

PCIe x8 Mellanox ConnectX-4 LX Single-Port 50G QSFP28 Adapter



USER Manual
EN ver2.0

Description

PCIe x8 Mellanox ConnectX-4 LX Single-Port 50G QSFP28 adapter with 50Gb/s Ethernet connectivity addresses virtualized infrastructure challenges for today's demanding market and applications. Providing true hardware-based I/O isolation with unmatched scalability and efficiency, ConnectX-4 EN provides a cost-effective and flexible Ethernet adapter solution for Web2.0, cloud, data analytics, database, and storage platforms. It provide a combination of 50G bandwidth, sub-microsecond latency and a 75 million packets per second message rate. It include native hardware support for RDMA over Converged Ethernet(RoCE) ,Ethernet stateless offload engines, Overlay Networks, GPUDirect[○],R technology and Mellanox Multi-Host[○],R Technology.

Specification

- Compliant with PCI Express Specification Revision 3.0,1.1 and 2.0
- 2.5,5.0, or 8.0GT/s link rate x8
- Auto-negotiates to x8, x4, x2, or x1
- Support for MSI/MSI-X mechanisms
- Supports Single-Port 50G,40G,25G,10G, or 1Gb/s QSFP28
- IEEE802.3by,Ethernet consortium25G,50Gigabit Ethernet, supporting all FEC modes
- IEEE802.3az Energy Efficient Ethernet
- IEEE802.3ap based auto-negotiation and KR startup
- Support Standards IEEE802.3ad, IEEE802.1ax, IEEE802.1Q, IEEE802.1P, IEEE802.1Qaz, IEEE802.1Qbb, IEEE802.1Qbg, IEEE1588V2
- Jumbo frame support 9.6KB
- Independent NC-SI SMBus interface
- Independent stand-by and wake-on-Lan signals
- Hardware-based reliable transport

- Collective operation offloads
- PeerDirect RDMA (aka GPUDirect communication acceleration)
- 64/66 encoding
- Extended Reliable connected transport
- Dynamically connected transport
- RDMA over Converged Ethernet (RoCE)
- TCP/UDP/IP stateless offload
- LSO.LRO. checksum offload
- Hardware offload of encapsulation and decapsulation of NVGRE and VXLAN overlay networks
- SR-IOV, Multi-function, Enhanced QoS, VMware support
- SR-IOV up to 256 virtual functions
- SR-IOV up to 8 physical functions per port
- Guaranteed QoS for VMs
- OpenMPI, IBM PE, OSU MPI, Intel MPI protocol support
- NC-SI over MCTP over SMBus and NC-SI over MCTP over PCIe-Baseboard Management Controller interface
- Remote boot over Ethernet, iSCSI, PXE, and UEFI
- Supports Operation Systems: FreeBSD, Linux5.x and above, VMware5.5/6.0/6.5/6.7, Windows server2008/2012/2016/2019, win7/win8/win8.1/win10 32 or 64bit

Package content

- 1 x PCIe x8 Mellanox Connectx-4 Single-Port 50G QSFP28 adapter
- 1 x User's Manual
- 1 x CD Driver
- 1 x Low profile bracket
- **Accessories**



System Requirements

- FreeBSD, Linux , VMWare ESXi
- Win-server2008 R2/ Win-server2012 R2/ Win-server2016/Win-server2019
- Windows: 7/8/8.1/10 32/64bit
- One available PCI Express x8/x16 slot

Hardware installation

1. Turn off the computer and unplug the power cord
2. Remove the computer cover and the adapter slot cover from the slot that matches your adapter
3. Insert the adapter edge connector into the slot and secure the bracket to the chassis
4. Replace the computer cover ,then plug in the power cord
5. Power on the computer

Install Drivers and software

Windows[®] Operating Systems

You must have administrative rights to the operating system to install the drivers.

1. insert the CD driver bound with Mellanox network driver into your CD-ROM drive:
2. if the Found New Hardware Wizard screen is displayed, click **Cancel**
3. select a driver based on the system type
for Windows Server type: (Assume that D):
“D:\NIC Drivers\Mellanox\ConnectionX-4\Windows Server”
for Windows type: (Assume that D):
“D:\NIC Drivers\Mellanox\ConnectionX-4\Windows Client”
4. Double click the driver corresponding to the system.

5. Follow the instructions in the install wizard to finish it.

Installing Linux Drivers from Source Code

1. Download and expand the base driver tar file.
2. Compile the driver module.
3. Install the module using the modprobe command.
4. Assign an IP address using the ifconfig command.

Support

More information and settings, please refer to the Adapter User Guides or you can contact us.