

- Multi-protocol support: TCP/IP, iSCSI and RDMA
- High performance, low latency 10 GbE solutions
- Fully compatible with existing Ethernet infrastructure



**Ease of
Installation &
Management**

**Multi-protocol,
Intelligent NICs
Dramatically
Improve
Data Center
Performance
and Agility**

**Lower TCO
over Common
Ethernet
Infrastructure**

**LOW LATENCY
10 GbE
for High
Performance
Ethernet
Environments**

FORCE10

High Performance, Cost Effective Ethernet Solutions for Today's Data Centers

The transition to 10 GbE is underway in the data center, and the ubiquity and reliability of Ethernet make it the most desirable solution for delivering 10 GbE performance. Qlogic's Intelligent NIC® provides network I/O processing capabilities at 10 Gigabit speeds. The key technology breakthrough and genesis of Qlogic is the Protocol Processing Engine, a purpose-built processor with a patented architecture that provides superior performance for I/O processing tasks, while being fully programmable. This engine allows Qlogic Intelligent NICs to achieve unprecedented levels of performance. It does so in a manner that permits the products to continue to evolve, adapt and extend to meet the ever-changing IT requirements.



The combined best-of-breed 10 GbE technology using Force10 Networks low latency switches and Qlogic Intelligent NICs deliver high throughput and low latency, facilitating mainstream data center adoption of 10 GbE.

The standards-based nature of Ethernet and TCP/IP enables IT staff to leverage existing skills and tools to reduce the total cost of ownership and complexity of data center operations – common spares, common software, common training for networking, storage, and clustering. Data center managers can now fully realize 10 Gbps data throughput with extremely low overhead while remaining completely compatible with existing Ethernet infrastructures.

Key Force10 S2410 Features

Resilient and scalable high density, low latency 10 GbE switch for high performance Ethernet environments.

- 24 line-rate 10 GbE ports in a 1-RU form factor
 - S2410CP: 20 CX4 ports plus four 10 GbE pluggable XFP interfaces
 - S2410P: 24 XFP interfaces
- 300 nanosecond switching latency under full load
- 64 byte to 10,240 byte frames
- Switching fabric capacity of 480 Gbps and forwarding capacity of 360 Mpps

Key Qlogic Intelligent NIC Features

- Trusted technology supplier to Tier 1 server OEMs (HP, IBM, Dell and others)
- Multi-protocol support: TCP/IP, iSCSI, RDMA
- Industry-first dual-ported 10 GbE connectivity for blades
- First and only Linux Sockets Acceleration™ (LSA) technology
- Only 10 GbE NIC to support Microsoft TCP Chimney Offload
- Breakthrough I/O virtualization technology
- Broad O/S support: Microsoft, RedHat, SuSE, and VMware

Force10 S2410 Specifications



S2410CP



S2410P

Physical

S2410CP: 20 line rate 10GBase-CX4 ports plus four 10 GbE pluggable XFP ports
S2410P: 24 line rate 10 GbE pluggable XFP ports
1 RJ-45 console/management port with RS-232 signaling
1 RJ-45 Ethernet management port

Size: 17 w x 16.73 d x 1.73" h (432 x 425 x 44 mm)
Weight: 14.3 lbs (6.5 Kg)
Power Supply: 100-240V AC, 50-60Hz, autosensing
Maximum Power Consumption:

S2410CP: 125W
S2410P: 225W
Maximum Thermal Output:
S2410CP: 426 BTU/hour
S2410P: 768 BTU/hour
Maximum Current Draw:
S2410CP: 1.15A 100/120 VAC, 0.575A 200/240 VAC
S2410P: 2.05A 100/120 VAC, 1.025A 200/240 VAC

19" rack mountable
Standard 1U chassis height
Maximum Operating Specifications:
Temperature: 32° to 104°F (0° to 40°C)
Operating humidity: 10 to 90 percent (RH), non-condensing
Maximum Non-operating Specifications:
Storage Temperature: -4° to 158°F (-20 to 70°C)
Storage humidity: 10 to 95 percent (RH), non-condensing

Redundancy

Load-balancing and Redundant AC Power

Performance

Layer 2/MAC Addresses: 16K
Switching Fabric Capacity: 480 Gbps (360 Mpps)
Switching Latency: 300 ns
Jumbo Frame Support: 10,240 bytes
Link Aggregation: 12 members per link aggregation group and 12 groups per system
Queues per port: 4
VLANs: 1024 VLANs with 4096 tag value support

IEEE Compliance

802.1D Bridging
802.1p L2 Prioritization
802.1Q VLAN Tagging
802.1s Multiple Spanning Tree Protocol
802.1w Rapid Spanning Tree Protocol
802.3ac Frame Extensions for VLAN Tagging
802.3ad Link Aggregation with LACP
802.3ae 10 Gigabit Ethernet
802.3ak 10 Gigabit Ethernet CX4
802.3x Flow Control

Qlogic 10 GbE Intelligent NIC Specifications



10 Gigabit Ethernet

IEEE 802.3ak 10GBase-CX4 Copper or Pluggable XFP Interface
Low Profile PCIe Form Factor

Onboard High Performance Memories

128-bit Datapath; 10GB/s
Low Latency SRAM
Fully ECC Protected

High Performance NIC Mode

Checksum Offload:
TCP, UDP & IP
Tx, Rx, IPv4 & IPv6
Stateless Offload:
Large Receive Offload (LRO)
Large Send Offload (LSO)
TCP Segmentation Offload (TSO)
Receive Side Scaling (RSS)
Jumbo Frames
802.1p – Priority
802.1Q – VLAN – Up to 4K
Teaming (Load Balancing / Failover):
802.3ad/LACP
802.3x Pause Frame
IPv6, IP

Full TCP/IP Offload

Linux Sockets Acceleration™ (LSA)
Windows Chimney (Microsoft Stateful Offload)

Boot

PXE
iSCSI

NetSlice™ I/O Virtualization Support

iSCSI Acceleration

RDMA Support:

Low Latency Transport for HPC and DB Clusters
Full iWarp Compliance (Open Fabrics Enterprise Distribution)

64-bit MAC Statistics for Management

MIB, MIB2, RMON & RMON2

Operating System Support

Microsoft Windows Server
RHEL 4/5
SLES 9/10
VMware ESX
Solaris



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