Mellanox TECHNOLOGIES

FabricIT™ – BridgeX Manager (BXM)

Efficient Management of Virtual I/O for Infiniband in the Data Centers

BridgeX gateway is managed using FabricIT BridgeX Manager (BXM), industry leading fabric management software.

Increased Demand for Connectivity

Network consolidation with Virtual I/O capable adapters demands a new class of network management software to unify various communication networks to Ethernet. The BridgeX® family of gateways support Virtual I/O in the fabric and enable VM-level capability and policy enforcement in the fabric over InfiniBand networks.

FabricIT BXM is a comprehensive management software solution that provides optimal performance for cluster computing, enterprise data centers, and cloud computing. The fabric management capabilities includes CLI and Web GUI interface with a robust middleware API for provisioning and orchestrating network virtualization for the entire fabric with no changes to the physical servers, switches and storage targets.

Virtual I/O enables a single physical adapter to run multiple vNICs, providing fabric scalability, flexibility and a need for robust management. FabricIT BXM provides transparent I/O management including discovery, login and connection setup to all Virtual I/O enabled adapters and other BridgeX gateways in the fabric. With Virtual I/O, users need flexibility to configure multiple virtual interfaces per physical adapter either manually or automatically. FabricIT BXM supports either manual or auto configuration of Virtual I/O, maintains a context table of all virtual interfaces (vNIC) for a specific gateway or multiple gateways on the internal network (ports connected to the servers).

High Availability and Security for Virtual I/O

Cloud and clustered computing demand high availability for failover and auto-reconfiguration of all connected Virtual I/O. FabricIT BXM allows Virtual I/O to load-balance and failover across multipl external ports, automate the reconfiguration of gateways for virtual interfaces on the internal-network and provide high-available Virtual I/O management.

As BridgeX gateways support Virtual I/O with Ethernet over InfiniBand (EoIB), I/O isolation is handled by supporting secure virtual Ethernet VLANs for EoIB using InfiniBand partition keys. Network Security and access to BridgeX gateway is secured with RADIUS and TACACS+ security and authentication protocols.

FabricIT BXM Management Interface

The CLI and Web based GUI interface available in FabricIT BXM is a simple and intuitive package with commands to configure and manage the fabric including protocol-based port mappings, server profiles (physical and virtual addressing), various static reporting, firmware management, events, errors, port counters, internal device monitoring and the ability to monitor and configure the gateway and gateway groups. The management capability is extended with SNMP agent and XML parsing support for 3rd party management tools integration.

HIGHLIGHTS

BENEFITS
- Discover and configure virtual I/O devices
- I/O Consolidation on 40Gb/s IB and 10GigE
- Seamlessly bridge Ethernet via 10GigE links
- Administration of Ethernet LAN
- Port configuration flexibility

KEY FEATURES
- Secure, remote configuration and management
- CLI and Web GUI support with FabricIT management software
- Virtual I/O support with vNIC discovery and configuration
- Secure VLAN support for EoIB
- High Availability with auto-reconfiguration of vNICs
- Robust chassis manager to monitor and provision embedded CPU resources
- Monitoring and reporting

Mellanox Advantage

Mellanox is the leading supplier of industry standard InfiniBand adapters and switch products. Our products have been deployed in clusters scaling to thousands of nodes and are being deployed end-to-end in data centers and Top500 systems around the world.
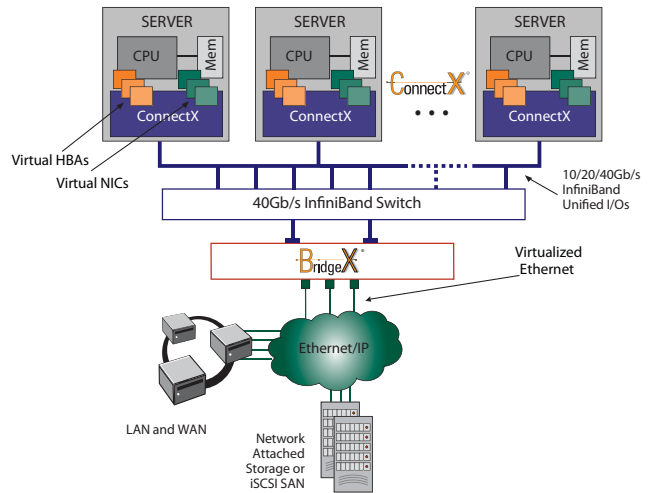
HARDWARE SUPPORT

BridgeX® Gateway Family
–   BX5020 InfiniBand Gateway system (EoIB)

ConnectX® / ConnectX-2® InfiniBand Adapters
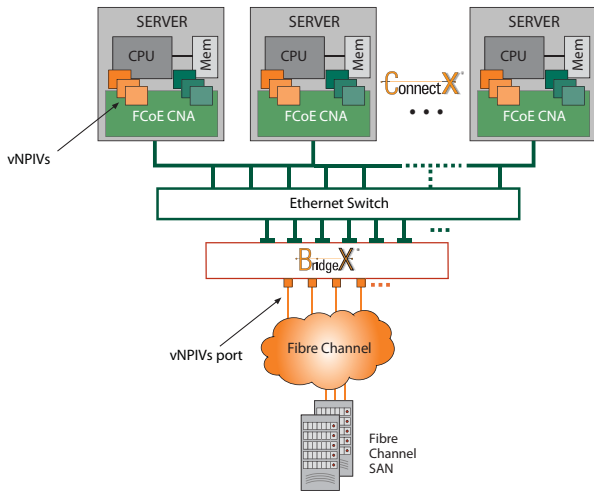
FCoE Gateway: NPIV Model

EoIB Gateway Deployment

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