SUN SERVER X3-2L SYSTEM

Oracle's Sun Server X3-2L system is the perfect integration of compute and storage in a single two rack unit (2U) enclosure for clustered databases and virtualized business applications. It is the industry's unique and scalable enterprise-class, two-socket Sun x86 server. This compact server offers outstanding flexibility with three chassis options and the most internal storage capability. It also supports large flash storage configurations that accelerate I/O intensive application performance, increase system reliability and reduce power consumption.
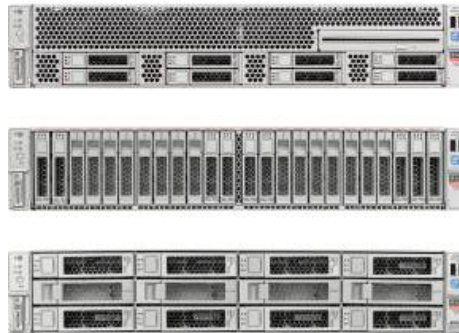
KEY FEATURES

- 2U enterprise-class server with flexible storage options

- Intel Xeon processor E5-2600 product family CPUs

- Sixteen dual inline memory module (DIMM) slots supporting two low-voltage DDR3 1600-MHz DIMMs per channel

- Six PCIe 3.0 slots

- Four 10GbE ports

- Four Oracle Sun Flash Accelerator F40 PCIe Cards

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

- Oracle ILOM, Oracle System Assistant, and Oracle Hardware Management Pack

KEY BENEFITS

- Runs the most demanding clustered databases and virtualized business applications with up to 37.2 TB of disk storage or 9.4 TB of flash storage

- Highest application performance and power savings with low voltage 8 GB and 16 GB DIMMs running at true1600 MHz

- Largest network bandwidth with four auto-sensing 10GbE ports onboard

- Simplified systems and cloud-ready life-cycle management

- Run Oracle software with best performance, reliability and TCO

Product Overview

The Sun Server X3-2L, powered by the highest performing Intel Xeon processor E5-2600 product family CPUs, is the ideal system for clustered databases and virtualized business applications. This server is available in three flexible chassis configurations and offers superior scalability with more than 37 TB of disk storage for the most demanding cluster environments. System performance and power efficiency are maximized with flash storage options that deliver high I/O performance and reduced energy consumption.

The Sun Server X3-2L generational improvements include up to 9.4 TB of flash storage to boost performance for clustered database applications and 2x I/O bandwidth with six PCIe 3.0 slots for demanding enterprise collaboration workloads. Another improvement is 10x the network bandwidth with the integration of four 10GbE ports, which reduces cabling, increases data throughput, and saves scarce PCIe slots for other peripherals. Due to its use of low voltage DDR3-1600 MHz memory DIMMs and 80 PLUS Platinum power supplies, this server is more energy efficient. In addition, an increase of 33 percent in processor cores and threads produces better performance in the same 2U form factor, making this server the densest and fastest performing in its class.

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

Oracle's Premier Support customers have access to My Oracle Support and multi-server 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

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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.

Sun x86 systems are the best enterprise x86 platforms for running Oracle software. They provide optimal performance and reliability based on an integrated and fully supported Oracle stack, as well as everything you need for a cloud deployment. Every Sun x86 system comes complete with virtualization, choice of operating systems, cloud provisioning, and Oracle's unique application-to-disk 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 multi-vendor 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 X3-2L Specifications

Architecture
Processor
• One or two processors from the Intel Xeon processor E5-2600 product family
Cache
• Level 1: 32 KB instruction and 32 KB data L1 cache per core
• Level 2: 256 KB shared instruction/data L2 cache per core
• Level 3: Up to 20 MB shared inclusive L3 cache per processor
Main Memory
• Sixteen DIMM slots provide up to 512 GB of DDR3 Registered (RDIMM) memory
• LV RDIMM options: 8 GB at 1600 MHz, 16 GB at 1600 MHz, 32 GB at 1,066 MHz
Interfaces
Standard I/O
• Four 100/1000/10G Base-T Ethernet ports
• USB: Six 2.0 USB ports (two front, two rear, two internal)
• Expansion bus: Six PCIe 3.0 slots – One (1) x16 and five (5) x8 slots
• Supports storage controllers including FC, FCoE, and SAS HBAs
Storage
Three disk chassis options:
• Eight-disk chassis: eight 2.5-inch front hot-swappable disk bays and DVD-RW drive
• Twelve-disk chassis: twelve 3.5-inch front hot-swappable disk bays and two 2.5-inch rear hot-swappable disk bays
• Twenty-four-disk chassis: twenty-four 2.5-inch front hot-swappable disk bays and two 2.5-inch rear hot-swappable disk bays
• All 2.5-inch disk bays can be populated with either HDDs or SSDs
• All 3.5-inch disk bays can be populated with only HDDs
• Optional RAID levels: 0, 1, 1E, 5, 5EE, 6, 10, 50 and 60 with 256 MB of DDR2 onboard memory and a Battery-Backed Write Cache (BBWC) for 72-hour backup via internal SAS HBA PCIe Card
• Optional Sun Flash Accelerator F40 PCIe Card
Graphics
• VGA 2D graphics controller embedded
• Supports resolutions up to 1280 x 1024 x 16 bits @ 60 Hz (1024x768 when viewed

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[1] Source: Edison Group, "The Optimized Stack: Reducing Total Cost of Ownership through Vertical Integration." First publication July 2011.

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remotely via 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 sideband Network Management access via any one of the four main ports of the server or the dedicated port
- 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

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 ILOM configuration
- Cross-OS firmware updating tool

• Monitoring

- Comprehensive fault detection and notification
- In-band and out-of-band SNMP Monitoring V1, V2c, 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 generation
- Connects to Oracle Enterprise Manager Cloud Control application management
- 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 (pre-installed option)
- Oracle Linux
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- Microsoft Windows Server

For more information on software go to:
https://wikis.oracle.com/display/SystemsComm/Home#tab:x86-Systems-Options-and-Downloads

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The Sun Server X3-2L is the ideal system to deploy clustered databases and virtualized workloads. This highly scalable system offers sufficient flexibility to support future data growth:

- More than 37 TB of disk storage

- Double the I/O bandwidth

- Flash technology

RELATED PRODUCTS

- Oracle Exadata Database Machine

- Oracle Exalogic Elastic Cloud

- Oracle Big Data Appliance

- Oracle Database Appliance

- Sun Server X3-2 system

- Sun Server X2-4 system

- Sun Server X2-8 system

- Sun Blade X3-2B system module

- Oracle Enterprise Manager Ops Center

RELATED SERVICES

The following services are available from Oracle Support Services:

- Support and installation

- Eco-optimization services

Virtualization
- Oracle VM (pre-installed option)
- VMware

Environment
- Operating temperature: 5º C to 35º C (41º F to 95º F)
- Non-operating temperature: -40º C to 70º C (-40º F to 158º 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 6560 feet or 2000 m)
- Non-operating altitude: Up to 39,370 feet (12,000 m)
- Acoustic noise: 7.61 Bels A weighted operating, 5.65 Bels A weighted idling

Power
- Two hot-swappable redundant power supplies
- Maximum output power: 1,000 W per power supply
- Maximum AC input current at 100 V AC and 1,000 W output: 12.0 A
- Specified power supply efficiency at 1,000 W (100%) load: 91%

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
- EMI: EN55022:2006 + A1:2007/CISPR22:2008 Class A, 47 CFR 15B Class A, ICES-003 Class A, VCCI Class A, AS/NE 3548 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, CE, BSMI, GOST R, S-Mark, CSA EMC: CCC, CE, FCC, VCCI, ICES, C-Tick, KCC, GOST R, BSMI Class A
- Other: Complies with WEEE Directive (2002/96/EC) and RoHS Directive (2011/65/EC)

Dimensions and Weight
- Height: 87.6 mm (3.5 in.)
- Width: 445.0 mm (17.5 in.)
- Depth: 737.0 mm (29.0 in.)
- Weight**:** 31.8 kg (70 lbs) fully populated

Included Installation Kit
- Tool-less rack mounting slide rail kit
- Cable management arm

Warranty

The Sun Server X3-2L comes with a one-year warranty. For more information, visit oracle.com/sun/warranty for Oracle's global warranty support.

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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 X3-2L, 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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