

Sun Datacenter InfiniBand Switch 36

A high-performance data switch for enterprise applications



Highlights

- Low-latency, 40 Gb/sec fabric for clustered databases, high-performance computing (HPC), high-performance storage, and converged datacenter fabrics
- Suitable for use in environments demanding high availability (HA) in the network infrastructure
- Full nonblocking 36-port quad data rate (QDR) InfiniBand (IB) switch in a 1U form factor
- Embedded IB management module to optimize resource utilization
- Self-contained fabric solution for smaller clusters, and switch “building block” for multitiered fabrics
- Reduces the cost and complexity of delivering small- to moderate-scale IB cluster solutions



The Sun™ Datacenter InfiniBand Switch 36 enables you to bind Sun Blade and Sun Fire™ servers and storage solutions into a highly scalable, space-efficient, flexible, high-performance cluster. This multipurpose switch can act as a self-contained fabric solution for smaller IB clusters or as a “building block” for hierarchical fabric topologies supporting larger clusters of Sun Blade or Sun Fire servers and storage systems. When deployed in pairs, the IB fabric provides a highly available and resilient network for business-critical applications. The Sun Datacenter InfiniBand Switch 36 has the flexibility and scalability you need to support multiple-usage models. It ensures that you derive the maximum value from your Sun server investment while making the fullest use of your IT resources — to provide you with a strategic, competitive advantage in the market.

Flexible deployment, fabric intelligence, availability, and scalability

The Sun Datacenter InfiniBand Switch 36 joins the Sun™ Datacenter InfiniBand Switch 648 in Sun’s third-generation family of IB switches. These QDR IB switches afford extreme density and unrivaled cable aggregation for Sun Blade and Sun Fire servers and storage. With hardware support for adaptive routing, and IB 1.2 congestion control to dynamically reroute traffic, fabrics built upon Sun’s QDR switch family alleviate clogged switch ports and restrict process traffic causing bottlenecks — eliminating hot spots in the fabric and driving maximal throughput at the lowest possible latencies.

Leveraging the properties of the IB architecture, and provisioned with redundant power and cooling, the Sun Datacenter InfiniBand Switch 36 enables high-performance fabrics to be deployed in demanding HA datacenter environments — with advanced features that support the creation of logically isolated subclusters, as well as traffic isolation and quality of service (QoS) management, preventing faults from causing costly service disruptions. The embedded IB fabric management module is enabled to support active/hot-standby dual-manager configurations, ensuring a seamless migration of the fabric management service in the event of a management module failure.

Every datacenter is set up differently, and each business has its own specific high-performance requirements. Sun offers a range of services to integrate the Sun Datacenter InfiniBand Switch 36 into your IT infrastructure. These services include SunSM HPC Quick Start Services, to ensure proper configuration prior to deployment; our SunSM Eco Services Suite, to address your need to

control energy and heating/cooling costs; the Sun Customer Ready program, so your system arrives integrated and ready to deploy; and SunSpectrumSM Support, Sun's best-of-breed integrated hardware and software support, to protect your IT investment. We also offer remote support, performance monitoring, and inventory management services through SunSM Managed Operations Services.

Learn More

To learn more about the Sun Datacenter InfiniBand Switch 36, go to: sun.com/dcs36. To learn more about all of Sun's IB solutions, go to: sun.com/networking.

Sun Datacenter InfiniBand Switch 36 Specifications

Switch architecture

- Full nonblocking architecture
- 36 ports supporting QDR/dual data rate (DDR)/single data rate (SDR) IB
- Embedded management module for IB subnet management — provides IPMI and “shelf management”
- Redundant power and cooling
- LED indication of physical and logical link status

Interconnect system

- 36 4x ports utilizing standard QSFP connectors
- Supporting passive copper cables up to 5m and active cables beyond 5m
- Cable serial number in NVRAM readable by the embedded management module
- Cable insertion detection

Switch specifications

Data throughput: 2.3 Tb/sec (bidirectional)

Port-to-port latency: 100 ns QDR

Data virtual lanes: Eight

Management virtual lanes: One

MTU: 4,096 bytes

HA features

- Redundant power supplies and fans
- Embedded IB management module enabled for redundant fabric management
- Logical network isolation — enables creation of isolated “virtual clusters” that are supported by the same switch
- Support for traffic isolation and QoS management

- “Hitless” IB management failover — supports active/hot-standby dual-manager configuration

Management capabilities

- Sun Integrated Lights Out Manager (iLOM) chassis management platform
- Monitors all critical chassis functions
- Supported management protocols: IPMI v1.5/v2.0, SNMP v1/v2c/v3, SSH, HTTP/HTTPS, syslog
- Connectors: Two 100Base-T Ethernet — one USB port
- Dual Ethernet management ports enable “daisy chaining” the management connections for multiple switches
- Automatic connectivity verification
- Embedded IB subnet manager designed for complete fabric solution
- IB 1.2-compliant managers and agents

Power requirements

- Ships with two hot-swappable power supplies
- Redundant power
- AC input power: 320 W maximum

Thermal management

Airflow: Rear to front — power supply to fabric connectors

Dimensions and weight

Height: 44.5mm (1.75 in.) 1U

Width: 445mm (17.52 in.)

Depth: 609.6mm (24 in.)

Weight: 11.4 kg (23 lbs.)

Serviceability

CRUs: Power supply unit, fan module, and battery

Warranty: One year

Enclosure hardware support: Three years

Call response: Eight hours

Environmental

AC power: 100–240 V AC, 47–63 Hz

Operating temperature: 10° C to 35° C (41° F to 89.6° F)

Relative humidity: 5–85%, noncondensing, 27° C max. wet bulb

Regulatory

Safety: UL/CSA 60950-1, EN 60950-1, IEC 60950-1 CB Scheme with all country deviations

Ergonomics: EK1-ITB-2000

RFI/EMC: EN 55022/CISPR 22, Class A, FCC CFR 47 Part 15 Class A, EN 61000-3-2, EN 61000-3-3

Immunity: EN 55024/CISPR 24

Regulatory marks: CE, FCC, ICES-003, C-Tick, VCCI, GOST-R, BSMI, KCC, UL/cUL

Recommended services

Sun Eco Services Suite

Sun Customer Ready program

Sun HPC Quick Start Services

SunSpectrum Support

Sun Managed Operations Services

Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 USA **Phone** 1-650-960-1300 or 1-800-555-9SUN **Web** sun.com

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