CLN4C44

ConnectX®-4 Quad Port 25Gb/s Adapter

User Manual

Rev. 1.0

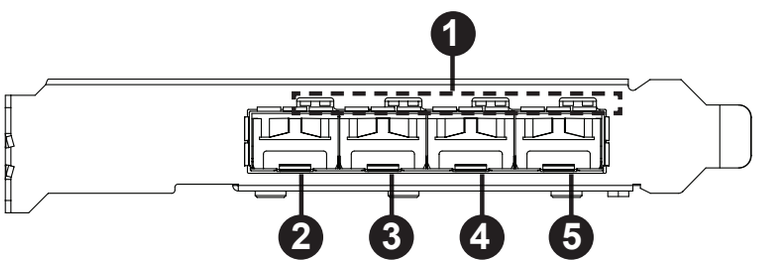
Chapter 1 Features

The following is a list of features for your CLN4C44 Network Adapter:

- Four SPF28 LAN Connectors
- MD2 Low-Profile Form Factor
- Dual Mellnox ConnectX® - 4 Lx EN Ethernet Controller
- CPU Offloading of Transport Operations
- Low Latency RDMA over Converged Ethernet (RoCE)
- Jumbo Frames Support Up to 9.6kB
- End-to-End QoS and Congestion Control
- RoHS-R6
- Up to 4 x 25Gb/s Ethernet per port
- PCIe 3.0 x16 Interface**
- Hardware Offloads for VXLAN, NVGRE and GENEVE Encapsulated Traffic
- Hardware-based I/O Virtualization
- Mellanox PeerDirect™ Communication Acceleration
- PXE Support
- Erasure Coding Offload

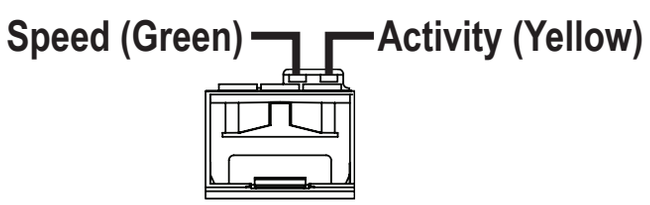
**NOTE: Based on this product controller specification, the PCIe x16 interface needs to re-defined to 1 x PCIe x8 + 1 x PCIe x8 bus in the BIOS setting, to allow system detection of 4 Ethernet ports.

Chapter 2 Components

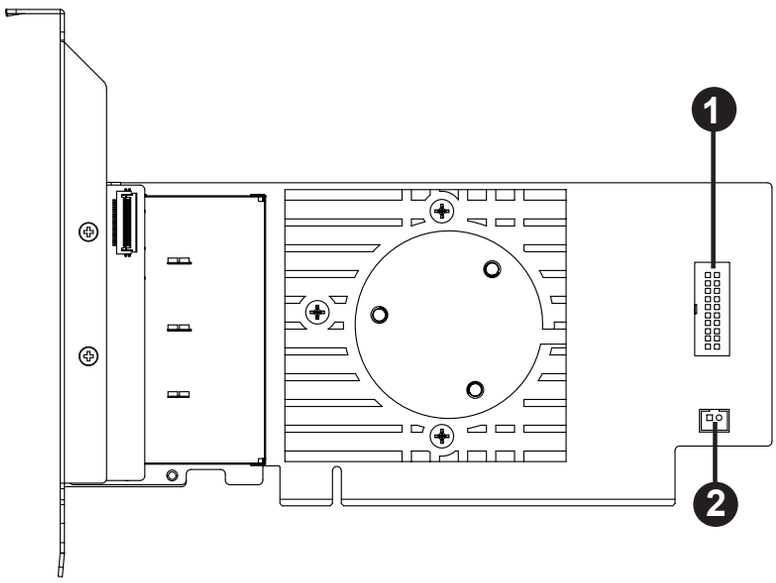


No.	Description	No.	Description
1.	LEDs (see the table below for LED behavior)	4.	LAN Port 3
2.	LAN Port 1	5.	LAN Port 4
3.	LAN Port 2		

LED Behavior

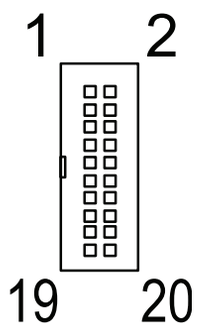


LED	Color	Behavior	Description
Speed (Physical Link)	Green	On	Port Physical Link
	Green	Off	No Connection
Activity (Logical Link)	Yellow	Blinking	Port Access
	Yellow	Off	No Access



No.	Description	No.	Description
1.	NCSI Connector (see the table below for pin definitions)	2.	Chip Heatsink Connector

NCSI Connector Pin Definitions



Pin 1	NCSI_CLK	P3V3_AUX_EN	**Pin 2**
	NCSI_RX_D0	GND	
	NCSI_RX_D1	GND	
	NCSI_CRS_DV	GND	
	NCSI_RX_ER	GND	
	P3V3_AUX	GND	
	NCSI_TX_D1	GND	
	NCSI_TX_D0	GND	
	NCSI_TX_EN	GND	
Pin 19	NCSI_PRESENT	P3V3_AUX	**Pin 20**

Chapter 3 Pre-Installation Instructions

Before installing the CLN4C44 Network Adapter ensure that you review the contents of this chapter.

Hardware Requirements

In order for the CLN4C44 Network Adapter to work properly in your system, ensure that your system meets the following mimimum hardware requirements:

- A system with a PCI Express x16 slot.

Also ensure that the following connection requirements are met:

- Interoperable with EDR InfiniBand or 1/10/25 Gb/s Ethernet switches

Supported Cables

For a list of supported cables refer to the following website:

http://download.gigabyte.eu/FileList/QVL/server_accessory_qvl_cln4c44_v1.0.pdf

Software Requirements

In order for the CLN4C44 Network Adapter to work properly in your system, ensure that your system has one of the following operating systems installed:

- Windows Server 2012 R2 x64 Update 1
- Windows Server 2016 x64
- Red Hat Enterprise Linux server 7.3 x64
- Red Hat Enterprise Linux server 6.8 x64
- SUSE Linux Enterprise 12 SP2 x64
- SUSE Linux Enterprise 11 Service Pack 4 x64
- Ubuntu 16.04.2 LTS x64
- Ubuntu 14.04.5 LTS x64

Safety Precautions

This adapter is beting installed in a system that operates with voltages that can be lethal. Before opening the chassis of the system, observe the following precautions to avoid injury and prevent damage to the system.

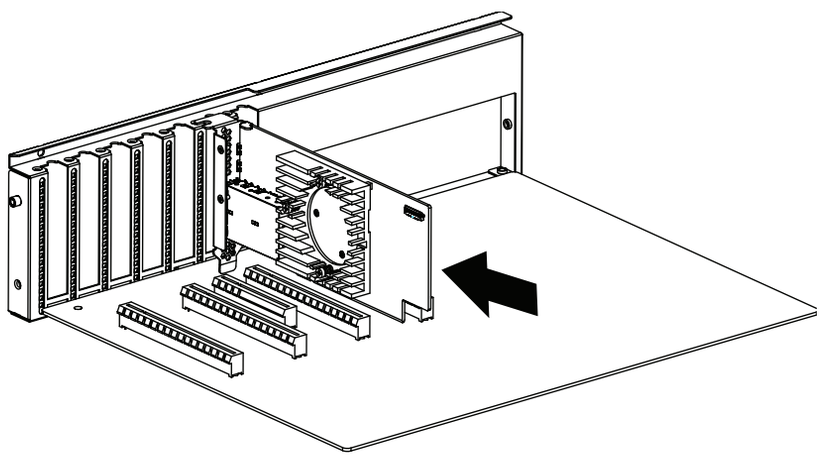
- Remove any metallic objects from your hands and wrists.
- Make sure to use only insulated tools.
- Verify that the system is powered off and unplugged.
- Use an ESD strap or other anti-static devices/equipment.

Chapter 4 Installation Instructions

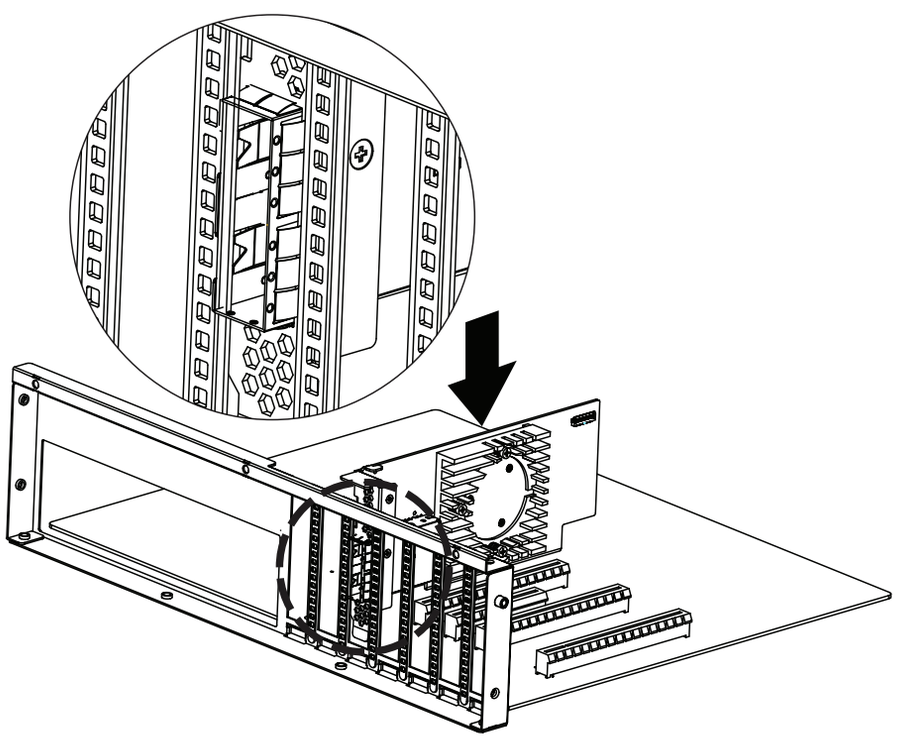
Before you begin the installation process, ensure that your system has been powered off and unplugged, and that you have reviewed all the precautions in the Pre-Installation Instructions chapter.

To install the CLN4C44 Network Adapter into your system follow the instructions below:

1. Open the chassis of the system you want to install the adapter in.
2. Locate the PCI Express x16 slot you want to install the adapter in.
3. Remove any existing brackets covering the slot.
4. Align the adapter to the slot.

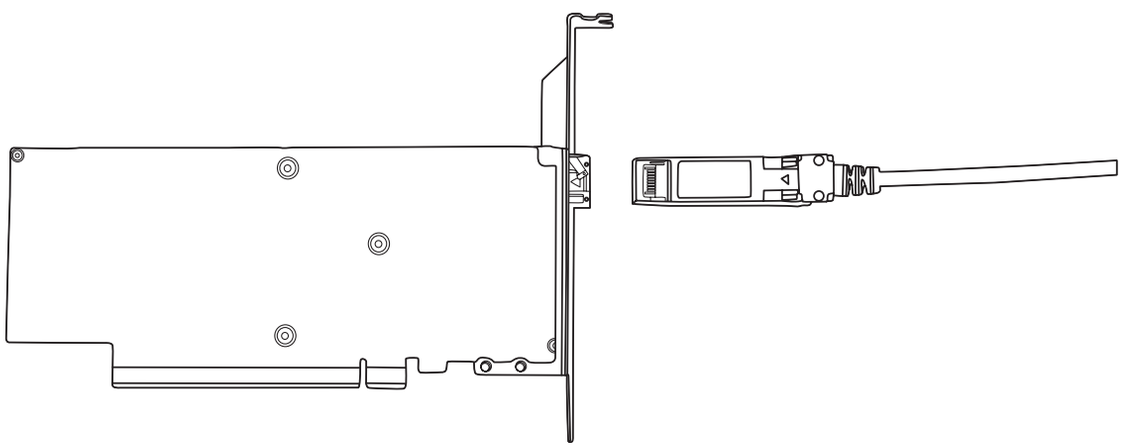


5. Ensure that the ports on the adapter extend through the opening for the PCI Express x16 slot, then while applying even pressure at both corners of the top side of the adapter insert the adapter into the PCI Express slot until it is firmly seated.



6. Once the adapter is properly seated, the ports on the adapter should be properly aligned with the slot opening, and the adapter faceplate should be visible against the system chassis.
7. Secure the adapter with adapter clips or screws.
8. Connect an SFP cable with internet access to LAN port 1 (for supported cables, refer to the Supported Cables section in Chapter 3).

NOTE: *The cable connection is required to download the drivers for the adapter. As a result, failure to connect the SFP cable will prevent completion of the installation process.*



To remove the adapter from the system reverse the installation process described above.