

Sun Blade X6275 M2 server module

Frequently Asked Questions

October 2011

Overview

Ideal for cloud computing and virtualized environments, the dual-node Sun Blade X6275 M2 server module is Oracle's highest compute density blade server. Combining the Sun Blade 6000 chassis with hot-swappable Sun Blade X6275 M2 server modules and Oracle VM provides customers with an elastic scalability solution that can be rapidly deployed or expanded to meet the dynamic requirements of private clouds. The diskless Sun Blade X6275 M2 leverages the high availability and shared resource infrastructure of the Sun Blade 6000 chassis while also supporting power and cooling efficient low voltage memory and Sun Flash Modules to reduce operating costs.

High-Density Blade for Cloud Computing and Oracle Fusion Middleware

The Sun Blade X6275 M2 server module, with its computing density (24 cores per blade) and large memory footprint (192GB per blade) is uniquely suited to accelerate Oracle cloud computing and virtualized environments. Leveraging its density, computing and memory, the Sun Blade X6275 M2 server module powers the most demanding cloud environment. Combining the Sun Blade X6275 M2 server module with the high-performance, low latency Sun Blade 6000 Ethernet Switched Network Express Module 24p 10GbE provides customers the bandwidth required to accelerate middleware processing. This switched Network Express Module greatly reduces operational expenses by simplifying the IT infrastructure, reducing cables by as much as 4:1 and also helps reduce network acquisition costs by eliminating an entire tier of datacenter switching.

Modular Design

Unique to the blade server market, all Sun Blade Modular Systems leverage industry standard PCIe ExpressModules to allow each individual server module to have its own unique "I/O personality." The ExpressModules 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 swappable¹ I/O module design simplifies initial deployments, thereby reducing time-to-revenue and virtually eliminates downtime for I/O upgrades. ExpressModule upgrades can be performed up to thirteen times faster than competing solutions² (and with no downtime). Higher uptime percentages translate to consistently met SLAs and reduced OpEx costs. Another benefit of this granular I/O assignment is the tailoring of each individual server module's I/O to satisfy the specific workload characteristics of the application. In addition, the Sun Blade X6275 M2 server module can leverage "chassis-wide" Network Express Modules which provide common I/O to every installed server module should they all require the same standard I/O technology (such as GbE, 10GbE others.). When it comes to I/O and Oracle's modular blade servers, unlike the competition, each server module has a choice!

Industry Leading Performance

In addition to its flexible I/O design, the Sun Blade X6275 M2 server module was built, above all else, for computing density and high IOPs. With support for the Sun Flash Modules, tens of thousands of IOPS are now available. Additionally, this server module utilizes the latest six-core Intel Xeon Processor 5600 Series (announced by Intel on February 14, 2011), up to 24 cores per blade. When combining these new enhancements with its large memory capacity (192GB), it is easy to see why the Sun Blade X6275 M2 server module is suited for deploying cloud computing and virtualized environments.

¹ Component level hot swap functionality assumes Operating System level support for this function.

² Based on internal lab results: Sun Blade X6275 M2 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.

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Customer Benefits

With the purpose-built design of the Sun Blade X6275 M2 server module, customers are able to deploy cloud computing infrastructure quickly and accelerate the processing of their Oracle Fusion middleware applications

- Customers face challenges when scaling enterprise web transactions because their current solution cannot overcome the limitations in data tier due to increasing middleware processing. The large memory footprint of the Sun Blade X6275 M2 server module creates an in-memory distributed data grid to synchronize the application tier and database tier. The result is near linear scalability to millions of ops/sec.
- Customers want to deploy private clouds but the integration complexity and deployment takes weeks or months. The Sun Blade X6275 M2 server module, with its dense computing form-factor, is an ideal building block for creating infrastructure solutions for cloud. When combining the Sun Blade 6000 chassis with hot-swappable Sun Blade X6275 M2 server modules and Oracle VM, customers can build a highly elastic solution that can be rapidly deployed or expanded to meet the dynamic requirements of private clouds.

What is the Sun Blade X6275 M2 server module?

The Sun Blade X6275 M2 server module is the latest offering in the dual-node, two-socket Sun Blade X6275 server module product family. The M2 model introduces support for integrated 10 Gigabit Ethernet networking, the Intel Xeon 5600 Series processors, and low-voltage DIMMs.

How many processors are supported in the Sun Blade X6275 M2 server module?

The Sun Blade X6275 M2 server module has four processor sockets (two sockets per compute node). All processor sockets are always fully-populated.

How many memory DIMMs are required?

The Sun Blade X6275M2 server module can support as few as one DIMM or as many as 12 DIMMs per node (24 DIMMs total per blade). At initial release, 4GB and 8GB DIMMs will be offered. Customers benefit from the fact that the Sun Blade X6275 M2 supports power-saving low voltage DIMMs.

What is the IOPS from the Sun Flash Modules?

Each 24GB Sun Flash Module is rated at delivering over 50x more IOPS than HDDs: Up to 25K IOPS random read and 15K IOPS random write performance

How many Sun Blade X6275 M2 server modules are supported in the Sun Blade 6000 chassis?

The Sun Blade 6000 chassis can support ten Sun Blade X6275 M2 server modules. The chassis provides ten slots that can be populated with various combinations of x86 server modules, UltraSPARC server modules or storage modules.

What are the operating systems that have been certified to run on the Sun Blade X6275 M2 server module?

The Sun Blade X6275 M2 is certified to run Oracle Linux, Oracle VM, Oracle Solaris, Red Hat Enterprise Linux, SuSE Linux Enterprise Server, and Windows Server.

Which operating systems are available as factory-install, on the Sun Blade X6275 M2 server module, at zero dollars?

The Sun Blade X6275 M2 server module is ready to factory-install, at no cost to customers, Oracle VM and Oracle Solaris.

What are power, cooling and RAS benefits of Sun Blade Modular Systems?

The Sun Blade server modules contain no power supplies or cooling fans. The server modules rely on the Sun Blade 6000 chassis (in which they reside) for power and cooling support. This greatly reduces the number of “moving parts” located in the server module. This reduction in moving parts leads to higher reliability and better power & cooling efficiencies. The

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power supply and cooling fan modules in the chassis are larger and more efficient than those typically found in rack-mount or standalone servers. Since the power supplies and fans are larger and more efficient, there can be fewer of each, thereby reducing the number of moving parts and increasing system reliability.

How do I manage the Sun Blade X6275 M2 server module? Are there any additional costs?

The Sun Blade X6275 M2 comes standard with the Oracle Integrated Lights Out Manager (ILOM) Service Processor to ease system management. The Integrated Lights Out Manager (ILOM) helps enable centralized system, storage and networking management and can be performed locally or remotely. ILOM helps to simplify datacenter management, system configuration and life cycle management as well as software provisioning and updates. Server modules can be managed individually just as if they were rack-mount servers or they can be managed from the blade chassis perspective.

The Oracle Enterprise Manager Ops Center is the newest addition to the Oracle Enterprise Manager product family. More information can be found at:

<http://www.oracle.com/us/products/enterprise-manager/opscenter/index.html>

What high availability features are available in the Sun Blade X6275 M2 server module?

This enterprise-class blade server is designed to leverage all of the Reliability, Availability and Serviceability features afforded it by the Sun Blade 6000 chassis where it resides. All of the I/O modules are externally accessible and support redundant configurations. In addition to the chassis components the Sun Blade X6275 M2 server module supports Sun Flash Modules, a solid state disk that contains no moving parts. Combining the chassis based RAS features with ILOM, the Sun Blade X6275 M2 server module is designed to

maximize uptime, simplify system management and reduce administration costs.

Is there a choice in system configurations?

Yes, the Sun Blade X6275 M2 server module can be fully customized to the configuration specified by the customer through our factory's ATO (Assemble to Order) process.

Where can I find more information about the Sun Blade X6275 M2 server module and other Sun Blade Modular System offerings?

You can contact your Oracle sales representative directly or call 1-800-Oracle1 or contact your Oracle authorized reseller.

In addition, more information (datasheets, whitepapers etc.) about the Sun Blade X6275 M2 and Sun Blade 6000 Modular Systems can be found on the web at:

<http://www.oracle.com/us/products/servers-storage/servers/blades/index.html>

Where can I find more Sun Blade 6000 Modular System product information, including the Option Cards, Downloads and Firmware, OS's and External Storage Options?

You will find this information on the external blades wiki <http://wikis.sun.com/x/ywv5Cw>

What is the availability of the Sun Blade X6275 M2 server module?

This server is available for sale.

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