



DATASHEET



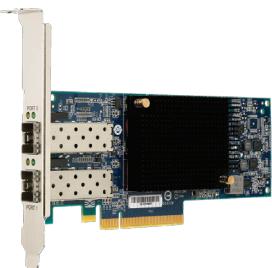
CONNECTIVITY

# 10Gbps Virtual Fabric Adapters for IBM System x

Integrated Virtual Fabric Adapter for Select IBM System x Models  
Option Virtual Fabric Adapter: IBM Part Number 49Y4250

## SIMPLIFIED

NETWORKING, TRUSTED  
SAN INTEROPERABILITY  
AND INCREASED  
BUSINESS AGILITY



10GbE Integrated Virtual Fabric Adapter for IBM System x



10GbE (Option) Virtual Fabric Adapter for IBM System x  
IBM Part Number 49Y4250



OneConnect™



OneCommand™

## Optimized Network Connectivity

The Emulex Virtual Fabric Adapter for IBM System x is a high-performance, dual-port network adapter for 10Gbps Ethernet (10GbE) networks. It is available as an optional 10GbE adapter, or as integrated 10GbE technology for select IBM System x models. The Virtual Fabric Adapter offers the benefits and flexibility of I/O convergence on a single end-to-end solution. Protocol offload for stateless TCP/IP and TCP Chimney provides maximum bandwidth with minimum use of CPU resources.

### Superior 10Gbps performance

The Emulex 10Gb/s Virtual Fabric Adapter for IBM System x achieves line rate 10Gb/s performance with support for TCP/IP stateless offloads and TCP Offload Engine (TOE) support. TOE Support reduces system processor utilization, providing increased system performance and reducing overall system power requirements.

### One adapter to manage all workloads

The Emulex 10Gb/s Virtual Fabric Adapter for IBM System x is based on the Emulex OneConnect™ Universal Converged Network Adapter (UCNA) platform that also includes support for Fibre Channel over Ethernet (FCoE) and iSCSI protocol offloads. By using a common infrastructure for Ethernet and storage networks, data centers can reduce capital expense (CapEx) for adapters, switches and cables, and operational expense (OpEx) for power, cooling and IT administration.

### Tight integration with Emulex and IBM technology

The Emulex 10GbE Virtual Fabric Adapter (VFA) for IBM System x is available as an option adapter (IBM Part Number 49Y4250) or as an integrated 10GbE technology. Emulex is delivering integrated 10GbE connectivity across a broad spectrum of IBM servers, signifying tight integration between Emulex and IBM for its next-generation of x86 and blade servers. The benefits of Emulex technology are as simple as selecting the right IBM server model.

### Greener data centers

The Emulex OneConnect UCNA platform delivers industry-leading performance and scalability per watt, reducing requirements for power and cooling. Protocol offload enables efficient use of computing resources, supports more virtual machine (VMs) per CPU, and reduces the number of servers required to support data center demands.

## Key Features

### Superior performance

- Line rate 10Gbps performance
- TCIP/IP stateless offloads
- TCP Chimney Offload

### Energy-efficient design

- Industry-leading performance per watt
- Complements data center "green" initiatives

### One platform for network and storage connection

- Based on OneConnect technology and includes FCoE and iSCSI support as a possible future feature entitlement upgrade
- Simplifies I/O hardware choices for IT managers
- Available as an integrated 10GbE technology or as a 10GbE adapter option

### Easy to deploy and manage with OneCommand™ Manager application

- One management console for network and storage
- Integrated management of Emulex UCNA and Host Bus Adapters (HBAs)

## Key Benefits

### Optimized for convergence

- Maximizes I/O consolidation with high-performance 10GbE ports
- One network infrastructure reduces CapEx
- One management console reduces OpEx
- Leverages existing IT investments

### Optimized for server virtualization with vEngine™ technology

- More VMs per server with TCP offload

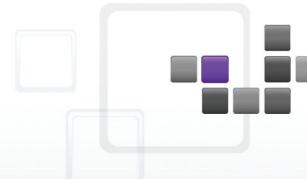
### Enterprise-ready

- Hardware parity, CRC, ECC and other advanced error checking
- Backed by field-proven Emulex reliability and support

<sup>1</sup> TCP/IP and TOE will be available at launch; iSCSI and Fibre Channel over Ethernet (FCoE) may be available via feature entitlement upgrade in the future.

# 10Gbps Virtual Fabric Adapters for IBM System x

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## SPECIFICATIONS

### Advanced error checking

End-to-end data protection with hardware parity, CRC, ECC and other advanced error checking and correcting ensure that data is safe from corruption.

### Simplified Management

#### OneCommand Manager application

The OneCommand Manager application enables centralized management of Emulex OneConnect UCNA and HBAs throughout the data center from a centralized management console. The OneCommand Manager application provides a graphical user interface (GUI) and a scriptable command line user interface (CLI), which drive administration efficiency and business agility.

### Network boot and installation

Support for Preboot eXecutive Environment (PXE) makes the Emulex 10Gb/s Virtual Fabric Adapter for IBM System x an ideal solution for diskless deployments.

### Streamlined installation

A single installation of drivers and applications for Windows servers eliminates multiple reboots and ensures that each component is installed correctly and OneConnect UCNA are ready to use.

### Standards

- PCI Express base spec 2.0,
- PCI Bus Power Management Interface, rev. 1.2,
- Advanced Error Reporting (AER)
- IEEE 802.3ae (10Gb/s Ethernet)
- IEEE 802.1q(VLAN)
- IEEE 802.1p (QoS/CoS)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.3x (Flow Control)
- IEEE 802.1ab (Link Layer Discovery Protocol)
- PHP hot plug-hot swap

### Architecture

- Dual-channel, 10Gb/s Ethernet Link speed
- PCIe Express 2.0 (x8, 5GT/s), MSI-X support
- Integrated data buffer and code space memory

### Ethernet Features

- IPv4/IPv6 TCP, UDP checksum offload; Large Send Offload (LSO); Large Receive Offload; Receive Side Scaling (RSS); IPV4 TCP Chimney Offload
- VLAN insertion and extraction
- Jumbo frames up to 8000 Bytes
- Preboot eXecutive Environment (PXE) 2.0 network boot support
- Interrupt coalescing
- Load balancing and failover support including adapter fault tolerance (AFT), switch fault tolerance (SFT), adaptive load balancing (ALB), teaming support and IEEE 802.3ad

### Comprehensive OS Support

- Windows® Server 2008, Windows® Server 2003
- Red Hat Enterprise Linux Server
- Novell SUSE® Linux Enterprise Server
- VMware® ESX™
- VMware® vSphere™

### Hardware Environments

- x86, x64 processor family

### Interconnect

- Copper
  - SFP+ Direct Attached Twin-Ax Copper interface
  - Standards compliant passive and active copper cables supported up to 5m
- Optical
  - Optics: 10GBASE-SR short wave lasers with LC type connector

### Physical Dimensions

- Short, low-profile form factor card
- 167.64mm x 68.91mm (6.60" x 2.71")
- Standard bracket (low profile available)

### Environmental Requirements

- Operating temperature: 0° to 55° C (32° to 131° F)
- Storage temperature: -40° to 70° C (-40° to 158° F)
- Relative humidity: 5% to 95% non-condensing

### Agency Approvals

- UL recognized to UL 60950-1
- CUR recognized to CSA22.2, No. 60950-1-07
- Bauart-certified to EN60950-1
- FCC Rules, Part 15, Class A
- ICES-003, Class A
- EMC Directive 2004/108/EEC (CE Mark)
  - EN55022, Class A
  - EN55024
- Australian EMC Framework (C-Tick Mark)
  - AS/NZS CISPR22, Class A
- VCCI (Japan), Class A
- KCC (Korea), Class A
- BSMI (Taiwan), Class A
- EU RoHS Compliant (Directive 2002/95/EC)
- China RoHS Compliant

### Ordering Information

To order, use IBM Part Number **49Y4250**.

Visit [www.ibm.com/servers/systems/x](http://www.ibm.com/servers/systems/x)

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