

Sun Blade™ X6450 Server Module

World-class four-socket performance



Highlights

- Intel® Xeon® processors 7000 series provide up to 24 processing cores of highly scalable performance
- Up to 192 GB of memory in 24 DIMM slots per server module—50 percent more memory capacity than competing blade servers
- Engineered for superior availability—with no disks, fans, or power supply units on the server module
- All I/O is off server module, hot pluggable, and externally accessible for ease of serviceability—plus only Sun Blade™ server modules offer unique I/O per blade for maximum configuration flexibility
- Operating system flexibility—runs the Solaris™ 10 OS, Linux, Windows, or VMware
- Supported in both the Sun Blade™ 6000 and Sun Blade™ 6048 modular systems—to offer the most power-efficient compute density
- Sun Blade transparent management—direct management of each server module for seamless integration into existing management infrastructure
- Instantly speed up I/O intensive application performance with Flash technology

The four-socket Sun Blade™ X6450 server module leverages two or four Intel Xeon processors 7000 series for blazing-fast performance. A powerful system that enables you to do more with less, the Sun Blade X6450 server module is ideal for virtualization and server consolidation, high-performance computing (HPC), and database and enterprise applications, due to its enhanced speed and efficiency. It can provide up to 11 TFLOPS of peak performance per fully populated Sun Blade 6048 modular system, at 1,152 cores per rack—that's up to 71 percent more compute power than competing blade servers.

The innovative diskless configuration of the Sun Blade X6450 server module is designed to boot from SAN or CompactFlash (CF), which provides greater security while consuming less power. With up to 192 GB of memory in 24 DIMM slots per server module, it has 50 percent greater memory capacity than rival blade servers. The Sun Blade X6450 server module comes with internal storage and integrated network connectivity. This scalable server module provides maximum ROI and gives you the headroom you need to expand your datacenter along with your business—without adding complexity. The Sun Blade X6450 server module is available with the Sun Blade 6000 and 6048 modular systems. With hardware-level virtualization, the

Sun Blade X6450 server module offers enhanced energy efficiency to reduce power and cooling costs, and its denser design can help reduce size without compromising performance. This versatile system runs the Solaris, Linux, Windows, and VMware operating systems, to ease standardization on a single hardware platform. It also enables you to run your existing 32-bit applications on the same hardware as you upgrade to next-generation 64-bit applications.

Because it fits so much processing power into a compact footprint, the Sun Blade X6450 server module enables you to maximize availability with redundant deployment in the datacenter.



Sun Blade X6450 Server Module Specifications

This server module also provides streamlined local or remote management and monitoring via a dedicated service processor. It further enables enterprise-class reliability through ECC and Chipkill technology, along with redundant, hot-swappable power supplies and fans that are standard in the Sun Blade 6000 and 6048 modular systems.

The eco-efficient, highly serviceable system scales up, out, and within: It provides integrated networking connectivity and enhanced cost-effectiveness, and can be combined with Sun's rich portfolio of software, storage, and service offerings to bring new competitive advantages to your datacenter.

Architecture

Processors

- Two or four Intel Xeon processors 7000 series, with up to six cores and up to 16 MB cache per CPU
- Server module provides choice of 50 W, 65 W, 80 W, or 90 W per processor socket for optimal power efficiency

Main memory

- Support for 2 GB, 4 GB, and 8 GB PC2-5300 fully buffered DIMMs at 667 MHz
- 24 DIMM slots supporting up to 192 GB of memory per server module

Interfaces

Network

- Two 10/100/1000 Base-T Ethernet ports using the Intel 82563EB Gigabit Ethernet (GbE) transceiver
- One dedicated 10/100 Base-T Ethernet port for the management network

Storage

- Four SAS interfaces to the midplane, two to each Network Express Module (NEM)

- IDE CompactFlash Module Interface (Type I)
- Internal SATA solid-state drive (SSD) interface

Graphics

- Embedded graphics using the AST2000 video controller with 128 MB of shared SDRAM

Midplane I/O

- Two x8 PCI Express (PCIe) busses, one x8 PCIe bus to each of the PCIe ExpressModules (EMs)
- Two x4 PCIe busses, one x4 bus to each of the NEMs
- Four 3 Gb/sec SAS interfaces, two to each NEM
- Two 10/100/1000 GbE interfaces, one per NEM
- 10/100 Ethernet management port to Chassis Monitoring Module (CMM)
- Available RAID 5 support with Sun PN X4620A
- Available 10 GbE performance with Sun PN X1029A-Z

Front-panel I/O

Available via dongle cable:

- VGA graphics (DB-15 connector)
- Serial console server-to-server module on-board lights-out management
- Dual USB ports for keyboard, mouse, or storage

Software

Operating systems

- Solaris™ 10 Operating System
- Red Hat Enterprise Linux Advanced Server
- SUSE Linux Enterprise Server
- Windows Server 2003, Standard and Enterprise Editions (32-bit/64-bit)
- Windows Server 2008, Datacenter Edition
- VMware ESX Server

Learn More

To learn more about the Sun Blade X6450 server module, go to sun.com/x6450.

Networking

ONC™, ONC+™, NFS, WebNFS™, TCP/IP, SunLink™, OSI, MHS, IPX™/SPX, SMB Technologies, and XML

Management

Advanced on-board management and monitoring enabled by embedded Integrated Lights Out Manager (ILOM) service processor, providing:

- DMTF-style command line
- Support for SSH 2.0, HTTPS, RADIUS, LDAP, and MS Active Directory
- Browser-based GUI
- IPMI 2.0; SNMP v1, v2c, v3
- Local and remote KVM (keyboard, video, mouse) and media (CD, floppy, USB)
- Optional Sun xVM Ops Center – 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 and the Solaris™ OS

Dimensions

- Height: 44.45 mm (1.75 in.)
- Width: 327.15 mm (12.88 in.)
- Depth: 496.82 mm (19.56 in.)
- Weight: 6.91 kg (15.24 lbs.) empty—no memory, REM, or FEM
- Weight: 7.97 kg (17.58 lbs.) fully configured