SUN BLADE X3-2B SERVER MODULE

With the industry's leading number of dual inline memory modules (DIMMs) and unmatched memory bandwidth, Oracle's Sun Blade X3-2B server module is the ideal blade on the market for building enterprise cloud infrastructures. This perfectly balanced blade leverages the unique I/O architecture of the Sun Blade 6000 chassis, making it easy to deploy, manage, and provision. When combined with Oracle's networking products, the Sun Blade X3-2B server module offers breakthrough performance and superior energy efficiency while also reducing the cost and complexity of your enterprise cloud infrastructure.

KEY FEATURES

- Enterprise-class blade server that leverages highly available power, cooling, and I/O infrastructure of the Sun Blade 6000 chassis for building your enterprise cloud infrastructure
- Two Intel Xeon processor E5-2600 product family CPUs
- Twenty-four dual inline memory module (DIMM) slots supporting two low-voltage DDR3 1600-MHz DIMMs per channel
- ExpressModules for networking I/O
- Oracle ILOM, Oracle System Assistant, and Oracle Hardware Management Pack

KEY BENEFITS

- Reduce power and cooling costs, save data center space, and deploy enterprise-class reliability, availability, and serviceability (RAS) for cloud infrastructures
- Deliver up to 80 percent in performance improvement over previous-generation server
- Enable highest application performance and power savings with low voltage DIMMs running at true1,600 MHz
- Deploy blade servers the fastest and upgrade I/O without downtime due to each blade server's unique I/O configuration
- Simplify systems and cloud-ready life-cycle management
- Run Oracle software with best performance, reliability and TCO

Product Overview

The versatile Sun Blade X3-2B server module combines its unmatched memory bandwidth and large memory capacity with high-performance processors from the Intel Xeon processor E5-2600 product family to enable this two-socket blade server to run the most demanding virtualized and physical workloads.

Supported in the Sun Blade 6000 chassis, the Sun Blade X3-2B server module provides an IT infrastructure solution with enterprise-class reliability, leveraging chassis-based redundant, hot-swappable components such as fan modules, high-efficiency power supply modules, and ExpressModules.

Combining this server module with the high-performance, low-latency Sun Blade 6000 Ethernet Switched NEM 24p 10 GbE provides you with the required bandwidth that's needed to eliminate potential network bottlenecks that can occur when a large number of virtual machines are deployed. This switched Network Express Module simplifies the IT infrastructure and reduces network costs by eliminating an entire tier of data center switching and by reducing cables by 4:1.

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 (OS) 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, which detects and reports potential issues 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 system, 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 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 Blade X3-2B Server Module Specifications

Architecture
Processor
• Two processors from 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 data and instruction L2 cache per core • Level 3: Up to 20 MB shared inclusive L3 cache per processor
Main Memory
• Twenty-four DIMM slots provide up to 384 GB of DDR3 Registered (RDIMM) memory • LV RDIMM options: 8 GB at up to1600 MHz, 16 GB at up to1600 MHz
Interfaces
Network
• Two 10/100/1000 Base-T Ethernet ports • One dedicated 10/100 Base-T Ethernet port for the management network
Storage
• Four SAS-2 interfaces to the midplane, two to each Network Express Module slot • Four 2.5-inch front-accessible and hot-swappable disk bays • All 2.5-inch disk bays can be populated with either Hard Disk Drives or Solid State Drives Note: RAID Expansion Module is required for SAS support
Graphics
• VGA 2D graphics controller embedded • Supports resolutions up to 1280 x 1024 x 16 bits @60 Hz (1024 x768 when viewed remotely via Oracle ILOM Remote Keyboard, Video, Mouse, and Storage (RKVMS))
Midplane I/O
• Four (x8) PCIe 2.0 busses, two to ExpressModule slots and two to Network Express Module slots • Four 6 Gb/sec SAS interfaces, two to each Network Express Module slot • Two 10/100/1000G Base-T Ethernet interfaces using an Intel Ethernet Controller I350, one interface to each Network Express Module slot • One 10/100 Ethernet management port to the chassis monitoring module
Front Panel I/O

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

WITH ITS LARGE MEMORY FOOTPRINT, HIGH MEMORY BANDWIDTH, AND THE FLEXIBILITY AND EFFICIENCY OF THE SUN BLADE 6000 CHASSIS, THE SUN BLADE X3-2B SERVER MODULE IS THE IDEAL BLADE ON THE MARKET FOR RUNNING VIRTUALIZED AND PHYSICAL WORKLOADS.

RELATED PRODUCTS

The Sun Blade X3-2B server module is designed for the Sun Blade 6000 chassis where it can be mixed with:

- SPARC T4-1B server module
- SPARC T3-1B server module
- Sun Blade X6270 M2 server module
- Sun Blade X6275 M2 server module

The Sun Blade X3-2B server module also can be connected to the Sun Blade Storage Module M2 for scalable in-chassis storage or to the Sun Blade 6000 Ethernet Switched NEM 24p 10 GbE for 10GbE switching.

RELATED SERVICES

The following services are available from Oracle Support Services:

- Installation
- Maintenance

- Four hot-swappable SFF drive bays, supporting SAS HDDs and SSDs

Available via dongle cable:

- VGA graphics (DB-15 connector)
- Oracle ILOM serial console
- Dual USB ports for keyboard, mouse, or storage

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 (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, 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

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/Sun+Blade+Systems+Products

Virtualization

- Oracle VM (pre-installed option)
- VMware

I/O Modules

Supported I/O module form factors:

- Up to two (blade unique) ExpressModules per Sun Blade X3-2B server module
- Up to two (shared) Network ExpressModules per Sun Blade 6000 chassis
- ExpressModules include FC, FCoE, and SAS ExpressModule HBAs

Regulations

- UL 60950-1 2nd Ed (North America Safety)
- CAN/CSA-C22.2 No. 60950-1 2nd Ed (Canada Safety)
- CB Scheme approval including all national deviations (CB Member Countries)
- EN55022/CISPR22:2008 (Emissions European Union)
- CNS-13438:2006 Class A (Taiwan)
- FCC CFR 47 CFR 15B Class A (Code of Federal Regulations, Title 47, Part 15, Subpart B Class A) (United States)
- ICES-003 Class A (Canada)
- VCCI:2008 Class A (Japan)
- AS/NZS-3548 Class A (Australia/New Zealand)
- KN 22 RRL Public Notice 2009-9 (Dec. 21, 2009) Class A (Korea)
- NEBS Level 3, EN300386 V1.5.1 Class A (EU Telecommunications)
- EN55024/CISPR 24 (Immunity), EN61000-3-2:2006
- EN61000-3-3 :1995+A1:2001+A2:2002
- Restriction of Hazardous Substances (RoHS) Directive 2011/65/EC (2002/95/EC)
- Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC
- Low Voltage Directive 2006/95/EC (73/23/EEC)
- EMC Directive 2004/108/EC 989/336/EEC)

Certifications

- Safety Marks: UL/cUL or TUV
- Regulatory Marks: CE, FCC, C-tick, VCCI, BSMI, KCC, ICES-003, WEEE Symbol, China RoHS Symbol

Dimensions and Weight

- Height: 327.2 mm (12.9 in.)
- Width: 44.5 mm (1.8 in.)
- Depth: 511.7 mm (20.2 in.)
- Weight: 9.1 kg (20.2 lbs) fully populated

Warranty

The Sun Blade X3-2B server module offers a one-year warranty. Please visit oracle.com/sun/warranty for Oracle's global warranty support information on Sun products.

Services

Only Oracle offers a 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.

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Contact Us

For more information about Oracle's Sun Blade X3-2B server module, 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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