

SUN BLADE 6048 CHASSIS

KEY FEATURES

THE BLADE PLATFORM FOR SUPERSCALE HPC

- 32.7 Terabit-per-second high-bandwidth chassis provides headroom for future CPU and I/O architectures
- Unique ability to assign I/O to specific blade server module within chassis
- Mix and match up to 48 server modules across three leading CPU architectures
- Manage configurations across different CPU architectures, using built-in Chassis Management Module (CMM)
- Hot-swappable, hot-pluggable, and redundant power supply modules and fan modules
- Optional Sun Cooling Door removes up to 100% of heat generated by chassis
- Optional InfiniBand Network Express Module (NEM) allow server-to-server communication up to 80 Gigabit-per-second bandwidth

Your superscale HPC project is pressured by recent trends and constraints—the move to multicore processors is driving increasingly larger node sizes; the ceiling of power and cooling resources; the growing complexity of management; and the ongoing needs for expansion, repairs, and upgrades. Overcome these challenges with Oracle's Sun Blade 6048 Chassis. The foundation of the Sun Blade 6048 modular system, this chassis is designed to support the latest I/O technologies and the most advanced rack-level cooling solutions.



The blade platform for superscale HPC

High Performance and Scalability

The Sun Blade 6048 Chassis supports server modules running industry-leading Intel Xeon, UltraSPARC, and AMD Opteron processors, for improved performance and flexibility. It offers capacity for as many as 192 processor sockets (1,152 compute cores), up to 12 TB of system memory, and up to 11 TFLOPS of performance. The Sun Blade 6048 chassis uses industry-standard PCI Express (PCIe) I/O architecture, reducing proprietary lock-in and simplifying network integration. The chassis' modular design features redundant, hot-swappable, hot-pluggable modules for system management, I/O, servers, networking, and infrastructure, including power and cooling. These modules can be upgraded independently or enhanced with new technology or infrastructure expansions, providing extreme scalability to accommodate future growth.

Unlimited Flexibility

The Sun Blade 6048 Chassis leverages a unique unibody rack design that eliminates independent racks and chassis while saving approximately 500 lb. per rack to reduce stress on data center floors. It contains four shelves—each holding up to 12 server modules—for a total of 48 server modules per system, along with up to four Sun QDR InfiniBand NEMs and up to 96 PCIe Express Modules (EMs). The system's modular I/O design and native PCIe 2.0 midplane enable a mixture of individual server modules configured with different I/O modules. The performance of the Sun Blade 6048 chassis can be maximized with the compact and scalable Sun Blade 6048 chassis IB NEM—the industry's only chassis-integrated leaf switch, and with the fastest available QDR Host Channel Adapters.

Sun Blade 6048 Chassis Specifications

Architecture

Form factor

Unibody design holding up to 48 server modules (four shelves per chassis, 12 server modules per shelf). Optional 2U chassis expansion module provides additional rack space for mounting standard 19 in. components, such as switches

I/O interfaces

The Sun Blade 6048 chassis midplane supports the following protocols: PCIe 2.0, SAS 2.0, SATA 3.0, Gigabit Ethernet (GbE), 10 GbE, Fibre Channel (FC), and IB. Each server module has a direct connection to two PCIe EMs for discrete I/O connectivity and two QDR IB NEMs for aggregate I/O connectivity

I/O modules

- Up to 96 EMs per chassis
- Up to eight NEMs per chassis
- All I/O modules based on industry standard PCI Express

Manageability

Chassis monitoring modules (CMMs)

- One per shelf, four per chassis
- Helps enable remote connection to the service processor on each server module
- Reduces cabling by providing a single management connection to the chassis
- Helps ensure complete remote lights-out manageability of each shelf in the chassis
- Provides an optional aggregation point for monitoring of chassis shelf fans and power supplies with the CMM's own Integrated Lights Out Manager (ILOM) module

Subassembly Weights

Server module

5.78–7.86 kg (12.75–17.3 lb.)

Power supply module

13.6 kg (30 lb.)

NEM

2.12–6.8 kg (4.68–15 lb.)

PCIe EM



0.35 kg (0.78 lb.)

Rear fan module

1.04 kg (2.31 lb.)

CMM

0.3175 kg (0.7 lb.)

Front fan module

0.88 kg (1.95 lb.)

Front indicator module

0.34 kg (0.75 lb.)

AC Power

General

Eight power supply modules per chassis, two per shelf—high efficiency, hot swappable, 1+1 redundant, load sharing, load balancing

AC power

1+1 PSU rating: 9,408 W or 9,600 VA (each power supply module); 8,400 W DC output power (three 2,800 W cores, 24 AC inputs used)

Note: Can be configured for 5,600 W DC output power (two 2,800 W cores, 16 AC inputs used).

Voltage

200–240 V AC

Frequency

50–60 Hz

Current

16 A per power supply input; total 24 AC inputs (three per power supply module) at 8,400 W; 16 AC inputs (two per power supply module) to achieve 5,600 W

AC input connection

- Americas/domestic: NEMA L6-20P to IEC 320-C19M
- International: IEC 309 to IEC 320-C19

Component Dimensions and Physical Specifications

Chassis height

2,073 mm (81.61 in.)

Chassis depth

1,024.58 mm (40.34 in.)

Chassis width

606.5 mm (23.88 in.)

Chassis weight of a fully configured system

1,043 kg (2,300 lb.)

Chassis weight of an empty system with doors (no fillers)

487.73 kg (1,075.26 lb.)

Warranty

Visit oracle.com/sun/warranty for Oracle's global warranty support information on Sun products.

Services

Visit oracle.com/sun/services for information on Oracle's service program offerings for Sun products.

Contact Us

For more information about Oracle's Sun Blade 6048 chassis, please visit oracle.com/sun or call +1.800.786.0404 to speak to an Oracle representative.



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