Low Latency 10 and 40 Gigabit Ethernet End-to-End Solutions

Featuring Mellanox SwitchX™ Ethernet Switch, ConnectX®-3 NICs, and Cables

Higher bandwidth and lower latency are crucial for efficient data center operation. With data volume increasing year over year, the modern data center has to deliver the highest performance and efficient scalability to allow business growth.

End-to-End 10 and 40 Gigabit Ethernet Solutions
Mellanox, the leading provider of high bandwidth connectivity solutions, offers complete 10/40GbE solutions. These end-to-end solutions deliver high bandwidth to data hungry applications along with low end to end latency enabling data centers to operate with high performance and efficiency for a better end user experience and infrastructure ROI. SwitchX and ConnectX solutions also give IT managers flexibility in how they deploy higher bandwidth to the servers, providing simple upgrade paths from 10/40GbE.

10 and 40 Gigabit Ethernet Switching
The SX1035 leverages Mellanox’s SwitchX architecture to deliver up to 2.88Tb/s of switching in a single 1U enclosure. The 36 QSFP ports can be configured to be used as 10/40GbE connections, supporting up to 64 10GbE ports providing flexibility for network installations with a typical power of 1.3Watts per 10GbE port and 2.8Watts per 40GbE port. The high bandwidth is delivered with port-to-port latency as low as 230ns for improved application response time. The high performance of the SX1035 along with flexibility of server and uplink connectivity options provide improved efficiency, future proofing, and savings versus alternative 10/40GbE solutions.

10 and 40 Gigabit Ethernet Adapter Cards
ConnectX-3 10/40GbE adapter cards with their low power and application acceleration capabilities provide the industry leading Ethernet solution for converged I/O infrastructures. The high bandwidth eliminates the need for multiple Ethernet connections to the server. ConnectX-3 accelerates RDMA applications with hardware-based RoCE (RDMA over Converged Ethernet), delivering efficient RDMA transport over Layer 2 Ethernet with latencies less than 1.3us. ConnectX-3 also accelerates sockets-based applications delivering latencies as low as 4us with additional accelerations when combined with Mellanox VMA software. ConnectX-3 EN performance and low power maximizes server and storage performance while reducing operating costs and network complexity.

10 and 40 Gigabit Ethernet Cabling
Mellanox passive copper and active optical cables provide the best-in-class performance.

KEY FEATURES
- High Density and High Bandwidth
  - 36 x 40GbE / 64 x 10GbE
  - Dual Port 10/40GbE adapter cards
- Flexible 10/40GbE configuration
  - Switch ports dynamically configured as 10/40GbE
  - QSFP Adapter Cards operates at 10GbE or 40GbE
- Low Latency
  - Switch port-to-port latency, 230ns at 40GbE
  - RDMA application latency less than 1.3us
  - Sockets application latency as low as 4us
- Low Power
  - Switch typical power consumption: 1.3W/10GbE Port or 2.8W/40GbE port
  - Adapter Card typical power consumption: 2.2 W/10GbE Port or 3.4W/40GbE port
and link reliability for 10/40GbE networks. The 10/40GbE passive copper cables deliver a cost-effective, low power interconnect solution for in-the-rack connectivity. The active optical cables and modules are designed for longer reach requirements, enabling connectivity of large scale systems and switches. With Mellanox cable solutions IT managers have the flexibility they need to deploy their networking equipment where ever needed.

**Early Access to Efficient Data Center Solutions**

Mellanox’s next-generation 10/40GbE solutions enable a more efficient data center by delivering higher application productivity with lower operating costs. High bandwidth and low-latency Ethernet solutions benefit a wide variety of data center applications in the Web 2.0, Financial Services, Data Warehousing, Cloud Computing, Storage and many other markets. To help simplify early access to this leading-edge technology, the 10/40GbE Beta Lab Kits include all the networking elements required to quickly enable a 4-node cluster evaluation. These kits are the quickest way for customers to gain hands-on experience and see the difference Mellanox Ethernet solutions can deliver. Please contact your Mellanox representative for ordering information.

### 10GbE End-to-End Beta Lab Kit

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<tr>
<th>Ordering Part Number</th>
<th>Description</th>
<th>Qty</th>
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<tbody>
<tr>
<td>MSX1035B-1SFR</td>
<td>SwitchX™ based 36-port QSFP 10/40GbE 1U, Ethernet “Lite L2” switch. 1PS, standard depth, forward airflow, RoHS-6</td>
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<tr>
<td>MCX312A-XCAT</td>
<td>ConnectX®-3 EN network interface card, 10GbE, dual-port SFP+, PCIe 3.0 x 8 8GT/s, tall bracket, RoHS R6</td>
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<td>MCC1V30A-003</td>
<td>Hybrid QSFP to SFP+ Cable, 30AWG, 3 meters</td>
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### 40GbE End-to-End Beta Lab Kit

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<tr>
<td>MSX1035B-1SFR</td>
<td>SwitchX™ based 36-port QSFP 10/40GbE 1U, Ethernet “Lite L2” switch. 1PS, standard depth, forward airflow, RoHS-6</td>
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<td>MCX314A-BCAT</td>
<td>ConnectX®-3 EN network interface card, 40GbE, dual-port QSFP, PCIe 3.0 x 8 8GT/s, tall bracket, RoHS R6</td>
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<td>MC2210128-003</td>
<td>40GbE QSFP passive copper cable, 28AWG, 3 meters</td>
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