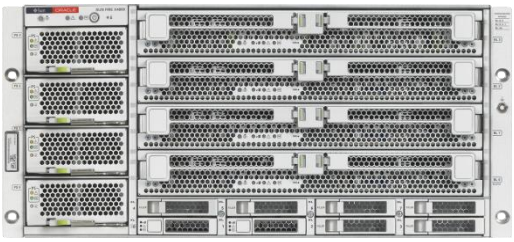
SUN SERVER X2-8 SYSTEM



Oracle's Sun Server X2-8 system is revolutionizing the x86 market by setting new standards with leading performance, outstanding scalability and unmatched reliability, availability and serviceability (RAS) features. This is the most powerful and expandable system in Oracle's x86 server line, making it an ideal platform for in-memory databases, applications with large memory footprints, server consolidation and enterprise technical computing workloads.

KEY FEATURES

- Compact design enterprise class server in 5U
- Powered by four or eight Intel® Xeon® processor E7-8800 product family
- Up to 4 TB of low voltage memory with128 DIMMs
- Eight 2.5" drive bays for hard disk drives or solid state drives
- Hot swappable I/O, disks, cooling fans and power supply units
- Support for a wide range of enterprise class server operating systems

KEY BENEFITS

- Leadership performance at a fraction of the cost of HP Itanium and IBM Power Systems servers
- Increased power savings with low voltage memory
- Leading reliability with unmatched x86 RAS features
- Consistent system manageability with Oracle ILOM included in every system

Product Overview

The Sun Server X2-8 system is a compact, modular 5 rack unit (U) system which is redefining the enterprise x86 market with superior performance, outstanding I/O expandability, and unmatched RAS features.

Using a blade-like modular design architecture, the Sun Server X2-8 is powered by two or four CPU modules, each one with two Intel® Xeon® processor E7-8800 product family CPUs and 32 memory slots. With eight or ten cores per socket, this server delivers extreme compute density in a compact 5U enclosure. When compared with the previous generation server, this system doubles low voltage memory to up to 4 TB and doubles internal storage to 4.8 TB while reducing power consumption.

The Sun Server X2-8 offers massive I/O, making it an ideal platform for virtualization and other I/O-intensive applications. Up to eight hot-swappable PCIe 2.0 ExpressModules (EMs) provide I/O flexibility and choice in network connections, such as Fibre Channel, InfiniBand or Ethernet. These EMs virtually eliminate downtime typically needed to perform I/O upgrades and maintenance. Two Network Express Modules provide eight Gigabit Ethernet and eight 10 Gigabit Ethernet ports for additional I/O bandwidth.

New to the x86 market, and included in the Sun Server X2-8, are RAS features which consist of hot swappable components such as PCIe ExpressModules, front accessible disk drives with RAID enabled redundancy, and redundant and hot-swappable fans and power supplies. All these features contribute to increased uptime and ease of system serviceability in the case of hardware failure.

The compact, scalable blade-like modular design of the Sun Server X2-8 helps customers save time and money. It provides flexibility for datacenter growth while minimizing the costs associated with datacenter refresh. In addition to its large memory footprint and leading reliability, the Sun Server X2-8 system has demonstrated unmatched price performance making it an ideal replacement server for inefficient legacy HP Itanium and IBM Power Systems servers.

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, 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 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 X2-8 Specifications

CPU Module Architecture
CPU Module - Processors
• Two or four CPU Modules, each with two Intel® Xeon® processors E7-8800 • Eight CPU configurations
CPU Module - Memory
• Up to 128 DIMMs (32 per CPU Module) • 4 GB, 8 GB, 16 GB and 32 GB DDR3-1066 MHz low voltage ECC Registered DIMMs • 4 TB maximum memory capacity
Interfaces
Network Express Module
Two hot-swappable Network Express Modules (NEMs), each NEM provides: • Four 10 GbE network ports via SFP+ connectors • Four 1 GbE network ports via RJ-45 connectors • Two x4 mini SAS-2 ports
Standard I/O – via rear front panel Universal Connector Port (UCP)
• VGA: one VGA 1024 x768 x 16bit @ 60 Hz graphics controller port • USB: Two USB ports • Serial: One Serial RJ-45 port
Internal Storage
• Eight 2.5" SAS-2 front accessible, hot swappable SAS-2 hard disk drives (HDDs) or eight 2.5-inch eMLC solid state drives (SSDs) for up to 4.8 TB of internal storage

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

I/O Expansion

- Up to eight hot-swappable PCIe 2.0 ExpressModule (EM) slots at the rear of the system
- Each EM has a x8 electrical/x8mechanical PCIe 2.0 bus

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 provides:

- Remote Keyboard, Video, Mouse redirection
- Full remote management through command-line, IPMI, and browser interfaces
- Remote media capability (DVD, CD, ISO image, floppy)
- 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 and side-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

The Sun Server X2-8 system offers leading reliability with unmatched x86 RAS features, making it the most powerful of Oracle's x86 servers.

RELATED PRODUCTS

- Sun Server X2-4 server
- Sun Fire X4270 M2 server

RELATED SERVICES

The following services are available from Oracle Support Services:

- Support, installation
- Eco-optimization services

Software

Operating Systems

- Oracle Solaris (pre-installed option)
- Oracle Linux (pre-installed option)
- 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

Virtualization

- Oracle VM (pre-installed option)
- VMware

Environment

- Operating temperature: 5°C to 35°C (4°F to 95°F)
- Nonoperating temperature: -40 ºC to 70 ºC (-40 ºF to 158 ºF)
- Operating relative humidity: 10%–90%, noncondensing
- 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)
- Nonoperating altitude: Up to 12,000 m
- Acoustic noise: 7.7 B operating, 6.8 B idling — (LwAd: 1 B=10 dB)

Power

- AC power: 200 - 240 VAC (47 Hz – 63 Hz)
- Four redundant, hot-swappable front accessible power supplies

Regulations

- Safety: IEC 60950-1, UL/CSA 60950-1, EN 60950, CB Scheme with all country differences
- EMC: FCC CFR 47 Part 15 Class A, EN 55022:2006 Class A, EN 61000-3-2:2000+A2:2005, EN 61000-3-3:1995 +A1:2001, EN55024:1998 +A1:2001 +A2:2003, EN300-386

Certifications

- Country certifications safety/EMC: UL/cUL, CE, S-Mark, CSA C22.2 No. 60950-03 EN 60950-01:2001, 1st Edition, IEC 60950-01:2001, 1st Edition, FCC, VCCI, ICES-003, C-Tick, KCC, GOST-R, BSMI Class A
- Other : Complies with WEEE Directive (2002/96/EC)

Dimensions and Weight

- Height: 218.75 mm (8.61 in.)
- Width: 445 mm (17.5 in.)
- Depth: 700 mm (27.56 in.)
- Weight: 81.65 kg (180 lbs)

Included Installation Kits

- Tool-less rack mounting slide rail kit

Warranty

The Sun Server X2-8 comes with a one-year warranty. For more information, visit http://www.oracle.com/goto/sun/warranty.

Support

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 X2-8 system, please visit http://www.oracle.com/goto/x2-8 or call +1.800.786.0404 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

ORACLE