

# Deliver Higher Application Performance!

## Low Latency 40 Gigabit Ethernet End-to-End Solutions



# 10 Gb/s not enough. Now you can go higher...much higher!

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

Mellanox end-to-end 40GbE products are the perfect solution to give your data center that extra kick to get faster results that your business demands in order to stay above the competition. Mellanox, the leading provider of high bandwidth connectivity solutions, offers complete 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 to 40GbE. Switch and NIC can be used interchangeably as 10GbE (with QSA) and 40GbE.

## Key Features

- High Density and High Bandwidth
  - 36 x 40GbE
  - Dual Port 40GbE NICs
- Flexible 40GbE configuration
  - Switch ports dynamically configured as 40GbE
  - QSFP NICs operates at 10Gb/s or 40GbE/s
- 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: 2.8W/40GbE port
  - NIC typical power consumption: 3.4W/40GbE port



## SwitchX® SX1036

The SX1036 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 10GbE 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 SX1036 along with flexibility of server and uplink connectivity options provide improved efficiency, future proofing, and savings versus alternative 40GbE solutions.



## SwitchX® SX1024

The SX1024, is the optimal top of rack switch with 48 port of 10GbE and 12 uplink ports of 40GbE for non blocking throughput between rack and aggregation layer. Based on Mellanox's SwitchX® silicon and advanced hardware design this switch packs 48 SFP+ and 12 QSFP interfaces in an ultra dense 1U form factor. the SX1024 features industry leading latency of 250ns and power efficiency while providing optimal performance for enterprise data center, financial services, web 2.0, high performance computing and cloud computing applications.

## 40GbE NICs

ConnectX-3



ConnectX-3 40GbE NICs 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 throughput while reducing operating costs and network complexity.

## Management and Acceleration Software



### Unified Fabric Manager™ (UFM™) Software for Data Center Management

Mellanox's Unified Fabric Manager (UFM) is a powerful platform for managing scale-out Ethernet computing environments. UFM enables data center operators to efficiently provision, monitor and operate the modern data center fabric.

### Messaging Accelerator (VMA)

Mellanox's Messaging Accelerator (VMA) boosts performance for message-based and streaming applications such as those found in financial services market data environments and Web 2.0 clusters. The result is a reduction in latency by as much as 300% and an increase in application throughput by as much as 200% per server as compared to applications running on other Ethernet interconnect networks.

### Storage Accelerator (VSA)

Mellanox's Storage Accelerator (VSA) software is a highly scalable, high performance, low-latency software solution for tier-one storage and gateways that provides ultra-fast remote block storage access and accelerates access to SAN, DAS, or Flash based storage.

### Unstructured Data Accelerator (UDA)

Mellanox UDA, a software plugin, accelerates Hadoop applications and improves the scaling of Hadoop clusters novel data moving protocol which uses RDMA in combination with an efficient merge-sort algorithm enables Hadoop clusters based on Mellanox InfiniBand and 40GbE NICs to efficiently move data between accelerating the Hadoop framework. It is the first interconnect solution, to tackle Hadoop node data access and compute issues from a cluster perspective by leveraging a RoCE-based superior lossless fabric. UDA

## 40GbE Cables



Mellanox passive copper and active optical cables provide the best-in-class performance and link reliability for 40GbE networks. The 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.

## M-1 Global Support Services

Maximize your investment in Mellanox equipment

Features	BRONZE (HW only)	SILVER (HW/SW)	GOLD (HW/SW)
Software/Firmware Updates	Web Only	✓	✓
Access to Customer Support Portal	N/A*	✓	✓
Phone Support Access	N/A*	8/5 M-F	24/7
Escalation/Response Times	N/A*	4 hours	2 hours
Product Coverage	Hardware Repair Assistance Only	Hardware, Firmware Host SW FabricIT	Hardware, Firmware Host SW FabricIT
On-site Professional Services Add-on	No	Yes – Fee Based	Yes – Fee Based
RMA/Warranty Policy	Shipped Next Business Day	Shipped Next Business Day	Shipped Next Business Day

\* Not Available



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