



# MetroX<sup>®</sup>-2 Systems

Based on the 200 HDR InfiniBand Mellanox Quantum™ Switch, the MetroX<sup>®</sup>-2 Product Family Seamlessly Connects InfiniBand Data Centers 10 and 40 KM Apart, Enabling Native RDMA Connectivity Across Distributed Compute or Storage Platforms.

Mellanox's MetroX-2 systems enable seamless connectivity between remote InfiniBand data centers or storage platforms. Extending InfiniBand connectivity to 10 or 40 kilometers, MetroX-2 systems enable high data throughput, native remote direct memory access (RDMA) communications, advanced routing, and Mellanox Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)<sup>™</sup>. MetroX-2 users can easily migrate application jobs from one InfiniBand center to another, or combine the compute power of multiple remote data centers together for higher overall performance and scalability.

## Complete Chassis & Fabric Management Solution

Built with the Mellanox Quantum InfiniBand switch device, the MetroX-2 solution provides up to 2 EDR InfiniBand long-haul ports and 8 EDR/HDR local InfiniBand ports, delivering up to 100Gb/s data throughput for distances of 10 and 40 kilometers.

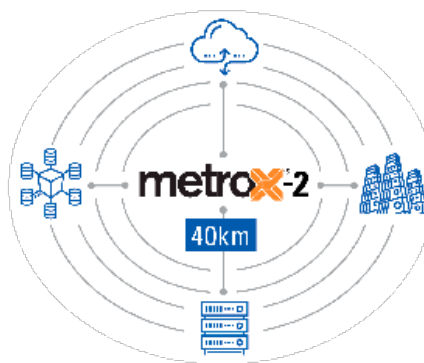
MetroX-2 enables aggregate data and storage networking over a single, consolidated fabric. MetroX-2 RDMA technology guarantees high-performance, high-volume data-sharing between distant sites, enabling existing data centers with expansion, disaster recovery, data mirroring and campus connectivity. Designed for today's business continuity and simplified disaster recovery design, MetroX-2 delivers zero Recovery Point Objective (RPO), providing the benefit of high bandwidth and simple high availability management connectivity for up to 40 kilometers.

### MetroX-2 TQ8100-HS2F

Mellanox TQ8100-HS2F supports up to 2 EDR QSFP28 long-haul ports running 100Gb/s for up to 10 km, and up to 8 standard HDR local ports running 200Gb/s.

### MetroX-2 TQ8200-HS2F

Mellanox TQ8200-HS2F supports up to 2 EDR QSFP28 long-haul ports running 100Gb/s for up to 40 km, and up to 8 standard HDR local ports running 200Gb/s.



# metroX<sup>®</sup>-2

## HIGHLIGHTS

### FEATURES

- Performance
  - Extends Mellanox's InfiniBand solutions to distances between 10 and 40 kilometers
  - Complete solution using Mellanox LR4 MetroX-2 transceivers
  - Mellanox Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)<sup>™</sup> offloading collective operations from CPU to switch network
  - Adaptive Routing (AR) enabling switch to select output port based on port's load
  - Congestion Control reducing packet drops in lossy networks or congestion spreading in lossless networks
- Optimized Design
  - 1+1 redundant & hot-swappable power
  - 2 x EDR long-distance ports and 8 x EDR/HDR standard-distance ports in a 1U switch
  - SHIELD<sup>™</sup> —(Self-Healing Interconnect Enhancement for Intelligent Datacenters)
  - N+1 redundant & hot-swappable fans
  - 80 gold+ and energy star certified power supplies
  - x86 COMEX Broadwell CPU

### BENEFITS

- Industry-leading switch platform in performance, power, and density
- Designed for energy and cost savings
- RDMA over long distance
- Collective communication acceleration
- Maximizes performance by removing fabric congestions
- Quick and easy setup and management

## MLNX-OS® Management

Mellanox MLNX-OS® chassis management software stack provides administrative tools to manage firmware, power supplies, fans, ports, and other system interfaces. MetroX-2 software has a GUI-based web management that provides full alarm, event history, activities log and performance monitoring for all optical modules.

## UFM® Management

MetroX-2 systems 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.

Table 1 - Specifications

Specifications	TQ8100-HS2F	TQ8200-HS2F
Height	1RU	1RU
# Long-Haul Ports	2	2
# Downlink Ports	8	8
Long-Haul Ports Speed	100Gb/s EDR	100Gb/s EDR
Downlink Ports Speed	200Gb/s HDR	200Gb/s HDR
Throughput	200Gb/s	200Gb/s
Distance	10Km	40Km
Management	Yes	Yes
PSU Redundancy	Yes	Yes

## Features

### Mellanox MetroX-2

- 19" rack mountable 1U chassis
- 2 x QSFP28 and 8 x QSFP56 non-blocking ports

### Switch Specifications

- Compliant with IBTA 1.21 and 1.3
- 256 to 4Kbyte MTU
- Adaptive Routing
- Congestion control
- Port Mirroring
- VL2VL mapping

### Management Ports

- 100/1000Mb/s RJ45 Ethernet port
- RS232 console port
- USB port
- DHCP
- Industry standard CLI
- Management over IPv6
- Management IP
- SNMP v1,v2,v3
- Web UI

### Fabric Management

- On-board Subnet Manager (SM) supporting fabrics of up to 2k nodes
- Unified Fabric Manager (UFM) agent

### Connectors and Cabling

- QSFP28 and QSFP56 connectors
- Passive copper or active fiber cables
- Optical modules

### Indicators

- Per port status LED Link, Activity
- System LEDs: System, fans, power supplies
- Unit ID LED

### Power Supply

- Dual redundant slots
- Hot plug operation
- Input range: 100-127VAC, 200-240VAC
- Frequency: 50-60Hz, single phase AC, 4.5A, 2.9A

### Cooling

- Front-to-rear or rear-to-front cooling option
- Hot-swappable fan unit

### Power Consumption

- Contact Mellanox Sales

## Compliance

### Safety

- CB
- cTUVus
- CE
- CU

### EMC (Emmissions)

- CE
- FCC
- VCCI
- ICES
- RCM

### Operating Conditions

- Temperature
  - Operating 0 °C to 40 °C
  - Operating -40 °C to 70 °C
- Humidity
  - Operating 10% to 85% non-condensing
  - Non-operating 10% to 90% non-condensing
  - Altitude: Up to 3200m

### Acoustic

- ISO 7779
- ETS 300 753

### Others

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

Table 2 - Part Numbers and Descriptions

OPN	Description
MTQ8100-HS2F	MetroX-2 10km long-haul 100Gb/s switch, 2 long-haul QSFP28 ports, 8 standard HDR ports, 2 Power Supplies (AC), x86 dual core, standard depth, P2C airflow, Rail Kit
MTQ8200-HS2F	MetroX-2 40km long-haul 100Gb/s switch, 2 long-haul QSFP28 ports, 8 standard HDR ports, 2 Power Supplies (AC), x86 dual core, standard depth, P2C airflow, Rail Kit