



# BridgeX® BX4010 – Delivering Unified I/O

## 10/20/40G InfiniBand to 10GigE and 2/4/8G FC Gateway

The BX4010 is the first gateway allowing data centers to deploy I/O consolidation solutions using InfiniBand as the convergence fabric of choice. Networks have increased in size and managing a growing multi-infrastructure has become a daunting task. Enterprise data centers currently use three different networks—Storage Area Networks using Fibre Channel transport for storage access, Local Area Network using Ethernet transport for standard network access and System Area Networks using InfiniBand transport for inter-process communication and high-performance clustering. With the introduction of the BX4010 virtualization systems, enterprises can get rid of this complexity while improving performance, enable flexibility and save energy and cooling costs.

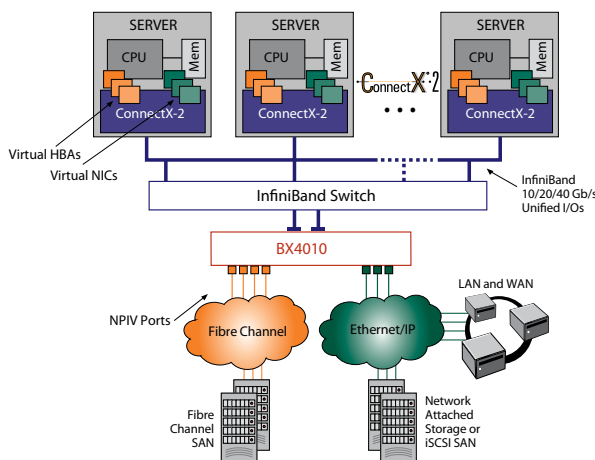
BX4010 when combined with Mellanox ConnectX-2 host adapters enables data centers to operate in high-performance 40Gb/s network speed on the hosts and connects lower speed Gigabit and 10GigE networks and 2, 4, 8Gb/s Fibre Channel SAN networks. BX4010 connects to existing SAN and LAN and at the same time, providing I/O consolidation.

### Performance

In a unified I/O solution, various performance capabilities are required because each network has unique characteristics and metrics. For server to server interconnection, a low-latency fabric is critical; for storage traffic a lossless fabric with high IOPS (I/O per second) capability is important; and for a regular network, higher bandwidth is required. The BX4010 combines low-latency, lossless fabric and high-performance in a 1U form-factor providing 6 ports of 10GigE or 8 ports of 2/4/8G Fibre Channel or a mix of both.

### Cost-savings

The BX4010 when combined with Mellanox ConnectX-2 host adapters delivers cost-savings by integrating three networks on a single wire. Consolidating multiple networks on a single wire, not only delivers CAPEX savings by having one adapter instead of three in a server and having a single switch instead of three, but also on OPEX savings. OPEX savings are provided by reducing cabling complexity, delivering a single consistent management and ease of use.



BX4010

### BENEFITS

- I/O consolidation on 40Gb/s InfiniBand
- Removes cabling complexity and consolidates I/O
- Reduces power and cooling costs
- Virtualized Ethernet and Fibre Channel host ports
- 40Gb/s LAN and SAN connections
- QoS provides granular bandwidth allocation
- Simplified – local or remote management

### KEY FEATURES

#### HARDWARE

- Inbuilt CPU for easy configuration and management
- Uplink: Up to 2 ports of 10/20/40 Gb/s InfiniBand
- Downlink: Up to 8 Ports of 2/4/8Gb FC or 6 ports of 10GigE or 4 ports of FC and 3 ports of 10GigE
- 1K vNICs per Ethernet port
- 1K vHBAs per FC port
- Up to 6K MAC, VLAN and 8K FC WWN addresses
- Dual power supplies for redundancy
- High availability and fail-over mode

#### SOFTWARE

- Configuration and management for - VLAN, NPIV, MAC and WWN
- Integrated gateway management

**SPECIFICATIONS**

**UPLINK PORTS-CX4**

- 2 ports of 10/20/40G InfiniBand

**DOWNLINK PORTS-SFP+**

- 6 ports of 1/10GigE or 8 ports of 2/4/8G FC or a mix of 3 ports of 1/10GigE and 4 ports of 2/4/8G FC

**ETHERNET PORTS**

- IEEE 802.3ae 10 Gigabit Ethernet
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.1D Spanning Tree
- IEEE 802.1p QoS / COS
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1AB Link Layer Discovery
- IEEE 802.3ad Link Aggregation with LACP
- IEEE 802.3x Flow Control (Per Priority Flow Control)
  - Virtual lanes support
- Jumbo Frames support

**FC PORTS**

- 2/4/8G FC support
- Fibre Channel over InfiniBand (FCoIB) protocol encapsulation
- Class of service - 2 and 3
- Topology - Point to point and switched fabric
- FCP3 SCSI
- FC-Tape FCP-2

**CONNECTORS AND CABLING**

- CX4 connectors for 10/20/40Gb/s InfiniBand
- SFP+ connectors for 10GbE and 2/4/8G FC
- Optical modules for Ethernet and FC
- Supports QSFP to CX4 hybrid cables
- Supports Twinax cables for 10GigE

**INDICATORS**

- Per port status LEDs: Link Activity
- System status LEDs: system, fans, power supply
- Ethernet or FC indicators for port groups

**DIMENSION (H x W x D)**

- 44mm x 482.5mm x 540mm

**MANAGEMENT OPTIONS**

- 1000BASE-T Ethernet port
- I<sup>2</sup>C port (RJ45 to Serial)
- Serial Port (RJ45 to Serial)

**POWER SUPPLY**

- Dual redundant slots
  - 1 PSU is required for device functioning
- Input range 90-264VAC

Ordering Part Number	Description
MTB4010B-PC	BX4010 system, single BridgeX, with CPU, RoHS5
<b>Options</b>	
MFM1T02A-SR	10GBASE-SR Module



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085  
 Tel: 408-970-3400 • Fax: 408-970-3403  
[www.mellanox.com](http://www.mellanox.com)

© Copyright 2010. Mellanox Technologies. All rights reserved.  
 Mellanox, BridgeX, ConnectX, InfiniBlast, InfiniBridge, InfiniHost, InfiniRISC, InfiniScale, and InfiniPCI are registered trademarks of Mellanox Technologies, Ltd. CORE-Direct, FabricIT, PhyX, and Virtual Protocol Interconnect are trademarks of Mellanox Technologies, Ltd. All other trademarks are property of their respective owners.