Networking Options for ThinkSystem Servers
Reference Information

Ethernet Network Adapters

ThinkSystem Ethernet adapters provide industry latest networking solutions to address Ethernet, Converged and Virtualized data center networking requirements.

- 100 Gb Ethernet Adapters
- 50 Gb Ethernet Adapters
- 40 Gb Ethernet Adapters
- 25 Gb Ethernet Adapters
- 10 Gb Ethernet RJ45 Adapters
- 10 Gb Ethernet SFP+ Adapters
- Gigabit Ethernet Adapters

100 Gb Ethernet Adapters

100 Gb Ethernet connections for the ultimate in network I/O performance.

Mellanox ConnectX-4 100GbE/EDR IB QSFP28 VPI Adapters

ConnectX-4 from Mellanox is a family of high-performance and low-latency adapters. The 100GbE/EDR VPI adapters, available as either a 1-port or a 2-port adapter, supports 100 Gb Ethernet connections for the ultimate in network I/O performance.

Learn more:

- Product guide

50Gb Ethernet Adapters

50 Gb Ethernet adapters in the Flex System I/O adapter form factor, suitable for the ThinkSystem SN550 and SN850 blade servers.

ThinkSystem QLogic QL45212 Flex 50Gb 2-Port Ethernet Adapter

Provides high-speed connectivity with ThinkSystem servers for the Flex System ecosystem. Works in conjunction with the ThinkSystem NE2552E Flex Switch for 50 GbE connectivity.

Learn more:

- Product guide

ThinkSystem QLogic QL45262 Flex 50Gb 2-Port Ethernet Adapter with iSCSI/FCoE

Provides high-speed connectivity with ThinkSystem servers for the Flex System ecosystem. Works in conjunction with the ThinkSystem NE2552E Flex Switch for 50 GbE connectivity. Includes FCoE and iSCSI hardware offloads.

Learn more:

- Product guide

40 Gb Ethernet Adapters

40 Gb Ethernet delivers improved application performance through higher bandwidth, lower latency enabling increased VM density per host.

Mellanox ConnectX-4 Lx 1x40GbE QSFP+ Adapter

ConnectX-4 from Mellanox is a family of high-performance and low-latency adapters. The ConnectX-4 Lx 1x40GbE supports a single 40 Gb Ethernet port for high-speed networking with a PCIe x8 host interface.

Learn more:

- Product guide

Mellanox ConnectX-4 FDR 2-Port QSFP VPI Adapter

Two-port ConnectX-4 VPI adapter supports either 40 Gb Ethernet or FDR InfiniBand. Ideal for customers need to maximize high-speed networking connectivity when only a PCIe x8 host interface is available.

Learn more:

- Product guide

Mellanox ConnectX-3 Pro ML2 FDR 2-Port QSFP VPI Adapter

ConnectX-3 adapter with two QSFP ports supporting 40 Gb Ethernet or InfiniBand FDR speeds. Supported in servers with an ML2 adapter slot.

Learn more:

- Product guide

Mellanox ConnectX-3 Mezz 40Gb 2-Port Ethernet Adapter

Provides high-speed connectivity with ThinkSystem servers for the Flex System ecosystem. Works in conjunction with the EN6131 40Gb Ethernet Switch for Flex System.

Learn more:

- Product guide

25 Gb Ethernet Adapters

25 Gb significantly lowers cost per Gb and enables server future proofing. Lenovo's 25 Gb adapters can be installed now and operated at 10 Gb utilizing existing switches and cabling.

Broadcom 57412/57414 10/25GbE SFP28 PCIe Ethernet Adapters

Broadcom 57412 and 57414 25GbE adapters offer TruFlow intelligent flow processing and support advanced networking technologies including RoCE, SDN, NFV and virtualization. The 25Gb adapters are offered as a 1-port PCIe adapter (57412) or a 2-port adapter (57414). Available in PCIe and OCP form factors.

Learn more:

- Product guide

Intel XXV710-DA2 10/25GbE SFP28 2-Port PCIe Ethernet Adapter

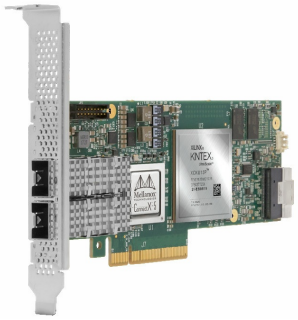
25 Gb Ethernet adapter with excellent small packet performance, offering virtualization features with support for GENEVE, VXLAN, NVGRE offloads, DPDK, SR-IOV, and VMDq protocols.

Learn more:

- Product guide

Mellanox Innova-2 ConnectX-5 FPGA 25GbE 2-port Adapter

An advanced programmable network adapter that combines the advanced ConnectX-5 Ethernet network controller ASIC with an onboard state-of-the-art FPGA, enabling customers to develop custom-made offloads for a range of applications, including storage, HPC, machine learning, and security.



Learn more:

- Product guide

Mellanox ConnectX-4 Lx 10/25GbE SFP28 Adapters

ConnectX-4 from Mellanox is a family of high-performance and low-latency adapters. The 25 GbE adapters are available as either 1-port or 2-port. Adapters are available in OCP, PCIe and ML2 form factors.

Learn more:

- Product guide

QLogic QL41262 10/25GbE SFP28 2-Port PCIe Ethernet Adapter

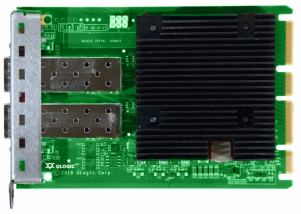
2-Port 25 GbE adapter based on eighth-generation technology from Marvell featuring Universal Remote Direct Memory Access (RDMA) to offer concurrent support for RoCE, RoCE v2, and iWARP. It also supports FCoE and iSCSI storage offloads.

Learn more:

- Product Guide

Marvell QL41232 10/25GbE SFP28 Ethernet Adapters

The Marvell QL41232 10/25GbE SFP28 Ethernet Adapters are based on eighth-generation technology from Marvell and feature Universal Remote Direct Memory Access (RDMA) to offer concurrent support for RoCE, RoCE v2, and iWARP. The adapters are available in PCIe and OCP form factors.



Learn more:

- Product Guide

QLogic QL45214 Flex 25Gb 4-Port Ethernet Adapter

Provides high-speed connectivity with ThinkSystem servers for the Flex System ecosystem. Works in conjunction with the ThinkSystem NE2552E Flex Switch for 25 GbE connectivity.

Learn more:

- Product guide

10 Gb Ethernet RJ45 Adapters

10GBASE-T adapters with CAT-6a cabling are a low-cost way to implement 10 Gb Ethernet.

Broadcom 57416 10GBASE-T PCIe Ethernet Adapter

Dual-port 10GBASE-T NX-E adapters featuring advanced flow processing and virtualization support while providing a low-cost solution for 10 Gb Ethernet using copper cabling. Available in OCP, ML2 and PCIe low-profile form factor.

Learn more:

- Product guide

Intel X550 10 Gb Ethernet 10GBASE-T Adapters

A cost-effective and power-efficient 10 GbE performance adapter suitable for all data center applications. Support for standard CAT 6a cabling with RJ45 connectors, the X550 offers a low barrier of entry to 10 Gb Ethernet networking. Available as a 1-port or 2-port adapter.

Learn more:

- Product guide

Intel X722 Integrated 10 GbE Controller with 10 Gb LOM

The Intel Ethernet Connection X722 is a network controller embedded into ThinkSystem servers. 10 Gb LOM adapters with 10GBASE-T connections enable support for two or four 10 GbE connections using low-cost RJ45 twisted-pair cabling.

Learn more:

- Product guide

10 Gb Ethernet SFP+ Adapters

10 GbE SFP+ adapters offer the flexibility of using either short-run copper cables or SFP+ transceivers and lightweight long-run fibre optic cabling.

Emulex OCe14100B VFA5.2 Adapters

The Emulex Virtual Fabric Adapter 5.2 adapter family of PCIe and ML2 adapters support NIC partitioning with 16 virtual NIC (vNIC) functions per adapter. They support datacenter functions including VxLAN/NVGRE and RoCE v2. Advanced adapters also include FCoE and iSCSI support.

Learn more:

- Product guide

Emulex CN4052S and CN4054S 10Gb VFA5.2 Adapters for Flex System

High performance family of 10 GbE adapters for SN550 and SN850 compute nodes supporting NIC partitioning with 16 vNICs per adapter and datacenter functions including VxLAN/NVGRE and RoCE v2. Advanced adapters also include FCoE and iSCSI support.

Learn more:

- Product guide

Intel X710 10 GbE SFP+ Network Adapters

Ideal for server and network virtualization, small packet performance, and low power requirements. Available in either PCIe or ML2 form factor for ThinkSystem servers.

Learn more:

- Product guide

Intel X722 Integrated 10 GbE Controller with 10 Gb LOM

The Intel Ethernet Connection X722 is a network controller embedded into ThinkSystem servers. 10 Gb LOM adapters with SFP+ cages for either optical transceivers or direct-attach copper (DAC) cable connections. Available in two or four port configurations.

Learn more:

- Product guide

Gigabit Ethernet Adapters

1 Gb adapters offer low cost, low power solutions enabling server virtualization and reduced CPU overhead with adapter offloads.

Broadcom 5719/5720 Gigabit Ethernet Adapters

2-port and 4-port NetXtreme Gigabit Ethernet adapters with RJ45 connectors supporting CAT5 cabling for low-cost and flexible networking requirements. Available in PCIe and OCP form factors.

Learn more:

- Product guide

Intel I350 Gigabit Ethernet Adapters

Available in either 1-port fiber configuration or 2-port or 4-port copper configurations, these adapters offer excellent price/performance, enhanced power-savings, and market-leading I/O virtualization technologies that includes SRIOV and VMDq.

Learn more:

- Product guide

Intel X722 Integrated 10 GbE Controller with Gigabit LOM

The Intel Ethernet Connection X722 is a network controller embedded into ThinkSystem servers. 1 Gb LOM adapters with RJ45 connections enable support for two or four Gigabit Ethernet network links.

Learn more:

- Product guide

Fibre Channel Adapters

Connecting Lenovo Servers to Storage Area Networks. High performance single and dual port Fiber Channel adapters provide performance, power efficiency, reliability and investment protection for connectivity to data center storage.

- 32 Gb Fibre Channel HBAs
- 16 Gb Fibre Channel HBAs

32 Gb Fibre Channel HBAs

32 Gb FC host bus adapter are Generation 6 (Gen 6) Fibre Channel offerings that provide the ultimate in Storage Area Network connectivity.

Emulex LPe35000 32Gb Fibre Channel Adapters

Emulex LPe35000 32 Gb 1-port and 2-port Gen 7 FC HBAs for ThinkSystem servers are an ideal solution when requiring high-speed data transfer in storage connectivity for virtualized environments, data backup, and mission-critical applications.

Learn more:

- Product Guide

Emulex LPe32000 32Gb Fibre Channel Adapters

Emulex 32 Gb 1-port and 2-port FC HBAs for ThinkSystem servers are an ideal solution when requiring high-speed data transfer in storage connectivity for virtualized environments, data backup, and mission-critical applications.

Learn more:

- Product Guide

QLogic 32Gb Fibre Channel Adapters

1-port and 2-port adapters based on Cavium technology offering industry leading native FC performance with extremely low CPU usage with full hardware offloads.

Learn more:

- Product Guide

16 Gb Fibre Channel HBAs

Fibre Channel HBAs deliver performance, operational agility, & maximum power of cloud virtualization.

Emulex 16 Gb Gen 6 Fibre Channel Host Bus Adapters

1-port and 2-port adapters with an advanced ASIC that can achieve 1.6M IOPS on a single port. Based on Emulex's new Dynamic Multicore architecture, which for the 2-port adapter, dynamically scales HBA resources to one port if the other port is idle.

Learn more:

- Product guide

QLogic Enhanced Gen 5 16 Gb Fibre Channel HBAs

1-port and 2-port adapters based on QLogic StorFusion architecture to delivers ultimate reliability to meet the needs of mission-critical enterprise applications. Consumes less power and fewer CPU cycles, all while maintaining peak performance.

Learn more:

- Product guide

Emulex LPm16002B-L Mezz 16Gb Fibre Channel Adapters for Flex System

1-port and 2-port Flex System mezz cards based on the proven Emulex XE201 design. Deliver 6x the IOPS, improve response times by up to 75%, and deliver double the throughput speeds compared to previous-generation 8 Gb adapters.

Learn more:

- Product guide

QLogic QML2692 16 Gb Enhanced Gen 5 Fibre Channel Adapter for Flex System

2-port mezz card for Flex System based on the advanced Cavium StorFusion architecture and ASIC. Delivers higher IOPS and performance with lower power consumption compared to previous generation.

Learn more:

- Product guide

InfiniBand and Omni-Path Adapters

InfiniBand and Omni-Path Architecture (OPA) adapters are the gateway to high-performance low-latency networking, ideal for clusters and time-sensitive applications.

- InfiniBand Adapters
- Omni-Path Adapters

InfiniBand Adapters

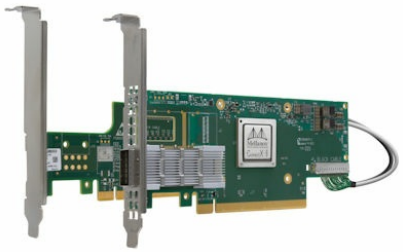
InfiniBand adapters solve HPC cluster networking challenges by delivering high bandwidth, low latency, and CPU offloads to get the highest server efficiency and application productivity at scale.

Mellanox ConnectX-6 HDR InfiniBand Adapters

The ThinkSystem Mellanox ConnectX-6 HDR InfiniBand Adapters offer 200 Gb/s InfiniBand connectivity for high-performance connectivity when running HPC, cloud, storage and machine learning applications. Planned additional support for 200 Gb Ethernet.

Learn more

- Product guide

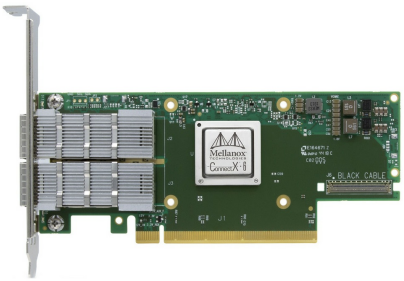


Mellanox ConnectX-6 HDR100 InfiniBand Adapters

The ThinkSystem Mellanox ConnectX-6 HDR100 InfiniBand Adapters offer 100 Gb/s InfiniBand connectivity for high-performance connectivity when running HPC, cloud, storage and machine learning applications. Planned additional support for 100 Gb Ethernet.

Learn more

- Product guide



Mellanox ConnectX-4 100GbE/EDR IB QSFP28 VPI Adapters

1-port or 2-port adapters that offer InfiniBand EDR speeds (25.8 Gb/s per lane) to enable high performance networking, clustering, or storage to operate seamlessly over any converged network leveraging a consolidated software stack.

Learn more:

- Product guide

Mellanox ConnectX-4 FDR 2-Port QSFP VPI Adapter

2-port adapter supporting InfiniBand FDR speeds (14 Gb/s per lane). Ideal for customers needing high-speed cluster interconnects using a PCIe x8 host interface.

Learn more:

- Product guide

Mellanox ConnectX-3 Pro ML2 FDR 2-Port QSFP VPI Adapter

Two QSFP ports supporting InfiniBand FDR speeds (14 Gb/s per lane) or 40 Gb Ethernet. Supported in servers with an ML2 adapter slot.

Learn more:

- Product guide

Mellanox ConnectX-3 Mezz FDR 2-Port InfiniBand Adapter for Flex System

Delivers low latency and high bandwidth for performance-driven server clustering applications on ThinkSystem servers in a Flex System ecosystem. Operates at InfiniBand FDR speeds (56 Gbps or 14 Gbps per lane)

Learn more:

- Product guide

Omni-Path Adapters

Omni-Path Architecture is a new networking topology that was designed specifically to scale cost-effectively from entry level HPC clusters to larger clusters with 10,000 nodes or more.

Intel Omni-Path Architecture OPA 100 Series Host Fabric Adapters

Enable high-performance connectivity between servers in a cluster. Available as either a PCIe 3.0 x16 adapter supporting bandwidths up to 100 Gb/s, or a PCIe 3.0 x8 adapter supporting up to 58 Gb/s.

Learn more:

- Product guide

Related product families

Product families related to this document are the following:

- Ethernet Adapters
- InfiniBand & Omni-Path Adapters
- Host Bus Adapters

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