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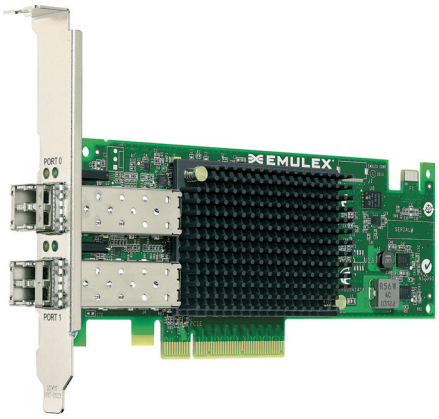
Emulex 10 GbE Virtual Fabric Adapter II and III Family

Reduce cost, reduce complexity, and increase performance



As server virtualization technology becomes more prevalent within data centers, more dynamic performance is needed for network bandwidth to satisfy these demands. The Virtual Fabric solution for System x® can help you break the I/O bottleneck by allowing you to allocate bandwidth where it's needed, delivering maximum application agility.

Offering a full range of virtualization and convergence capabilities, the same network hardware can act as Ethernet, iSCSI or FCoE with bandwidth allocated in increments from 100 Mb to 10 Gb.

Virtual, fast, scalable and flexible

Virtual: Multiple virtual NICs and protocols including Ethernet and iSCSI or FCoE from a single physical port, while allowing shared bandwidth across multiple applications.

Fast: True 10 Gb line-rate performance enables faster data transfer between virtual machines (VMs) and faster backup and disaster recovery.

Scalable: Define the exact number of NICs needed (from two physical NICs to eight virtual NICs per adapter) and upgrade to hardware iSCSI or FCoE via a software key.

Flexible: Allocate bandwidth for each virtual Ethernet port.

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Specifications

Part numbers	• 49Y7950 - Emulex 10 GbE Virtual Fabric Adapter II • 95Y3762 - Emulex 10 GbE Virtual Fabric Adapter III • 90Y6456 - Emulex Dual-Port 10 GbE SFP+ Embedded VFA III • 00Y7730 - Emulex Dual-Port 10 GbE SFP+ Embedded VFA IIIr • 00D8540 - Emulex Dual-Port 10 GbE SFP+ VFA IIIr • 49Y7274 - Emulex VFA II FCoE/iSCSI License (Use with PN: 49Y7950) • 90Y5178 - Emulex Mezz VFA III/IIIr FCoE/iSCSI License (FoD) (Use with PN: 90Y6456 and 00Y7730) • 95Y3760 - Emulex VFA III/IIIr FCoE/iSCSI License (FoD) (Use with PN: 90Y6456 and 00D8540)
Ports	All adapters support 2 open cages for SFP+ transceivers
Bus interface	PCIe Gen 2.0 x8
Bracket size	PCIe Versions conform to standard profile (low-profile available)
Standards	• ANSI INCITS T11 FC-BB-5 2.0, FC-PI-2, FC-GS-4, FC-TAPE and FCP-3 • PCIe base spec 2.0, PCI Bus Power Management Interface, rev. 1.2 • Advanced Error Reporting (AER) • IEEE 802.3ae (10 Gbps Ethernet) • IEEE802.1q (VLAN), 802.1p (QoS/CoS) • IEEE802.3ad (Link Aggregation) • IEEE802.3x (Flow Control) • IEEE802.1ab (Link Layer Discovery Protocol)
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 9,000 Bytes • Preboot eXecution Environment (PXE) 2.0 network boot support • Interrupt coalescing • TCP Segmentation Offload (TSO) • Load balancing and failover support including adapter fault tolerance (AFT), switch fault tolerance (SFT), adaptive load balancing (ALB), teaming support, VMware NetQueue v2 and IEEE 802.3ad, VT-d / IOMMU support • SRIOV: Ethernet pNIC mode delivers 2 PF and 59 VF (usable)
FCoE features	• Common driver for Emulex Universal CNA and Fiber Channel HBAs • 64 N_Port ID Virtualization (NPIV) interfaces (total for adapter) • Support for FIP and FCoE Ether Types • Fabric Provided MAC Addressing (FPMA) support • 1024 concurrent port logins (RPIs) per port • 1024 active exchanges (XRIs) per port

Specifications

Physical features	• Short, low-profile form factor card • 167.64 mm × 68.91 mm (6.60 inches × 2.71 inches) • Standard bracket (low profile available) • Mezzanine (aka Embedded) form factor conforms to System x® design specifications for use in select System x servers
Environmental	• 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% noncondensing
Supported servers	Visit the ServerProven® page for the latest supported servers at: **ibm.com**/servers/eserver/serverproven/compat/us
Supported operating systems	Visit the ServerProven web site at: **ibm.com**/systems/info/x86servers/serverproven/compat/us/xseries/7148/ibm_49Y7910.html
Warranty	One-year limited warranty. When installed in a System x server, these cards assume your system's base warranty

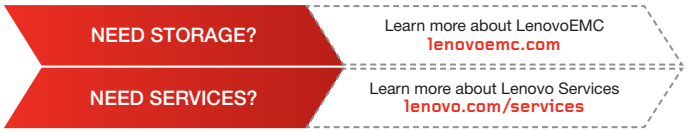
Feature	System x Virtual Fabric Mode	Switch Independent Mode
	10 GbE Switches	Non IBM 10 GbE Switches
Supported switches	4	4
Number of virtual channels per physical 10 Gb port	8	8
Number of virtual channels per adapter	100 MB	100 MB
Minimum virtual channel bandwidth	Yes	Yes
Server to switch bandwidth limit per virtual channel	Yes	No
Switch to server bandwidth limit per virtual channel	Yes	No
PTP VLAN configuration	Automatic	Manual
IEEE 802.aq VLAN tagging	Optional	Required
Isolated NIC teaming failover per vNIC channel	Yes	No
iSCSI/FCoE support	Yes	Yes

Why System x

System x is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security. System x also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

For more information

To learn more about the Emulex 10 GbE Virtual Fabric Adapter II and III, visit: **ibm.com**/systems/x/options/networking or contact your Lenovo representative or Business Partner.



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