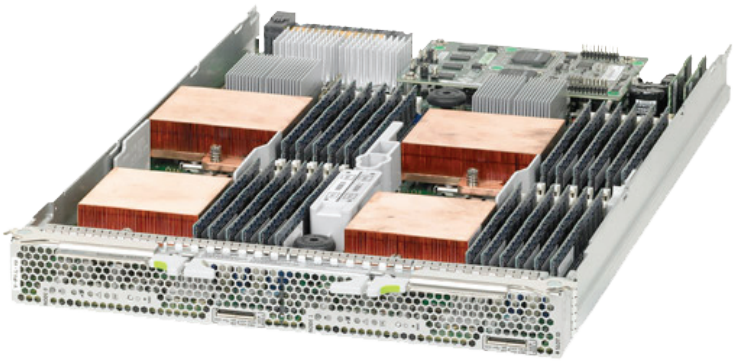
Intel® Xeon® Processor-based servers

Sun Blade™ X6275 Server Module

The Blades For Your Most Compute Intensive Applications



Highlights

- High-density, dual-node, two-socket server module with high-performance Intel Xeon processor 5500 series CPUs to run the most demanding applications
- 12 DDR3 DIMM slots per node provide capacity for up to 192 GB of memory
- Two models to choose from:
  - Sun Blade X6275 IB supported in Sun Blade 6048 Modular System (On-board QDR InfiniBand)
  - Sun Blade X6275 GbE supported in Sun Blade 6000 and 6048 Modular Systems (On-board standard GbE)
- SATA-based Sun Flash Modules provide storage acceleration and are a reliable low-power boot source to this power-efficient blade
- Modular design is highly efficient and serviceable without compromising performance or scalability
- Ease of management with Sun™ xVM Ops Center or third-party software; no additional training required

The dual-node, two-socket Sun Blade X6275 server module provides optimal density and price/performance for compute-intensive applications. At 64 Gb/sec (bidirectional) bandwidth, the Sun Blade X6275 IB model leverages on-board QDR IB HCAs to provide maximal throughput and low latency. By deploying the Sun Blade X6275 IB model as part of the Sun™ Constellation System, you can double the number of nodes in a Sun Blade 6048 chassis to 96, reducing floor space as well as management and support costs. Combining the Sun Blade X6275 IB server module with the Sun Blade 6048 IB QDR Switched NEM enables support for petascale clusters. Powered by Intel Xeon processor 5500 series CPUs with Intel QPI, Turbo Boost, and Hyper-Threading Technologies to run the most demanding applications, it peaks at 9 TFLOPS per fully populated Sun Blade 6048 chassis. The Sun Blade X6275 GbE model leverages standard GbE interfaces and the Sun Blade 6000 chassis to deliver extreme compute density to the blade server mid-market.

Consistent with all Sun Blade platforms, I/O is hot pluggable, and externally accessible for ease of serviceability. In addition, only Sun Blade systems offer unique I/O per server module for maximum flexibility. The Sun Blade X6275 server modules come equipped with on-board service processors that enable each node to be managed like an individual rack mount server. In addition, the Sun Blade X6275 server modules help customers scale their computing resources without adding complexity. When combined with Sun's rich portfolio of software, storage, and service offerings, these server modules help reduce cost and complexity while accelerating time to revenue for the most demanding applications and simulations.

Sun Blade X6275 Server Module Specifications

Architecture

Available models

- Sun Blade X6275 IB supported in Sun Blade 6048 Modular Systems (On-board GbE and QDR InfiniBand)
- Sun Blade X6275 GbE supported in Sun Blade 6000 and 6048 Modular Systems (On-board GbE)

Processor (per compute node)

- Two four-core Intel Xeon processors 5500 series; 95 W, 80 W, and 60 W

Cache

- Level 1: 32 KB instruction and 32 KB data L1 cache per core
- Level 2: 256 KB unified (data and instruction) L2 cache per core
- Level 3: 8 MB shared inclusive L3 cache per processor

Main memory (per compute node)

- Multiple DDR3 DIMM sizes supported with speeds up to 1,333 MHz
- 12 DIMM slots supporting up to 96 GB of memory per compute node

Interfaces

Network (per computer node)

- One 10/100/1000Base-T Ethernet port to a NEM slot using the Intel 82567 GbE Controller
- One (shared) 10/100Base-T Ethernet port for the management network
- One (x8) PCIe 2.0 bus to a PCIe ExpressModule (EM) slot
- One 4x QDR IB port to the NEM slot (X6275 IB model)

Storage (per computer node)

One 3 Gb/sec SATA interface to a Sun Flash Module

Graphics

Embedded graphics using the AST2100 video controller with 128 MB of shared memory

Front panel I/O

- Available via dongle cable:
  - VGA graphics (DB-15 connector)
  - Serial console to server module on-board Integrated Lights Out Manager (ILOM) (RJ-45 connector)
  - Dual USB ports for keyboard, mouse, or storage

Software

Operating System

(For specific OS version support information please refer to http://www.sun.com/servers/blades/os.jsp)

- Solaris 10 OS
- OpenSolaris™ OS
- CentOS
- Red Hat Enterprise Linux 4 (64-bit)
- Red Hat Enterprise Linux 5 (64-bit)
- SUSE Linux Enterprise Server 10 (64-bit)
- SUSE Linux Enterprise Server 11 (64-bit)
- Windows Server 2008 (64-bit)

Management

- Advanced on-board management and monitoring enabled by embedded ILOM service processor providing DMTF-style CLI
- Support for SSH 2.0, HTTPS, RADIUS, LDAP, and Microsoft Active Directory
- Browser-based GUI for control of the system through a graphical interface
- IPMI 2.0; SNMP v1, v2c, v3
- Remote management with full keyboard, video, mouse, storage (KVMS) redirection and remote media capability (floppy, DVD, CD, and more)
- Monitor and report system and component status on all FRUs
- Optional Sun xVM Ops Center software — generation of profiles to ensure compliance and compliance reporting, discovery and registration of datacenter assets, job scheduling to perform network tasks, system provisioning, and updates to Linux

Learn More

To learn more about the Sun Blade X6275 server module, go to sun.com/x6275.

I/O modules

- Supported I/O module form factors:

- PCIe (1.1 and 2.0) ExpressModules (EMs)
- Network Express Modules (NEMs)

- Up to two industry-standard (PCI-SIG) form factor, hot-pluggable PCIe EMs per server module
- Available EMs:
  - Gigabit Ethernet
  - Ten Gigabit Ethernet
  - Fibre Channel
  - InfiniBand
  - Serial Attached SCSI (SAS)

Several multi-Fabric NEMs are available, for additional I/O module information please refer to: sun.com/servers/blades/iomodules

Dimensions and weight

Height: 327mm (12.87 in.)

Width: 43mm (1.7 in.)

Depth: 512mm (20.16 in.)

Weight: 9.4 kg (@20.61 lbs.) max. (with 24 RDIMMs (4 GB RDIMMs) and four Intel Xeon processors 5500 series)

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