Mellanox
TECHNOLOGIES

SX6036G

36-port Non-blocking Managed 56Gb/s InfiniBand to 40GbE Ethernet Gateway

The SX6036G is a high-performance, low-latency 56Gb/s FDR Infiniband to 40Gb/s Ethernet gateway.

Scaling-Out Data Centers with InfiniBand to Ethernet Gateway

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 to 40GbE high-speed smart gateways.

Virtual Protocal Interconnect® (VPI)

Virtual Protocol Interconnect (VPI) flexibility enables any standard networking, clustering, storage and management protocol to seamlessly operate over any converged network leveraging a consolidated software stack. VPI simplifies I/O system design and makes it easier for IT managers to deploy infrastructure that meets the challenges of a dynamic data center.

With its high bandwidth, low latency and reduced overhead, InfiniBand is the ideal choice for speeding application performance while simultaneously consolidating network and I/O infrastructure. Combining InfiniBand and Ethernet into a single solution provides ideal rack backbone for next generation data centers.

Sustained Network Performance

Built with Mellanox's SwitchX®-based switches, the InfiniBand to Ethernet gateway software license, or system, provides full port flexibility to choose between 56Gb/s InfiniBand to either 10, 40 and 56Gb/s Ethernet with low 400ns latency.

Cost-savings

The SX6036G, when combined with Mellanox's ConnectX-3 host adapter family, delivers cost savings by integrating two networks on a single wire.

Consolidating multiple networks on a single wire, not only delivers CAPEX but OPEX savings as well. OPEX savings are provided by reducing cabling complexity, reducing switch and server infrastructure and delivering a consistent and easy to use management software.

Mellanox's gateway system includes both InfiniBand and Ethernet switches on a single platform, simplifying the need for additional switches to connect to the gateway.

Using Mellanox's gateway, a user can also benefit from a full end-to-end solution combined with Mellanox InfiniBand FDR 56Gb/s SX6000 switch series and Ethernet 40Gb/s SX1000 switch series.

Management

The SX6036G MLNX-OS® software delivers complete chassis management, to manage the firmware, power supplies, fans, ports and other interfaces.

SX6036G can also be coupled with Mellanox's Unified Fabric Manager™ (UFM™) software for managing scale-out computing environments. UFM enables data center operators to efficiently provision, monitor and operate the modern data center fabric.

HIGHLIGHTS

BENEFITS
- Industry-leading, gateway platform in performance, power, and density
- High-performance connectivity to Ethernet-based services and resources
- Designed for energy and cost savings
- Quick and easy setup and management
- Fabric Management for cluster and converged I/O applications

KEY FEATURES
- 36 56Gb/s ports in a 1U switch
- Up to 4Tb/s aggregate switching capacity
- 400ns latency between InfiniBand and Ethernet
- InfiniBand and Ethernet switch on a single platform
- Support L2 and L3 capabilities as Mellanox Ethernet switches
- Optional redundant power supplies and fan drawers

SPECIFICATIONS

MELLANOX SX6036G

– 19'' rack mountable chassis, 1U with redundant power supplies and Fan units
– 36 QSFP non blocking ports with aggregate data throughput up to 4.032 Tb/s (FDR)
– InfiniBand Port-to-port latency 170ns
– Ethernet Port-to-port latency 230ns

INFINIBAND SWITCH SPECIFICATIONS

– Compliant with IBTA 1.21 and 1.3
– 9 virtual lanes: 8 data + 1 management
– 256 to 4Kbyte MTU
– 48K L2 forwarding entries

ETHERNET SWITCH SPECIFICATIONS

– 48K L2 forwarding entries
– Static MAC
– 802.1w Rapid Spanning Tree Protocol
– 802.3ad Link Aggregation/LACP
– 802.3x Flow control
– 802.1Qbb Priority Flow Control (PFC)
– 802.1Qaz Enhanced Transmission Selection
– 802.1AB LLDP
– VLAN 802.1Q (4K)
– IGMP v1,v2, Snooping
– Access Control Lists (L2-L4)
– Jumbo Frames (9216 Bytes)
– sFlow
– Port Mirroring

MANAGEMENT PORTS

– Dual 100/1000 Ethernet ports
– RJ45 serial console port
– USB port

DEVICE MANAGEMENT

– CLI or SNMP

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

COOLING

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

POWER CONSUMPTION

Typical power consumption:
– Passive cable - 126W
– Active cable - 231W

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

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 0ºC to 45ºC, Non Operating -40ºC to 70ºC
– Humidity: Operating 5% to 95%
– Altitude: Operating -60 to 2000m

ACOUSTIC

– ISO 7779
– ETS 300 753

OTHERS

– RoHS-6 compliant
– Rack-mountable, 1U
– 1-year warranty

** Available in future release

Ordering Part Number	Description
MSX6036G-2SFS	SwitchX®-2 based 36 QSFP ports, InfiniBand to Ethernet gateway system with a non-blocking switching capacity of 4Tb/s. 2 Power Supplies, Standard depth, Managed, PSU side to Connector side airflow, Rail Kit and RoHS-6
MSX6036G-2SRS	SwitchX®-2 based 36 QSFP ports, InfiniBand to Ethernet gateway system with a non-blocking switching capacity of 4Tb/s. 2 Power Supplies, Standard depth, Managed, Connector side to PSU side airflow, Rail Kit and RoHS-6
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
LIC-Fabric-Inspector	Enhanced InfiniBand Diagnostics license

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