Mellanox TECHNOLOGIES

Mellanox Multi-Host Evaluation Kit

## Experience the Advantage of Mellanox Multi-Host Technology

Mellanox's ConnectX®-4 Multi-Host technology enables connecting multiple hosts into a single interconnect adapter by separating the ConnectX-4 PCIe interface into multiple and independent PCIe interfaces. Each interface is connected to a separate host with no performance degradation. Mellanox Multi-Host evaluation kit will enable you to experience how this technology can increase your data center performance while reducing CAPEX and OPEX.

Multi-Host technology within ConnectX-4 offers four fully-independent PCIe buses, lowering total cost of ownership in the data center by reducing CAPEX requirements from four cables, NICs, and switch ports to only one of each, and by reducing OPEX by cutting down on switch port management and overall power usage.
Each host can be active or inactive at any time, independent of the other hosts, and receives bandwidth of its own. Bandwidth is split between the hosts, either evenly (default) or based on configurable differentiated Quality of Service (QoS), depending on the data center's needs. Multi-Host technology features uncompromising independent host management, with full independent NC-SI/MCTP support to each host and to the NIC. IT managers can remotely control the configuration and power state of each host individually, such that management of one host does not affect host traffic performance or the management of the other hosts, guaranteeing host security and isolation.

In addition to management of every host, a chassis-manager BMC is also supported for global resource management. Host management traffic, which can be active on and migrate between various interfaces (such as MCTP, SMBus, and RBT), can do so independently per host. This allows for power and performance optimization for each BMC management link according to the power state of the associated host. To further lower the total cost of ownership, ConnectX-4 supports management of the multiple hosts using a single BMC, with independent NC-SI/MCTP management channels for each of the managed hosts.
The Multi-Host evaluation kit offers users the opportunity to try out the Multi-Host technology for themselves.
The kit enables evaluation of two-host (with PCIe x8 to each host) or four-host (with PCIe x4 to each host) configuration.
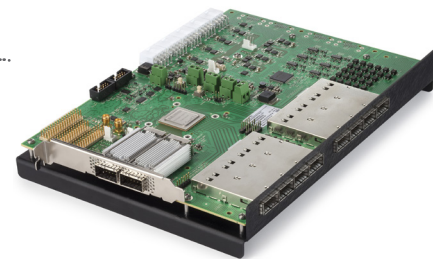
HIGHLIGHTS

BENEFITS OF MULTI-HOST
– Maximize data center Return on Investment (ROI)
– Lower Total Cost of Ownership (TCO)
– Reduce power consumption for Multi-Host designed servers
– Customize bandwidth per host based on data center's needs
– No performance degradation
– Guaranteed host security and isolation

KEY FEATURES OF MULTI-HOST
– 2 or 4 fully-independent PCIe buses
– Configurable differentiated Quality of Service (QoS)
– Full independent NC-SI/MCTP support to each host and to the NIC
– Management of the multiple hosts using a single BMC
– RoHS compliant

Traditional Design

Multi-Host Technology
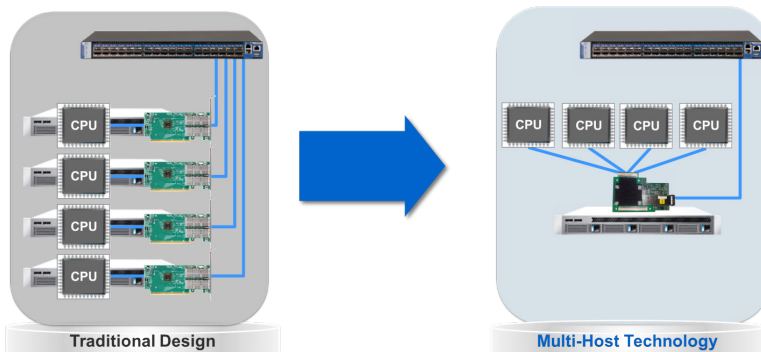
The kit includes:
- 1 x Multi-Host Evaluation Board
- 4 x Server-side extender PCI Express (PCIe) repeater cards – to be connected to independent servers
- 8 x PCIe cables - QSFP 2m passive cables, used to connect to the PCI repeater cards
- 4 x PCIe power cables – to be connected to the power connector of the PCIe repeater cards
- 1 x External 12V power supply – to power the board independently (with no need to connect the power from the PCIe repeater cards)
- 1 x Harness connecting the power supply and the Evaluation Board

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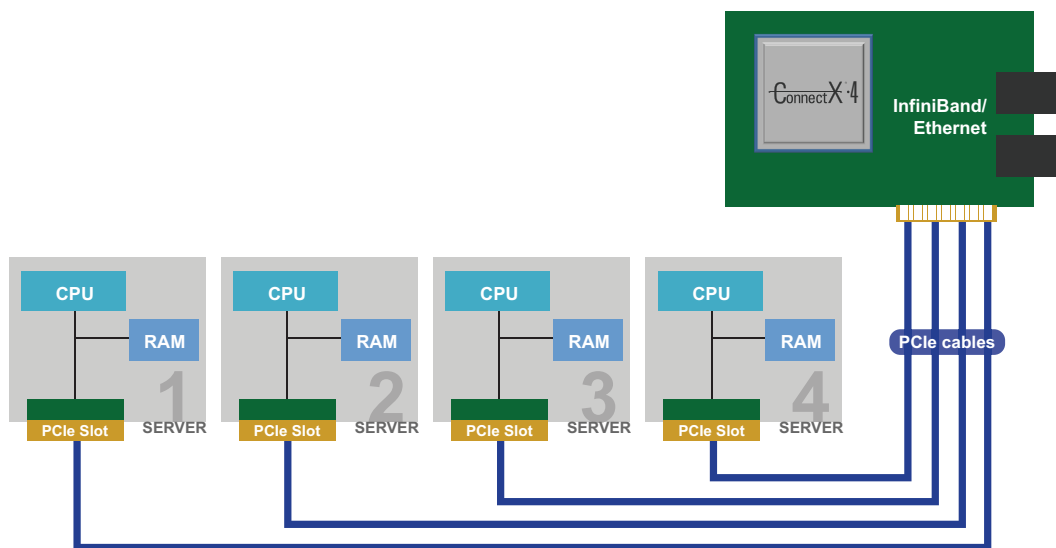
Ordering Part Number	Description
MCX4MHEVK-ECAA	ConnectX-4 Multi-Host evaluation kit: EDR IB (100Gb/s) and 100GbE dual-port QSFP28, four PCIe repeater boards, PCIe and power cables, ROHS R6

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