



Data Sheet

Cisco High Performance Subnet Manager 1.1

Industry-leading Subnet Manager supports the demands of the largest heterogeneous InfiniBand fabrics.

PRODUCT OVERVIEW

As InfiniBand networks are deployed in larger and more mission-critical environments, reliability with scale becomes increasingly important. Network administrators also demand open standards for flexible deployment of heterogeneous equipment. Although InfiniBand protocols have become standardized by the OpenFabrics Alliance, these fabrics have been limited by the proprietary nature of subnet managers; InfiniBand vendors have only supported homogeneous fabrics using their own subnet manager.

The Cisco® High Performance Subnet Manager is the industry's first subnet manager to commercially support scalable, multi-vendor InfiniBand networks. It is a standalone software package that supports heterogeneous, multi-vendor InfiniBand Networks. The Cisco HPSM complements the embedded subnet manager on the SFS 7000 and 7008 by offloading the subnet manager function from the embedded processors on InfiniBand switches,

This optimization allows the Cisco High Performance Subnet Manager to scale under the most demanding loads, where rapid cluster startup and real-time diagnostic capabilities are critical. The HP subnet manager provides real-time high availability by synchronizing fabric databases between active and standby nodes. Unlike other subnet managers designed for smaller clusters, the Cisco High Performance Subnet Manager can fail over without bringing down the fabric or disrupting service. This becomes even more critical in large clusters where mean time between failure (MTBF) must be minimal, and in enterprise-class InfiniBand fabrics where downtime is never an option.

The Cisco High Performance Subnet Manager provides a powerful foundation for delivering real-time information about the fabric to system-wide management tools, such as CiscoWorks LAN Management System (LMS) that consolidates InfiniBand and Ethernet fabric management on a single management console. This provides scalable configuration management and diagnostics for large networks, which is essential for optimizing uptime and overall performance. The Cisco High Performance Subnet Manager delivers advanced proactive diagnostic capabilities, including topology verification and real-time event response for taking immediate corrective action when errors are discovered.

KEY FEATURES AND BENEFITS

Benefits

The Cisco SFS High Performance Subnet Manager provides the following customer benefits:

- Reliably supports scalable, multi-vendor InfiniBand networks.
- Proven rapid fabric discovery allows clusters as large as 4500 nodes to be discovered in less than a minute.
- Eliminates the most critical single point of failure by offering hitless failover between subnet managers using active database synchronization.
- Provides real-time fabric information to system-wide management tools such as CiscoWorks LAN Management System (LMS).

Features

- Tested support in multi-vendor environments using heterogeneous host channel adapters (HCAs), switches, and OpenFabrics Enterprise Distribution protocols
- Integrated performance management, including user-defined thresholds for generating traps and log messages; this is fully distributed across agent processes, reducing the load on both the InfiniBand network and the subnet manager required for monitoring links for error and utilization thresholds
- Database-synchronization capability to provide synchronized runtime state to standby subnet manager
- Validation of paths between endpoints, by fully qualifying and testing routes
- Ability to display numerous InfiniBand network attributes, including nodes, ports, forwarding tables, partitions, services, multicast groups, and trap registrations
- Fast SA (Subnet Agent) query response capability
- Support for all variable link capacities included in the InfiniBand 1.2 specification, including 1x, 4x, 8x, and 12x; and single data rate (SDR), double data rate (DDR), and quadruple data rate (QDR)
- Smart routing algorithms including knowledge of link capacities, maximizing the capacity and minimizing latency between any two endpoints in the network

SYSTEM REQUIREMENTS

Table 1 lists the system requirements for the Cisco High Performance Subnet Manager, and Table 2 lists the supported InfiniBand switches.

Table 1. System Requirements

Disk Space	20 MB of Storage (Additional Storage for Logging)
Hardware	2-GHz processor
Memory	2+ GB of RAM
Operating System	Red Hat Enterprise Linux 4 and SLES9

Table 2. InfiniBand Switch Support

Switch Compatibility	Supported switches include: Cisco SFS 7000, SFS 7008, SFS 7012, SFS 7024, SFS 3001, and SFS 3012
Third-Party Switch Compatibility	The Cisco High Performance Subnet Manager also commercially supports a mixed fabric that includes InfiniBand switches and InfiniBand HCAs from other InfiniBand vendors, using one of the following driver stacks: the OpenFabrics Enterprise Distribution, Cisco Linux drivers for InfiniBand, and Cisco Windows drivers for InfiniBand.

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FOR MORE INFORMATION

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