Sun Server X3-2
Frequently Asked Questions

Overview
Faced with ever-increasing computing needs and budget and power constraints, companies today want to set up infrastructures that offer optimal value, can be repurposed easily, and have reduced complexity. Data centers often standardize on a server that can run a wide range of business applications and can be managed easily. The versatility of Oracle’s Sun Server X3-2 makes it a perfect fit for this purpose, because it balances compute power, memory capacity, and I/O capability in a compact and energy-efficient 1U enclosure. This server is ideal for middleware workloads, enterprise business applications, system administration, and application development.

The new Sun Server X3-2 is based on the Intel Xeon processor E5-2600 product family. Compared to the Sun Fire X4170 M2 server, it has 33 percent more cores (up to eight cores per processor) and up to an 87 percent performance gain.

The Sun Server X3-2 is available in three flexible chassis configurations and offers superior scalability with up to eight hot-swappable disk bays, up to 12 TB of disk storage or 2.4 TB of flash storage, and four PCIe 3.0 expansion slots. With PCIe 3.0 technology, the new Sun Server X3-2 can deliver up to twice the I/O bandwidth of the current generation server, resulting in sufficient flexibility to support future data growth.

Oracle’s Sun x86 systems are the best x86 platforms for running Oracle software. They not only provide optimal performance and reliability based on an integrated and fully supported Oracle stack, but they also include everything needed for a cloud deployment. Every model comes complete with virtualization, choice of OS, cloud provisioning, and Oracle’s unique application-to-disk system management environment — all at no extra charge. This enables Sun x86 systems to offer up to a 50 percent cost savings over three years when compared to the cost of ownership for similar competitive offerings.

Sun x86 systems also serve as a key building block for Oracle engineered systems, such as Oracle Exadata, which also have achieved a 10x performance gain through integration and optimization.

Customer Benefits
The Sun Server X3-2 provides the following key customer benefits.

Perfect Balance of High Performance and Energy Efficiency
This server is available in three flexible chassis configurations and offers superior scalability. With up to 512 GB of memory capacity and faster memory access, the Sun Server X3-2 can easily meet the demands of today’s and tomorrow’s memory-intensive workloads. The four onboard 10 GbE ports offer ten times faster network connectivity than 1 GbE interfaces at no extra cost, reducing network delays and improving application response time drastically.

The energy-smart design improves power efficiency compared to the previous generation server. Energy-efficient components are incorporated. The server uses low-voltage, registered DIMMs. Platinum-rated power supplies with up to 94 percent efficiency, support current oversubscription and Eight cooling fans are located in four independent cooling zones. Per-zone thermal sensors and a smart fan-control algorithm are used to automate fan speeds and optimize power efficiency and system performance.

The new high-capacity SSDs based on enterprise Multi-Level Cell (eMLC) technology deliver over one hundred times more I/O performance than hard disk drives, while consuming eighty percent less energy.

1 Source: Edison Group, “The Optimized Stack: Reducing Total Cost of Ownership through Vertical Integration.” First publication July 2011.
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Best-in-class Manageability
All Sun x86 systems come with both single-server and centralized system management tools for no extra charge for support customers. The single management tool, Oracle Integrated Lights Out Management (Oracle ILOM), provides local KVMS access as well as SNMP protocols or IPMI for out-of-band use or resident OS for in-band use. Oracle Enterprise Manager Ops Center, a critical component of Oracle’s Enterprise Manager disk-to-application system management tool, coordinates servers, storage, and networking for building out a complete cloud infrastructure. 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, ensuring maximum service levels and simplified support.

The Sun Server X3-2 offers hot-swappable and redundant RAID-enabled disks, cooling fans, and power supply units. Combining these enterprise-class RAS capabilities with integrated and cloud-ready management tools, the Sun Server X3-2 is designed to maximize uptime, simplify system management, and reduce operations costs.

Frequently Asked Questions

What is the Sun Server X3-2?
Packing the optimal balance of compute power, memory capacity, and I/O capability into a compact and energy-efficient 1U enclosure, the Sun Server X3-2 is the most versatile two-socket x86 server for enterprise data centers to run a broad range of mission-critical business applications. This server is ideal for running middleware and enterprise business application workloads and as a platform for application development.

How does the new Sun Server X3-2 compare with the Sun Fire X4170 M2 Server?
Compared to the Sun Fire X4170 M2 server, Oracle’s Sun Server X3-2 has 33 percent more cores (up to eight cores per processor) and up to an 87 percent performance gain. It is based on the Intel Xeon processor E5-2600 product family and is available in three flexible chassis configurations that offer improved scalability, more storage, increased memory capacity, faster memory access and ten times faster network connectivity than 1 GbE.

What kind of applications and workloads is the Sun Server X3-2 best suited to run?
Sun x86 systems are the best x86 platforms to run Oracle software. Delivering the optimal balance of compute power, memory capacity, and I/O capability in a compact and energy-efficient 1U enclosure, the versatility of the Sun Server X3-2 makes it ideal for the following workloads:

- Middleware workloads, such as Oracle Fusion and Oracle WebLogic Suite
- Enterprise business applications, such as Customer Relationship Management (CRM), Enterprise Resource Planning (ERP), and Supply Chain Management (SCM)
- IT and Web infrastructure applications, such as Oracle WebCenter, Oracle Beehive, Oracle Enterprise Manager, Oracle Directory Manager, and Oracle Identity Manager
- Application development software, such as Oracle Solaris Studio
What flash storage options are available on the Sun Server X3-2?

The Sun Server X3-2 supports the new high-capacity solid-state drives (SSDs), up to 2.4 TB of internal flash, and Oracle’s Sun Storage F5100 Storage Array, which is based on enterprise-class single layer cell (SLC) technology. These flash storage options all turbo-charge the server to run I/O-intensive applications more rapidly and efficiently while consuming up to 80 percent less power.

What memory, storage, and expansion options are supported on the Sun Server X3-2?

The Sun Server X3-2 supports up to 16 DDR3-1600 memory DIMMs slots (which can be populated with 8 GB, 16 GB, or 32 GB of low-voltage, registered DIMMs), up to eight hot-swappable 2.5-inch or four hot-swappable 3.5-inch disks, and four low-profile PCIe 3.0 slots (including one internal slot for SAS HBA), which are backward-compatible with the previous generation PCIe slots. The server comes in three disk cage options:

- Four 2.5-inch SAS disk bays for either HDDs or SSDs plus DVD R/W drive
- Eight 2.5-inch SAS disk bays for either HDDs or SSDs
- Four 3.5-inch SAS disk bays for HDDs only

For more information visit Oracle’s Systems wiki

What operating systems have been certified to run on the Sun Server X3-2?

The Sun Server X3-2 is certified to run Oracle Linux, Oracle VM, Oracle Solaris, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware, and Microsoft Windows. To see a list of supported Operating Systems, visit Oracle’s Systems wiki

What software is preinstalled on the Sun Server X3-2?

The customer has the option to request that the Oracle Solaris, Oracle Linux or Oracle VM operating system be preinstalled on the server in the factory.

What system management options are available for the Sun Server X3-2?

All Sun x86 systems come with both single-server and centralized system management tools for no extra charge for support customers.

**Single Server Management Tools**

**Oracle ILOM Service Processor:**
- Remote power control and management through command-line and Web interfaces
- Comprehensive fault detection and notification
- Monitoring through SNMP V1, V2c, V3, IPMI V2.0, and WSMAN
- Advanced power management and fan control
- Full remote Keyboard, Video, Mouse redirection and remote media capability (USB, DVD, CD, and more)

**Oracle System Assistant:**
- Embedded Server Setup application, which allows guided configuration of the hardware
- Firmware, drivers, documentation, and tools embedded within the Oracle System Assistant drive
- Ability to connect back to Oracle for latest firmware, driver, and tool updates

**Oracle Hardware Management Pack:**
- Cross-OS CLI tools and agents for managing hardware from the operating system
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- Command-line tools for RAID configuration, BIOS configuration, Oracle ILOM configuration, and firmware update
- SNMP agent provides monitoring and trip capabilities

**Centralized Management Tool**
**Oracle Enterprise Manager Ops Center**
- Deployment and provisioning of server bare metal
- Cloud and virtualization management for Oracle and third-party hardware
- Inventory control and patch management
- OS observability for performance monitoring and tuning
- Generation of automated service requests
- Ability to connect to Oracle Enterprise Manager systems management
- Control of native Oracle Solaris and Oracle Linux concurrently as well as Red Hat Enterprise Linux or Microsoft Windows when running in virtual machines

Oracle Enterprise Manager Ops Center is the newest addition to the Oracle Enterprise Manager product family. For more information visit Oracle [Enterprise Manager Ops Center](#).

**Is there a choice in system configurations?**
Yes, the Sun Server X3-2 can be fully customized to the configuration specified by the customer through the Oracle factory’s assemble to order (ATO) process.

**What high-availability features are available in the Sun Server X3-2?**
The Sun Server X3-2 offers hot-swappable and redundant RAID-enabled disks, cooling fans, and power supply units. Combining these enterprise-class RAS capabilities with integrated and cloud-ready management tools, the Sun Server X3-2 is designed to maximize uptime, simplify system management, and reduce operations costs.

**Where can I find more information about the Sun Server X3-2?**
Contact an Oracle sales representative directly or call 1-800-Oracle1.
For more information visit:
- [Sun Server X3-2](#)
- [Sun Server X3-2 data sheet](#)

**What are the power requirements for the Sun Server X3-2?**
The online power calculator provides an estimate of the idle and operating power level of the server.
- [Sun Server X3-2 System power calculator](#)

**What is the Automated Service Request Support for Premier Support Customers?**
Automated Service Request (ASR) is one of the features available in Oracle Enterprise Manager Ops Center, whereby potential issues are detected and reported to the Oracle support center without user intervention, ensuring maximum service levels and simplifying support. Oracle Enterprise Manager Ops Center is included at no extra charge for Sun x86 premier support customers.

**What is included with Oracle x86 premium support?**
For Oracle x86 premium support customers, Oracle Solaris, Oracle Linux, Oracle VM, and Oracle Enterprise Manager Ops Center are included at no extra charge.

**What is included in the Sun Server X3-2 base chassis?**
The 1U base chassis includes the motherboard, four low-profile PCIe 3.0 slots (one with 16 lanes and three with 8 lanes; one of the three is internal and is reserved for the SAS HBA), ILOM service processor, Trusted Platform Module (TPM) version 1.2, four onboard 10GbE ports, six USB 2.0 ports (two front, two rear, and two internal; one can be preloaded for Oracle System Assistant), two 600W platinum-
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rated power supplies with up to 94 percent efficiency, one tool-less slide rail kit, and one cable management arm.

The base chassis does not include one of the three supported disk cages, which needs to be ordered separately. DVD comes with the four 2.5-inch disk bays configuration only.