Two hot-swappable and redundant power supplies, rated 91% efficiency
- Rated Line Voltage: 100 – 240 VAC
- Rated Input Current 100 – 127 VAC 7.2 A and 200 – 240 VAC 3.4 A

For more information on power consumption go to: Sun Server X4-2 Power Calculator

Regulations

- Safety: UL/CSA-60950-1, 2nd Edition, EN60950-1-2006 + A11:2009 + A1:2010 + A12:2011, IEC60950-1:2005 + A1:2009 CB scheme with all country deviations, CNSI4336-1, GB4943.1-2012
- EMI: EN55022:2010 , CISPR22:2008 Class A, 47 CFR 15B Class A, ICES-003 Class A, VCCI Class A, AS/NZS CISPR 22:2009/A1:2010 Class A, CNS 13438 Class A, GB9254 Class A, EN61000-3-2, GB17625.1, EN61000-3-3
- Immunity: EN 55024:2010

Certifications

- Safety: UL/cUL Listing, CE, BSMI, GOST R, and CCC
- EMC: CCC, CE, FCC, VCCI, ICES, C-Tick, KCC, GOST R, BSMI, Class A
- Other: Complies with WEEE Directive (2012/19/EC) and RoHS Directive (2011/65/EC)

Dimensions and Weight

- Height: 42.6 mm (1.7 in.)
- Width: 436.5 mm (17.2 in.)
- Depth: 737.0 mm (29.0 in.)
- Weight: 18.0 kg (40.0 lb.) fully populated

Included Installation Kits

- Tool-less rack mounting slide rail kit

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- Cable management arm

Warranty

The Sun Server X4-2 system comes with a one-year warranty. For more information, visit oracle.com/sun/warranty for Oracle's global warranty support.

Services

Only Oracle offers single point of accountability and complete, integrated support for the entire Oracle stack including 24/7 hardware service, expert technical support, proactive tools, and software updates. Visit oracle.com/sun/services for information on Oracle's service program offerings for Sun products.

Contact Us

For more information about Oracle's Sun Server X4-2 system, 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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