



SWITCH SYSTEM

PRELIMINARY

IS5070 and IS5075

12-port 120Gb/s (CXP) Non-blocking Managed InfiniBand Switch Systems

The IS5070 and IS5075 switch systems provide the highest-performing fabric solutions in a 1RU form factor by delivering 2.88Tb/s of non-blocking bandwidth to High-Performance Computing and Enterprise Data Centers, with 100ns port-to-port latency. Built with Mellanox's 4th generation InfiniScale® IV InfiniBand switch device, the IS5070 and IS5075 provides full bidirectional bandwidth up to 120Gb/s (per CXP port). These stand-alone switches are an ideal choice for top-of-rack leaf connectivity or for building small to medium sized clusters. The IS5070 and IS5075 are designed to carry converged LAN and SAN traffic with the combination of assured bandwidth and granular Quality of Service (QoS).

Sustained Network Performance

The IS5070 and IS5075 enables efficient computing with features such as static routing, adaptive routing, and advanced congestion management. These features ensures the maximum effective fabric bandwidth by eliminating congestion hot spots. Whether used for parallel computation or as a converged fabric, the IS5000 family of switches provides the industry's best traffic-carrying capacity. Using 120Gb/s cables over CXP connectors reduces the number of cables for inter-switch links by a factor of three.

World-Class Design

The IS5070 and IS5075 are an elegant top of the rack design, that are designed for performance, serviceability, energy savings and high-availability. The design is optimized for fitting into industry-standard racks and also for scale-out computing solutions from industry leaders. The IS5070 and IS5075 support reversible airflow making the design fit into data centers with different thermal designs. Redundant and hot swappable power supplies and fans provide high availability for both High-Performance Computing and Enterprise Data Center applications. Status LEDs for fans and power supply units are placed on both sides of the system for easy status identification. Quick start guide, rack mount kit, AC power cord and RJ45 to DB9 console cables are provided as part of the standard system providing new levels of out of the box experience and performance.

FabricIT™ - The Fabric Manager

FabricIT™ delivers complete fabric management and chassis management. FabricIT fabric management running on the IS5070 enables management up to 108 nodes and the IS5075 enables management up to 2000 nodes. FabricIT enables fast setup for cluster bring-up, fabric-wide bandwidth & latency verification, and various diagnostic tools to check node-node, node-switch connectivity and cluster topology view. FabricIT chassis management is embedded in IS5070 and IS5075 and provides administrative tools to manage the firmware, power supplies, fans, ports, and other interfaces. Various threshold parameters can be set and the chassis can be managed inband and outband.



IS5070



IS5075

BENEFITS

- Industry's first 120Gb/s per port switch systems reduces the number of cables by a factor of 3
- Industry-leading, switch platform in performance, power, and density
- Highest ROI - designed for energy and cost savings
- Ultra low latency
- Granular QoS for Cluster, LAN and SAN traffic
- Quick and easy setup and management
- Maximizes performance by removing fabric congestions
- Fabric Management for cluster and converged I/O applications

KEY FEATURES

- 2.88Tb/s switching capacity
- Signal optimization for longer cable length
- Quality of Service enforcement
- Up to 6 virtual subnets
- Temperature sensors and voltage monitors
- Reversible air flow
- Redundant power supplies
- Replacable fan drawers
- Fan speed controlled by management software

INFINIBAND

- IBTA Specification 1.2.1 compliant
- Integrated subnet manager agent
- Adaptive routing
- Congestion control
- 256 to 4Kbyte MTU
- 9 virtual lanes: 8 data + 1 management
- 48K entry linear forwarding data base
- Port Mirroring

MANAGEMENT

- Fast and efficient fabric bring-up
- Fabric-wide bandwidth verification
- Comprehensive chassis management
- Mellanox API for 3rd party integration
- Intuitive CLI and GUI for easy access

HARDWARE**INFINIBAND SWITCH**

- 12 CXP ports
- Up to 120Gb/s per CXP port
- Fully non-blocking architecture

MANAGEMENT PORTS

- RS232 Console (RJ45)
- Ethernet (RJ45)

CONNECTORS AND CABLING

- CXP connectors
- Passive copper cable
- Active copper and fiber cables
- Fiber media adapters

INDICATORS

- Per port status LED Link, Activity
- System status LED System, fans, power supplies

POWER SUPPLY

- Dual redundant slots
- Hot plug operation
- Input range: 100 - 240VAC
- Frequency: 50-60Hz, single phase AC

FANS

- Replaceable fan tray
- Status LED location on the FRU
- Optional Reversible air flow
- Fan speed controlled through management software

**COMPLIANCE****SAFETY**

- US/Canada: cTUVus
- EU: IEC60950
- International: CB

EMC (EMISSIONS)

- USA: FCC, Class A
- Canada: ICES, Class A
- EU: EN55022, Class A
- EU: EN55024, Class A
- EU: EN61000-3-2, Class A
- EU: EN61000-3-3, Class A
- Japan: VCCI, Class A

ENVIRONMENTAL

- EU: IEC 60068-2-64: Random Vibration
- EU: IEC 60068-2-29: Shocks, Type I / II
- EU: IEC 60068-2-32: Fall Test

ACCOUSTIC

- ISO 7779
- ETS 300 753

OPERATING CONDITIONS

- Operating 0°C to 45°C,
Non Operating -40°C to 70°C
- Humidity: Operating 5% to 95%,
Non Operating 5% to 95%
- Altitude: Operating -60 to 2000m,
Non Operating -60 to 2000m
- Noise: 55dB - Noise reduction by controlling fan speed

OTHERS

- RoHS-5 compliant
- Rack-mountable, 1U
- 1-year warranty

Ordering Part Number	Description
MIS5070D-1SFC	InfiniScale® IV DDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, Chassis Manager and FabricIT EFM support for 108 nodes, PSU side to connector side airflow standard depth (23.76") with rack rails
MIS5070D-1BRC	InfiniScale® IV DDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, Chassis Manager and FabricIT EFM support for 108 nodes, Connector side to PSU side airflow short depth (15.75") with rack rails
MIS5070Q-1SFC	InfiniScale® IV QDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, Chassis Manager and FabricIT EFM support for 108 nodes, PSU side to connector side airflow standard depth (23.76") with rack rails
MIS5070Q-1BRC	InfiniScale® IV QDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, Chassis Manager and FabricIT EFM support for 108 nodes, Connector side to PSU side airflow short depth (15.75") with rack rails
MIS5075D-1SFC	InfiniScale® IV DDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, support for FabricIT EFM, support for 2000 nodes, PSU side to connector side airflow standard depth (23.76") with rack rails
MIS5075D-1BRC	InfiniScale® IV DDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, support for FabricIT EFM, support for 2000 nodes, Connector side to PSU side airflow short depth (15.75") with rack rails
MIS5075Q-1SFC	InfiniScale® IV QDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, support for FabricIT EFM, support for 2000 nodes, PSU side to connector side airflow standard depth (23.76") with rack rails
MIS5075Q-1BRC	InfiniScale® IV QDR InfiniBand Switch, 12 CXP ports, 1 Power Supply, support for FabricIT EFM, support for 2000 nodes, Connector side to PSU side airflow short depth (15.75") with rack rails



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085
Tel: 408-970-3400 • Fax: 408-970-3403
www.mellanox.com

© Copyright 2009. Mellanox Technologies. All rights reserved.
Mellanox, ConnectX, InfiniBlast, InfiniBridge, InfiniHost, InfiniRISC, InfiniScale, and InfiniPCI are registered trademarks of Mellanox Technologies, Ltd. Virtual Protocol Interconnect, BridgeX, FabricIT and PhyX are trademarks of Mellanox Technologies, Ltd. All other trademarks are property of their respective owners.