



Mellanox SX6025

36-port Non-blocking Unmanaged 56Gb/s InfiniBand Switch System

Mellanox SX6025 switch system provides the highest performing fabric solution in a 1U form factor by delivering up to 4Tb/s of non-blocking bandwidth with 200ns port-to-port latency.

Benefits:

- Industry-leading, switch platform in performance, power, and density
- Designed for energy and cost savings
- Low latency
- Maximizes performance by removing fabric congestions

Key features:

- 36 FDR (56Gb/s) ports in a 1U switch
- Up to 4Tb/s aggregate switching capacity
- Compliant with IBTA 1.2.1 and 1.3
- FDR/FDR10 support for Forward Error Correction (FEC)
- Port mirroring
- Optional Redundant power supplies and fan drawers
- RoHS-6 complaint

Scaling-Out Data Centers with Fourteen Data Rate (FDR) InfiniBand

Faster servers based on PCIe 3.0, combined with high-performance storage and applications that use increasingly complex computations, are causing data bandwidth requirements to spiral upward. As servers are deployed with next generation processors, High-Performance Computing (HPC) environments and Enterprise Data Centers (EDC) will need every last bit of bandwidth delivered with Mellanox's next generation of FDR InfiniBand high-speed smart switches.

FDR

FDR InfiniBand technology moves from 8b/10b encoding a more efficient 64/66 encoding while increasing the per lane signaling rate to 14Gb/s. Mellanox end-to-end systems can also take advantage of the efficiency of 64/66 encoding using Mellanox FDR 10 supporting 20% more bandwidth over QDR using the same cables/connectors designed for 40GbE.

Sustained Network Performance

Built with Mellanox's sixth latest SwitchX® InfiniBand switch device, the SX6025 provides up to thirty-six 56Gb/s full bi-directional bandwidth per port. These stand-alone switches are an ideal choice for top-of-rack leaf connectivity or for building small to extremely large sized clusters.

Smart Switches for Smart Clusters

The SX6025 enables efficient computing with features such as static routing, adaptive routing, and congestion control. These features ensure the maximum effective fabric bandwidth by eliminating congestion hot spots. Whether used for parallel computation or as a converged fabric, the SX6000 family of switches provides the industry's best traffic-carrying capacity, making it easy to build clusters that can scale-out to thousands-of-nodes.

The SX6025 supports reversible airflow making the design fit into data centers with different thermal designs. Optional redundant and hot swappable power supplies and fans provide high availability for both High-Performance and Enterprise Data Center applications.

Building Efficient Clusters & Grids

The SX6025 is the industry's most cost-effective building block for deploying high performance clusters and data centers. Whether looking at price-to-performance or energy-to-performance, the SX6025 offers superior performance, power and scale reducing capital and operating expenses providing the best return-on-investment.



Hardware Specification	
Mellanox SX6025	19" rack mountable chassis, 1U with optional redundant power supplies and Fan units 36 QSFP non blocking ports with aggregate data throughput up to 4.032 Tb/s (FDR) Port-to-port latency 200ns
Switch specifications	Compliant with IBTA 1.21 and 1.3 9 virtual lanes: 8 data + 1 management 256 to 4Kbyte MTU Adaptive Routing** Congestion control Port Mirroring 4X48K entry linear forwarding data base
Management ports	i²C (RJ45) System reset button
Connectors and cabling	QSFP connectors Passive copper or active fiber cables Fiber media adapters
Indicators	Per port status LED Link, Activity System status LEDs: System, fans, power supplies Port Error LED Unit ID LED**
Physical characteristics	Dimensions: 1.72"H x 16.84"W x 24.7"D Weight: 20.5 Lbs (9.3 Kgs)
Power supply	Dual redundant slots Hot plug operation Input range: 100 - 240VAC Frequency: 50-60Hz, single phase AC
Power Consumption	FDR - Typical power consumption: Passive cable - 113W Active cable - 217W
Cooling	Front-to-rear or rear-to-front cooling option Hot-swappable fan unit

Compliance	
Safety	US/Canada: cTUVus EU: IEC60950 International: CB Russia: GOST-R Argentina: S-mark
Power supplies	China CCC Korea KCC
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 Australia: C-TICK Brazil: ANATEL Taiwan: BSMI
Environmental	EU: IEC 60068-2-64: Random Vibration EU: IEC 60068-2-29: Shocks, Type I / II EU: IEC 60068-2-32: Fall Test
Acoustic	ISO 7779 ETS 300 753
Operating conditions	Operating 0°C to 45°C Humidity: Operating 5% to 95% non condensing Altitude: Operating -60 to 2000m
Others	RoHS-6 compliant Rack-mountable, 1U 1-year warranty

Ordering Part Number	Description
MSX6025F-1SFS	SwitchX®-2 based 36-port QSFP FDR 1U Externally Managed InfiniBand switch system with a non-blocking switching capacity of 4Tb/s. 1PS, Standard depth, Forward airflow*, RoHS-6
MSX6025F-1BRS	SwitchX®-2 based FDR InfiniBand 1U Switch, 36 QSFP+ ports, 1 Power Supply (AC), unmanaged, short depth, Connector to Power Supply (reverse) airflow, Rail Kit, RoHS6
MSX60-PF	300W Power supply with power supply side to connector side air flow for MSX60xx and MSX10xx series switch systems
MSX60-PR	300W Power supply with connector side to power supply side air flow for MSX60xx and MSX10xx series switch systems

* Forward airflow is connector side outlet. Reverse airflow in connector side inlet; available in short depth

For sales and more information, please contact HPC@Dell.com



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