ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 Ethernet Adapter

Product Guide

The ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 Ethernet Adapter is an advanced cloud Ethernet network adapter that accelerates mission-critical data-center applications such as security, virtualization, SDN/NFV, big data, machine learning, and storage.

The following figure shows the ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter (the standard heat sink has been removed in this photo).

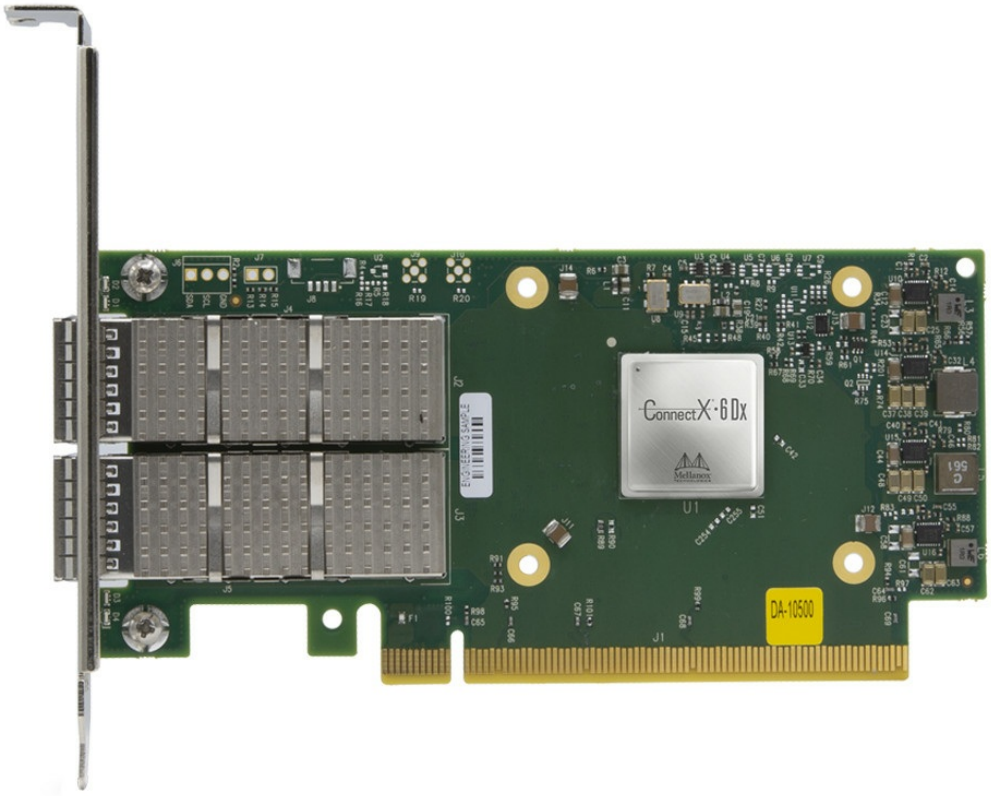

Figure 1. ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter

Did you know?

The ConnectX-6 Dx adapter offers a range of advanced built-in capabilities that bring security down to the end-points with performance and scalability, including stateful firewall acceleration powered by Open vSwitch connection tracking, embedded HW root-of-trust, secure FW update, and secure boot.

Part number information

The following table shows the part number for the adapter.

Table 1. Ordering information

Part number	Feature code	Mellanox equivalent	Description
4XC7A08248	B8PP	MCX623106AN-CDAT	ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter

The part numbers include the following:

- One Mellanox adapter
- Low-profile (2U) and full-height (3U) adapter brackets
- Documentation

Supported transceivers and cables

The following table lists the supported transceivers.

Table 2. Transceivers

Part number	Feature code	Description
100Gb Transceivers		
4M27A67042	BFH1	Lenovo 100Gb SR4 QSFP28 Ethernet Transceiver
7G17A03539	AV1D	Lenovo 100GBase-SR4 QSFP28 Transceiver
4TC7A86257	BVA4	Lenovo 100GBase-SR4 QSFP28 Transceiver

Configuration notes:

- Transceiver AV1D also supports 40Gb when installed in a Mellanox adapter.

The following table lists the supported fiber optic cables and Active Optical Cables.

Table 3. Optical cables

Part number	Feature code	Description
QSFP OM3 Optical Cables (these cables require a transceiver)		
00VX003	AT2U	Lenovo 10m QSFP+ MPO-MPO OM3 MMF Cable
00VX005	AT2V	Lenovo 30m QSFP+ MPO-MPO OM3 MMF Cable
QSFP28 100Gb Ethernet Active Optical Cables		
4X97A94703	B2UZ	Lenovo 1m 100G QSFP28 Active Optical Cable
4X97A94014	AV1L	Lenovo 3m 100G QSFP28 Active Optical Cable
4X97A94015	AV1M	Lenovo 5m 100G QSFP28 Active Optical Cable
4X97A94016	AV1N	Lenovo 10m 100G QSFP28 Active Optical Cable
4X97A94704	AV1P	Lenovo 15m 100G QSFP28 Active Optical Cable
4X97A94705	AV1Q	Lenovo 20m 100G QSFP28 Active Optical Cable
7Z57A03546	C10P	Lenovo 3m 100G QSFP28 Active Optical Cable
100G MPO OM4 MMF Cables (these cables require a transceiver)		
7Z57A03567	AV25	Lenovo 5m MPO-MPO OM4 MMF Cable
7Z57A03568	AV26	Lenovo 7m MPO-MPO OM4 MMF Cable
7Z57A03569	AV27	Lenovo 10m MPO-MPO OM4 MMF Cable
7Z57A03570	AV28	Lenovo 15m MPO-MPO OM4 MMF Cable
7Z57A03571	AV29	Lenovo 20m MPO-MPO OM4 MMF Cable
7Z57A03572	AV2A	Lenovo 30m MPO-MPO OM4 MMF Cable

The following table lists the supported direct-attach copper (DAC) cables.

Table 4. Copper cables

Part number	Feature code	Description
QSFP-to-QSFP 40Gb Cables		
49Y7890	A1DP	1m QSFP to QSFP+ Cable
49Y7891	A1DQ	3m QSFP+ to QSFP+ Cable
00D5810	A2X8	5m QSFP+ to QSFP+ Cable
00D5813	A2X9	7m QSFP+ to QSFP+ Cable
QSFP28 100Gb Ethernet Passive DAC Cables		
7Z57A03561	AV1Z	Lenovo 1m Passive 100G QSFP28 DAC Cable
7Z57A03562	AV20	Lenovo 3m Passive 100G QSFP28 DAC Cable
7Z57A03563	AV21	Lenovo 5m Passive 100G QSFP28 DAC Cable

Features

The Mellanox ConnectX-6 Dx 100GbE QSFP56 Ethernet Adapter offers a number of features, including the following:

Security to every end-point

In an era where privacy of information is key and zero trust is the rule, ConnectX-6 Dx adapters offer a range of advanced built-in capabilities that bring security down to the end-points with unprecedented performance and scalability, including:

- Probes & DoS Attacks Protection – ConnectX-6 Dx enables a hardware-based L4 firewall by ASAP2 offloading of stateful connection tracking.
- NIC Security – Hardware Root-of-Trust (RoT) Secure Boot and secure firmware update using RSA cryptography, and cloning-protection, via a device-unique secret key.

Advanced virtualization

ConnectX-6 Dx delivers another level of innovation to enable building highly efficient virtualized cloud data centers:

- Virtualization – Mellanox ASAP2 - Accelerated Switch and Packet Processing® technology for vSwitch/vRouter hardware offload, delivers orders of magnitude higher performance vs. software-based solutions. ConnectX-6 Dx ASAP2 offers both SR-IOV and VirtIO in-hardware offload capabilities, and supports up to 8 million rules.
- Advanced Quality of Service – Includes traffic shaping, and classification-based data policing.

Industry-leading RoCE

Following the Mellanox ConnectX tradition of industry-leading RoCE capabilities, ConnectX-6 Dx adds another layer of innovation to enable more scalable, resilient and easy-to-deploy RoCE solutions.

- Zero Touch RoCE – Simplifying RoCE deployments ConnectX-6 Dx allows RoCE payloads to run seamlessly on existing networks without requiring special configuration on the network (no PFC, no ECN). ConnectX-6 Dx's features ensure resiliency and efficiency at scale of such deployments.
- Configurable Congestion Control – API to build user-defined congestion control algorithms, best serving various environments and RoCE and TCP/IP traffic patterns.

Efficient storage solutions

With its NVMe-oF target and initiator offloads, ConnectX-6 Dx brings further optimization to NVMe-oF, enhancing CPU utilization and scalability. Additionally, ConnectX-6 Dx supports hardware offload for ingress/egress of T10-DIF/PI/CRC32/CRC64 signatures thereby enabling user-based key management and a one-time-FIPS-certification approach.

Technical specifications

Physical adapter:

- PCIe 4.0 x16 host interface
- Low profile form factor adapter (142mm x 69mm)
- Two QSFP56 cages

Ethernet:

- IEEE 802.3cd, 50, 100 Gigabit Ethernet
- IEEE 802.3bj, 802.3bm 100 Gigabit Ethernet
- IEEE 802.3by, 25, 50 Gigabit Ethernet supporting all FEC modes
- IEEE 802.3ba 40 Gigabit Ethernet
- IEEE 802.3ae 10 Gigabit Ethernet
- IEEE 802.3az Energy Efficient Ethernet (supports only “Fast-Wake” mode)
- IEEE 802.3ap based auto-negotiation and KR startup
- IEEE 802.3ad, 802.1AX Link Aggregation
- IEEE 802.1Q, 802.1P VLAN tags and priority
- IEEE 802.1Qaz (ETS)
- IEEE 802.1Qbb (PFC)
- IEEE 802.1Qbg
- 25/50 Ethernet Consortium “Low Latency FEC” for 50GE/100GE PAM4 links
- Jumbo frame support (9600 byte)
- IPv4 (RFQ 791)
- IPv6 (RFC 2460)

Virtualization:

- VirtIO in-hardware
- Single Root IOV
    - 1K VFs per port
    - 64 PFs (16 per host)
- VMware NetQueue support
- Per VM QoS
- Hardware offloads
    - Connection tracking
    - Header rewrite
    - Stateless offloads for overlay network tunneling protocols
    - Encapsulation and decapsulation of VXLAN, NVGRE, GENEVE and more overlay networks

Cyber Security:

- Hardware root-of-trust for Secure Boot
- Secure firmware update

Networking Offloads:

- TCP/UDP/IP stateless offload
- LSO, LRO, checksum offload
- RSS (also on encapsulated packet), TSS, VLAN and MPLS tag insertion/stripping, Receive flow steering

Networking Accelerations:

- Data Plane Development Kit (DPDK)
- Hardware-based and software-enabled XDP acceleration

Storage:

- NVMe over Fabric offloads for target
- Storage protocols: SRP, iSER, NFSoRDMA, SMB Direct, NVMe-oF and more
- T10 DIF - signature handover
- CRC16, CRC32 and CRC64 signature offloads

Time Seventieths Networking (PTP):

- Clock synchronization accuracy better than 16ns
- Software controlled hardware clock

- Full wire-speed hardware time stamping
- Accurate package scheduling
- IEEE 1588v2 (PTP)
    - Supports OC, SC, BC, MC PTP clocks
    - One & two step sync methods
    - E2E and P2P
    - Integrated with any PTP daemon

RDMA over Converged Ethernet (RoCE):

- Zero-touch Network configuration
- Selective Repeat
- Programmable congestion control mechanism
- Mellanox PeerDirect RDMA (GPUDirect)
- Dynamically Connected transport (DCT)
- Burst buffer offload
- RoCE over overlay networks

Management & Control:

- NC-SI, MCTP over SMBus and MCTP over PCIe - Baseboard Management Controller interface
- PLDM for Monitor and Control DSP0248
- PLDM for Firmware Update DSP026
- I2C interface for device control and configuration

Media & Entertainment:

- SMPTE 2110 streaming offload
    - 2110-10, 20, 21N, 30, 40, 50
    - ST2022-6/7
    - SMPTE ST-2059-2 PTP profile
    - Windows and Linux OS support

Remote Boot:

- Remote boot over Ethernet
- Remote boot over iSCSI
- UEFI support
- PXE Boot

Operating system support

The adapter supports the operating systems listed in the following table.

Tip: This table is automatically generated based on data from Lenovo ServerProven.

Table 5. Operating system support for ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter, 4XC7A08248 (Part 1 of 2)

Operating systems	SE450	SE455 V3	SD530 V3	SD535 V3	SD550 V3	SR630 V3 (4th Gen Xeon)	SR630 V3 (5th Gen Xeon)	SR635 V3	SR645 V3	SR650 V3 (4th Gen Xeon)	SR650 V3 (5th Gen Xeon)	SR655 V3	SR665 V3	SR675 V3	SR850 V3	SR860 V3	SR950 V3
Microsoft Windows 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2016	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2019	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y [2]	Y	Y	Y	Y	Y	N
Microsoft Windows Server 2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y [2]	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server version 1803	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.9	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.10	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Red Hat Enterprise Linux 8.2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.4	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.5	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.6	Y	Y	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.7	Y	N	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.0	Y	Y	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.1	Y	N	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.4	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Operating systems	SE450	SE455 V3	SD530 V3	SD535 V3	SD550 V3	SR630 V3 (4th Gen Xeon)	SR630 V3 (5th Gen Xeon)	SR635 V3	SR645 V3	SR650 V3 (4th Gen Xeon)	SR650 V3 (5th Gen Xeon)	SR655 V3	SR665 V3	SR675 V3	SR850 V3	SR860 V3	SR950 V3
SUSE Linux Enterprise Server 12 SP3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP4	Y	Y	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP6	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ubuntu 18.04.5 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 18.04.6 LTS	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04.5 LTS	Y	Y	N	Y	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	N
Ubuntu 22.04 LTS	Y	N	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	N
Ubuntu 22.04.2 LTS	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 22.04.3 LTS	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 24.04 LTS	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
VMware vSphere Hypervisor (ESXi) 8.0	Y	N	N	N	N	Y	N	Y	Y	Y	N	Y	Y	N	N	N	N
VMware vSphere Hypervisor (ESXi) 8.0 U1	Y	Y	N	N	N	Y [1]	N	Y	Y	Y [1]	N	Y	Y	Y	Y	Y	N
VMware vSphere Hypervisor (ESXi) 8.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U3	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

[1] For limitation, please refer Support Tip 104278

[2] IONG-11838 tips #TT1781

Table 6. Operating system support for ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter, 4XC7A08248 (Part 2 of 2)

Operating systems	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SR635	SR645	SR655	SR665	SR630 (Xeon Gen 2)	SR650 (Xeon Gen 2)	SR670 (Xeon Gen 2)	SR850P (Xeon Gen 2)	SR950 (Xeon Gen 2)	SR630 (Xeon Gen 1)	SR650 (Xeon Gen 1)	SR670 (Xeon Gen 1)	SR950 (Xeon Gen 1)
Microsoft Windows 10	N	N	N	N	N	N	N	N	Y [2]	N	N	N	N	N	N	N	N	N	N
Microsoft Windows 11	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y
Microsoft Windows Server 2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y
Microsoft Windows Server version 1803	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y
Red Hat Enterprise Linux 6.10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y
Red Hat Enterprise Linux 6.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y
Red Hat Enterprise Linux 7.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y
Red Hat Enterprise Linux 7.4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y
Red Hat Enterprise Linux 7.5	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	Y	Y	Y
Red Hat Enterprise Linux 7.6	N	N	N	N	N	N	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	N	N	N	N	N	N	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	N	N	N	N	N	N	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	N	N	N	N	N	N	Y [1]	N	Y [1]	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	N	N	N	N	N	N	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	N	N	N	N
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
Red Hat Enterprise Linux 9.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
Red Hat Enterprise Linux 9.4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	N	N	N	N
SUSE Linux Enterprise Server 12 SP3	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y	N	Y

Operating systems	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SR635	SR645	SR655	SR665	SR630 (Xeon Gen 2)	SR650 (Xeon Gen 2)	SR670 (Xeon Gen 2)	SR850P (Xeon Gen 2)	SR950 (Xeon Gen 2)	SR630 (Xeon Gen 1)	SR650 (Xeon Gen 1)	SR670 (Xeon Gen 1)	SR950 (Xeon Gen 1)
SUSE Linux Enterprise Server 12 SP4	N	N	N	N	N	N	Y [1]	N	Y [1]	N	Y	Y	N	Y	Y	Y	Y	N	Y
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	N	Y
SUSE Linux Enterprise Server 15 SP1	N	N	N	N	N	N	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N
Ubuntu 18.04.5 LTS	Y	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 18.04.6 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04 LTS	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04.5 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 22.04 LTS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ubuntu 22.04.2 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 22.04.3 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 24.04 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	N	Y
VMware vSphere Hypervisor (ESXi) 6.7 U2	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	N	Y
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	N	N	N	N	N	N	Y [1]	Y [1]	Y [1]	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	N	N	N	Y	Y	N	Y [1]	Y	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N

[1] The OS is not supported with EPYC 7003 processors.

[2] ISG will not sell/preload this OS, but compatibility and cert only.

Regulatory approvals

- Safety: CB / cTUVus / CE
- EMC: CE / FCC / VCCI / ICES / RCM
- RoHS compliant

Warranty

One year limited warranty. When installed in a Lenovo server, this adapter assumes the server's base warranty and any warranty upgrades.

Related publications

For more information, refer to these documents:

- Networking Options for ThinkSystem Servers:
  https://lenovopress.com/lp0765-networking-options-for-thinksystem-servers
- ServerProven compatibility
  http://www.lenovo.com/us/en/serverproven
- Mellanox product page for ConnectX-6 Dx
  https://www.mellanox.com/products/ethernet-adapters/connectx-6-dx
- User Manual for ConnectX-6 Dx
  https://docs.mellanox.com/display/ConnectX6DxEN

Related product families

Product families related to this document are the following:

- 100 Gb Ethernet Connectivity
- Ethernet Adapters

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