NVIDIA METROX-2 LONG HAUL SWITCHES

Seamless connectivity between remote InfiniBand data centers

For geographically distributed higher education and research institutions, storing compute and storage resources in one central location can be challenging. Enabling seamless connectivity between remote InfiniBand data centers or storage platforms requires high volume, remote direct-memory access (RDMA)-based data connectivity.

NVIDIA® MetroX®-2 systems extend InfiniBand to data centers for distances of 10 and 40 kilometers. Leveraging RDMA technology guarantees high performance, high volume data-sharing between distant sites, enabling data center expansion, rapid disaster recovery, data mirroring, campus connectivity, and improved utilization of remote storage and compute infrastructures.

Users can easily migrate application jobs from one InfiniBand-connected data 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

MetroX-2 enables aggregate data and storage networking over a single, consolidated fabric. Built with the NVIDIA Quantum InfiniBand switch device, the MetroX-2 solution provides up to two 100 gigabits per second (Gb/s) InfiniBand long-haul ports and eight 100Gb/s or 200Gb/s local InfiniBand ports, delivering up to 200Gb/s data throughout locally and 100Gb/s on the long haul.

Faster Data Center Recovery

MetroX-2 enables aggregate data and storage networking and data center expansion over a single, consolidated network. As a cost-effective, high density and scalable solution, MetroX-2 solutions with standard optics guarantee high performance, high volume data sharing between remote InfiniBand sites, easily managed as a single unified network fabric. In addition, select versions of MetroX-2 systems provide options for data encryption.

Designed for today's business continuity and simplified disaster recovery, delivering zero Recovery Point Objective (RPO), MetroX-2 provides high bandwidth and simple high availability management connectivity for up to 40 kilometers.

SYSTEM SPECIFICATIONS

Performance	**200Gb/s local ports** **100Gb/s long-distance ports**
Connectors and cabling	**QSFP28 and** **QSFP56 connectors**
Power supply	**80 Plus platinum 1+1 redundant power supply**
Cooling	**Front-to-rear or rear-to-front** **cooling option: hot-swappable fan**
Management ports	**1x RJ45** **1x console port: RS232** **1x micro USB**
CPU	**Broadwell ComEx D-1508 2.2GHZ**
Memory	**Single 8G**
Software	**MLNX-OS**
System dimensions	**Height: 3.4 in (88 mm)** **Width: 17.2 in (438 mm)** **Depth: 30.0 in (760 mm)**
Rack mount	**1U 19 inch rack mounts**
EMC	**CE, FCC, VCCI, ICES, RCM**
Operating conditions	**Temperature** > Operating:0ºC-40ºC > Non-operating: -40ºC-70ºC **Humidity** > Operating: 10%-85% non-condensing > Non-operating: 10%-90% non-condensing
Safety	**RoHS, CS, cTUVus, CE, CU**

In-Network Computing

MetroX-2 leverages low-latency RDMA connectivity to enable remote data centers to share storage for independent computing and disaster recovery. Using two MetroX-2 100Gb/s InfiniBand long-haul ports, with LR4 /ER4 transceivers, allows you to easily interconnect remote InfiniBand data centers together. For the eight 200Gb/s ports of intra-connectivity, NVIDIA Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)™ offloads collective operations from the CPUs to the switch network.

Self-Healing Networking

MetroX-2's optimized design leverages InfiniBand-based self-healing capabilities to overcome link failures and achieve network recovery 5,000X faster than any software-based solution—enhancing system performance, scalability, and network utilization.

Data Center Management

MetroX-2 comes with built-in chassis management (MLNX-OS) software, providing administrative tools to manage firmware, power supplies, fans, ports, and other system interfaces. The MetroX-2 software's GUI-based web management provides full alarm, event history, activities log, and performance monitoring for all optical modules.

MetroX-2 systems can also be coupled with NVIDIA Unified Fabric Manager (UFM®) to manage scale-out computing environments, efficiently provisioning, monitoring, and operating the InfiniBand network. Residing in each InfiniBand subnet, the UFM software is co-located on each local login/cluster site.

Part Numbers and Descriptions

OPN	Description
MTQ8100-HS2F	MetroX-2 10km long-haul 100Gb/s switch, 2 long-haul QSFP28 ports, 8 standard 200Gb/s 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 200Gb/s ports, 2 power supplies(AC), x86 dual core, standard depth, P2C airflow, rail kit
MMA1L10-CR	NVIDIA optical transceiver, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, LR4 up to 10km
SPQ-CE-ER-CDFL-M	40km 100G QSFP28 ER Optical Transceiver

Learn more

To learn more about NVIDIA MetroX-2 Long Haul Switches, visit:
nvidia.com/en-us/networking/infiniband/metrox-2/