

# IS5030

## 36-port Non-blocking Managed 40Gb/s InfiniBand Switch System

The IS5030 switch system provides 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® InfiniBand switch device, the IS5030 provides up to 40Gb/s full bidirectional bandwidth per port. This stand-alone switch is an ideal choice for top-of-rack leaf connectivity or for building small to medium sized clusters. The IS5030 is designed to carry converged LAN and SAN traffic with the combination of assured bandwidth and granular Quality of Service (QoS).

### Sustained Network Performance

The IS5030 enables efficient computing with features such as static routing, adaptive routing, and congestion management. These features ensure 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.

### World-Class Design

The IS5030 is 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 IS5030 supports 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 applica-

tions. 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.

### Management Capabilities

The IS5030 comes with an onboard subnet manager, enabling simple, out-of-the-box fabric bring up for up to 108 nodes. FabricIT™ fabric management running on the IS5030 enables fast setup for cluster bring-up, fabric-wide bandwidth and latency verification, and various diagnostic tools to check node-node, node-switch connectivity and cluster topology view. FabricIT™ chassis management provides administrative tools to manage the firmware, power supplies, fans, ports, and other interfaces.



IS5030

## HIGHLIGHTS

### BENEFITS

- Industry-leading, switch platform in performance, power, and density
- Designed for energy and cost savings
- Ultra low latency
- Granular QoS for Cluster, LAN and SAN traffic
- Maximizes performance by removing fabric congestions
- Fabric Management for cluster and converged I/O applications

### KEY FEATURES

- 36 QDR (40Gb/s) ports in a 1U switch
- 2.88Tb/s switching capacity
- Quality of Service enforcement
- Redundant power supplies and fan drawers

### MANAGEMENT

- Fast and efficient fabric bring-up
- Comprehensive chassis management
- Intuitive CLI and GUI for easy access

## HARDWARE

**INFINIBAND SWITCH**

- 36 QDFP non blocking switch with aggregate throughput of up to 2.88 Tb/s
- Port-to-port latency < 100ns
- IBTA 1.21 compliant
- 9 Virtual lanes: 8 data + 1 management
- Adaptive routing
- Congestion control
- Port mirroring
- 48K entry linear forwarding data base

**MANAGEMENT PORTS**

- RS232 Console (RJ45)
- Ethernet (RJ45)
- USB port

**CONNECTORS AND CABLING**

- QSFP connectors
- Passive/Active copper or fiber cable
- Fiber media adapters

**INDICATORS**

- Per port status LED: Link, Activity
- System status LED:  
Fan and power supplies LEDs

**POWER SUPPLY**

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

**FANS**

- Front-to-rear or rear-to-front cooling option
- Hot-swappable fan unit
- Auto-heat sensing for silent fan operation
- 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

**OPERATING CONDITIONS**

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

**ACOUSTIC**

- ISO 7779
- ETS 300 753

**OTHERS**

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

Ordering Part Number	Description
InfiniScale® IV - 36 QSFP ports, 1 Power Supply, embedded Subnet Manager, includes Chassis Management.	
MIS5030D-1SFC*	DDR InfiniBand Switch, (PPC405EXR), PSU side to connector side airflow, Std depth, Rail Kit.
MIS5030D-1SRC	DDR InfiniBand Switch, (PPC405EXR), Connector side to PSU side airflow, Std depth, Rail Kit.
MIS5030Q-1SFC*	QDR InfiniBand Switch, (PPC405EXR), PSU side to connector side airflow, Std depth, Rail Kit.
MIS5030Q-1SRC	QDR InfiniBand Switch, (PPC405EXR), Connector side to PSU side airflow, Std depth, Rail Kit.

\* Also available through Mellanox Certified Resellers and Distributors

\* Also available in short depth form factor and with 2 power supplies. Consult your Mellanox Sales Representative for further details.



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**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