Sun Blade X4-2B
Frequently Asked Questions

Overview

Oracle’s Sun Blade X4-2B is the perfect integration of compute, memory and storage in a single full-height blade form factor for running both virtual and physical workloads. It is the industry’s unique and scalable enterprise-class two-socket x86 blade server with 24 DIMMs supporting the fastest CPU. 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 X4-2B offers breakthrough performance and superior energy efficiency while also reducing cost and complexity of your data center.

A phenomenal growth in network connected devices is driving new IT demands for agility and scalability. Organizations must be able to respond quickly to unpredictable needs for capacity — adding compute power or growing services on demand. At the same time, most datacenters are rapidly running out of space, power and cooling while energy costs continue to rise. Rapid growth must be met with a consolidated and converged infrastructure, controlled and predictable costs, and efficient management practices. The Sun Blade X4-2B with the Sun Blade 6000 chassis offer considerable promise toward addressing these issues through increased compute density, improved serviceability, and reduced levels of complexity.

Compared to the Sun Blade X3-2B, the new Sun Blade X4-2B has greater than 50 percent more processor cores, and up to 35 percent performance gain to making it more compute dense and better performing than the previous generation blade. The Sun Blade X4-2B will support up to 768 GB of memory, 4.8 TB of storage capacity, and 1.6 TB of flash capacity.

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 Blade X4-2B provides the following key customer benefits.

Best Blade for Running Virtualized and Physical Workloads

The versatile Sun Blade X4-2B server module combines unmatched memory bandwidth and large memory capacity with high performance Intel Xeon processor E5-2600 v2 product family CPUs to enable it to run the most demanding virtualized and physical workloads. The Sun Blade X4-2B server module and the high-performance, low-latency Sun Blade 6000 Ethernet Switched Network Express Module 24p 10GbE provide customers with the required bandwidth for eliminating potential network bottlenecks that can occur when a large number of virtual machines are deployed. This switched Network Express Module (NEM) greatly reduces operational expenses by simplifying the IT infrastructure and reducing cables by as much as 4:1. The NEM also helps reduce network acquisition costs by eliminating an entire tier of data center switching.

1 Source: Edison Group, “The Optimized Stack: Reducing Total Cost of Ownership through Vertical Integration.” First publication July 2012.
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World’s Easiest Blade System to Deploy or Upgrade
Unique to the blade server market, the Sun Blade 6000 modular system leverages industry-standard PCIe ExpressModules (EMs) to allow each individual server module to have its own unique I/O personality. The EMs are inserted in the rear of the Sun Blade 6000 chassis, are externally accessible, and require no add-on mezzanine or daughter cards on the server modules. This off-blade hot-swappable I/O module design simplifies initial deployments, thereby reducing time-to-revenue and virtually eliminates downtime for I/O upgrades. EM upgrades can perform up to thirteen times faster than on competing solutions (and with no downtime). Higher uptime percentages translate to consistently met SLAs and reduced operating expenses. Another benefit of this out-of-the-box I/O design is that customers can tailor each individual server module’s I/O to satisfy the specific workload characteristics of the applications it is running. In addition, the Sun Blade X4-2B can leverage chassis-wide NEMs which provide common I/O to every installed server module if they all require the same standard I/O technology (such as single GbE or 10GbE). Unlike the competition, when it comes to I/O and Oracle’s modular blade servers, each server module has a choice!

Industry’s Leading Memory Bandwidth with Power Savings
In addition to its flexible I/O design, the Sun Blade X4-2B was built from the ground up with performance and power savings in mind. The Sun Blade X4-2B can support two low voltage DDR3-1600 dual-rank RDIMMs or quad-rank LRDIMMs per channel operating at 1600 MHz. Compared to other blades in the industry that can only operate high voltage DDR3 RDIMMs at 1067 MHz, this server module gives customers power savings of 480 watts in a 42U rack with Sun Blade X4-2B. When combined with its large memory capacity (24 DIMM sockets), it is easy to see why the Sun Blade X4-2B is the best blade server for running your enterprise virtual and physical workloads.

Frequently Asked Questions

What is the Sun Blade X4-2B?
Packing the optimal balance of compute power, memory capacity, and I/O capability into a compact and energy-efficient full-height form factor, the Sun Blade X4-2B is the most versatile two-socket x86 blade for running virtual and physical workloads.

How does the new Sun Blade X4-2B compare with the Sun Blade X3-2B?
Compared to the Sun Blade X3-2B, the new Sun Blade X4-2B has greater than 50 percent more cores (twelve cores per processor), and up to 35 percent performance gain. The Sun Blade X4-2B is based on the Intel Xeon processor E5-2600 v2 product family, and can scale up to 768 GB of memory using 32 GB load-reduced DIMMs.

What kind of applications and workloads is the Sun Blade X4-2B best suited to run?

Additionally, this server module can support three dual-rank low voltage DDR3-1600 DIMMs per channel operating at 1067 MHz. When compared to other blades in the industry that can only operate high voltage DDR3 RDIMMs at 1067 MHz, this server module gives customers power savings of 480 watts in a 42U rack with Sun Blade X4-2B. When combined with its large memory capacity (24 DIMM sockets), it is easy to see why the Sun Blade X4-2B is the best blade server for running your enterprise virtual and physical workloads.

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2 Component-level hot-swap functionality assumes operating system level support for this function.

3 Based on internal lab results: Sun Blade X6270 server module ExpressModule hot-swap upgrade from 4Gb/s FC to 8Gb/s FC required 30 seconds with no downtime. HP c7000 comparison required 6 minutes and 30 seconds downtime for similar I/O upgrade.

4 Oracle Sun x86 systems can use 1.35V 1600MHz DIMMs (2 per channel) providing a power consumption savings of up to 25W per server (16 DIMMs per server) vs. servers using 1.5V DIMMs in the industry.
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Sun x86 systems are the best x86 platforms for running Oracle software. Delivering the optimal balance of compute power, memory capacity, and I/O capability in a compact full-height blade form factor, the versatility of the Sun Blade X4-2B makes it ideal for running virtual and physical workloads. Examples of some workloads that can be run on Sun Blade X4-2B are as follows:

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 Enterprise Manager, Oracle Directory Manager, and Oracle Identity Manager

What flash storage options are available on the Sun Blade Storage Module M2?
The Sun Blade X4-2B supports the new 400 GB, eMLC Serial Advanced Technology Attachment (SATA-3) SSDs, with a total internal flash capacity up to 1.6 TB. These flash storage options all turbo-charge the blade to run I/O-intensive applications more rapidly and efficiently while consuming up to 80 percent less power than traditional HDDs.

What memory and I/O expansion features are supported on the Sun Blade X4-2B?
The Sun Blade X4-2B has 24 DDR3 DIMM slots, two onboard 10/100/1000 Base-T ports, two PCIe ExpressModule (EM) slots, and two Network Express Module (NEM) slots. For more information on supported EMs and NEMs, please visit the Oracle’s Systems wiki.

What storage options are supported on the Sun Blade X4-2B?
The Sun Blade X4-2B supports four 2.5-inch small form factor drive bays for hard disk drives (HDDs) and solid state drives (SSDs).

What operating systems have been certified to run on the Sun Blade X4-2B?
The Sun Blade X4-2B is certified to run Oracle Solaris Oracle Linux, Oracle VM, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware and Microsoft Windows.

To see a list of supported Operating System versions, visit Oracle’s Systems wiki.

What software is pre-installed on the Sun Blade X4-2B?
The customer has the option to request pre-installation of Oracle Solaris, Oracle Linux or Oracle VM on the server in the factory.

What system management options are available for the Sun Blade X4-2B?
The Sun Blade X4-2B includes an embedded service processor, known as Oracle Integrated Lights Out Manager (ILOM). Oracle ILOM helps to simplify data center management, system configuration, and lifecycle management by providing a rich set of management interfaces for monitoring the health of the server and for remote management.

Each blade/server also include another embedded tool called Oracle System Assistant (OSA), which assists with each step of configuring the server and provisioning the operating system. Using a graphic wizard, OSA checks for firmware and driver updates from Oracle, applies those updates, and then ensures that the operating system is installed correctly with the latest drivers. In addition, OSA can be used to configure RAID, BIOS settings, and Oracle ILOM settings.

The Oracle Hardware Management Pack (HMP) is a set of command-line tools and agents that assist with automating server configuration through tools running on the host.
operating system. These tools provide a means for scripting RAID, BIOS, and ILOM configuration as well as updating all embedded firmware. In addition, HMP provides agents that monitor the health of the storage subsystem and provide remote SNMP monitoring.

Finally, Oracle Enterprise Manager Ops Center is an enterprise tool that can discover and manage all Oracle servers. This tool provides complete life-cycle control of servers by configuring the server, installing the operating system, and configuring virtual machines.

For more information on Oracle Enterprise Manager Ops Center visit: Enterprise Manager Ops Center

Can the server configuration options be customized?
The Sun Blade X4-2B can be 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 Blade X4-2B?
This enterprise-class blade server is designed to leverage all of the reliability, availability and serviceability (RAS) features afforded it by the Sun Blade 6000 chassis in which it resides. All the I/O modules are externally accessible and support redundant configurations. In addition to the chassis components, the Sun Blade X4-2B supports hot-swappable and a redundant set of RAID-enabled disks. Combining the chassis-based RAS features with Oracle ILOM, the Sun Blade X4-2B is designed to maximize uptime, simplify system management and reduce administration costs.

For more information, visit:
Sun Blade Servers

What are the power requirements for the Sun Blade X4-2B?
The online power calculator provides an estimate on the idle and operating power level of the blades.

For more information, visit:
Sun Blade 6000 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 Premier Support for Systems?
For more information, visit:
Oracle Premier Support

Where can I find more information about the Sun Blade X4-2B and other Sun Blade Modular 6000 modular system offerings?
Contact an Oracle sales representative directly or call 1-800-Oracle1 or contact an Oracle authorized reseller.