

Mellanox MCX416A-BCAT Datasheet



Mellanox MCX416A-BCAT ConnectX-4 EN Network Interface Card, 40/56GbE Dual-port QSFP28, PCIe3.0 x16, tall bracket
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ConnectX-4 EN Network Controller with 100Gb/s Ethernet connectivity, provide the highest performance and most flexible solution for high-performance, Web 2.0, Cloud, data analytics, database, and storage platforms. With the exponential growth of data being shared and stored by applications and social networks, the need for high-speed and high performance compute and storage data centers is skyrocketing.

ConnectX® -4 EN provides exceptional high performance for the most demanding data centers, public and private clouds, Web2.0 and BigData applications, and Storage systems, enabling today's corporations to meet the demands of the data explosion.

ConnectX® -4 EN provides an unmatched combination of 100Gb/s bandwidth in a single port, the lowest available latency, and specific hardware offloads, addressing both today's and the next generation's compute and storage data center demands.

Coherent Accelerator Processor Interface (CAPI)

With its support for CAPI, ConnectX-4 provides the best performance for Power and OpenPower based platforms. Such platforms benefit from better interaction between the Power CPU and the ConnectX-4 ENadapter, lower latency, higher

efficiency of storage access, and better Return on Investment (ROI), as more applications and more Virtual Machines run on the platform.

I/O Virtualization

ConnectX-4 EN SR-IOV technology provides dedicated adapter resources and guaranteed isolation and protection for virtual machines (VMs) within the server. I/O virtualization with ConnectX-4 EN gives data center administrators better server utilization while reducing cost, power, and cable complexity, allowing more Virtual Machines and more tenants on the same hardware.

Overlay Networks

In order to better scale their networks, data center operators often create overlay networks that carry traffic from individual virtual machines over logical tunnels in encapsulated formats such as NVGRE and VXLAN. While this solves network scalability issues, it hides the TCP packet from the hardware offloading engines, placing higher loads on the host CPU. ConnectX-4 effectively addresses this by providing advanced NVGRE and VXLAN hardware offloading engines that encapsulate and de-encapsulate the overlay protocol headers, enabling the traditional offloads to be performed on the encapsulated traffic. With ConnectX-4, data center operators can achieve native performance in the new network architecture.

RDMA over Converged Ethernet (RoCE)

ConnectX-4 EN supports both RoCE v1 and RoCE v2 specifications delivering low-latency and high-performance over Ethernet networks. Leveraging data center bridging (DCB) capabilities as well as ConnectX-4 EN advanced congestion control hardware mechanisms, RoCE provides efficient low-latency RDMA services over Layer 2 and Layer 3 networks.

Specifications

- General Information
 - Manufacturer: Mellanox Technologies Ltd

- Manufacturer Part Number: MCX416A-BCAT
- Brand Name: Mellanox
- Product Line: ConnectX-4
- Product Name: ConnectX-4 EN Network Interface Card
- Product Type: 40Gigabit Ethernet Card
- Interfaces/Ports
 - Host Interface: PCI Express 3.0 x16
 - Total Number Of Ports: 2
- I/O Expansions
 - Expansion Slot Type: QSFP
- Media & Performance
 - Media Type Supported: Optical Fiber
- Network & Communication
 - Network Technology: 40GBase-X
- Physical Characteristics
 - Form Factor: Plug-in Card
- Miscellaneous
 - Device Supported: Server
 - Environmentally Friendly: Yes
 - Environmental Certification: RoHS-6

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