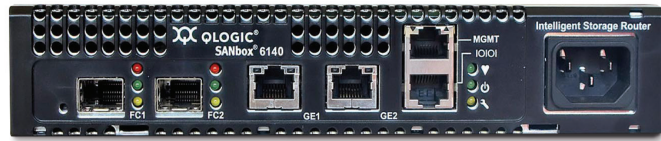# QLOGIC®

SANbox® 6140

Universal SAN Connectivity

Features

- All Fibre Channel SAN devices can be multi-protocol devices and shared across the enterprise to improve ROI and lower connection costs without impacting existing SAN architectures
- The 6140 supports Cluster File Systems to improve the performance, cost, and scalability of HPC storage connectivity. Since the SANbox 6140 can provide direct block access to SANs, via iSCSI to Fibre Channel (FC) routing, it leverages the cost benefits of Ethernet and provides direct access to SAN data
- Lowers the cost of SAN connectivity to under $100 per server. The 6140 supports up to 512 server connections and leverages native iSCSI drivers provided by all leading Operating System (OS) vendors to provide high performance, low cost SAN connectivity to improve application availability, data protection, and migrate stand-alone DAS storage to centralized SAN storage
- The 6140 provides the ability to extend SAN benefits across the enterprise at a very low cost and minimal management overhead
- Our advanced install and configuration wizards enable set up in less than 15 minutes and make it simple to manage
- Based on the same proven FC and iSCSI ASIC technology the have powered over 50 million storage products sold by leading storage vendors

Universal SAN Connectivity for Storage and Servers. The QLogic SANbox 6140 is designed for Universal SAN connectivity between storage and servers via iSCSI to Fibre Channel routing. It sets a new standard for ease-of-use and price/performance value. The SANbox 6140 offers unparalleled ease of integration, based on the same proven QLogic ASIC technology that powers over 50 million storage products sold by leading storage vendors. The 6140 product provides dual 1GB iSCSI ports for connection to the WAN/LAN and dual 2GB FC ports for connection to the FC SAN. Leading applications for the 6140 include:

- Adding multi-protocol support to FC SAN devices
- Scaling VMware to SAN connectivity
- Adding FC SAN access to all servers
- Optimizing storage for HCP clusters
- Wide Area Files Services (WAFS) for remote sites
- Connecting stranded servers to the SAN
- Connecting remote sites to the SAN

Lowering the Cost of SAN Connectivity. The SANbox 6140 is the ideal tool to expand the reach and benefits of your SAN investment across the enterprise. It leverages the low cost and pervasive infrastructure of Ethernet and supports up to 512 server connections. The 6140 leverages native iSCSI drivers provided by all leading OS vendors (Microsoft, Red Hat & SuSE Linux, Solaris, HP-UX, AIX) to bring the benefits of SAN to all servers in the enterprise. The combination of low cost Ethernet and native iSCSI drivers help drive the cost per server to under $100 per connection.

Virtual Storage Connections for Virtual Servers. Leading server virtualization products, such as VMware and Xen, need flexible and dynamic storage solutions. Our router technology provides virtual iSCSI connections between each server and Fibre Channel storage. As the virtual server environment changes, the SANbox 6140 provides the ability to dynamically re-allocate and migrate (VMotion) storage resources between virtual servers.

Improving Storage Management, Utilization, and Scalability. The SANbox 6140 consolidates data storage onto the SAN, improving storage management utilization and scalability. It is an ideal tool to migrate stand-alone storage to centralized SAN storage, improving utilization.

SANbox® 6140

Interface Specifications

Gigabit Ethernet
- Two ports: copper 1000 BaseT, RJ45
- Full duplex, auto negotiating 100/1000 Mbps

Fibre Channel
- Two optical ports
- Full duplex
- Auto negotiation: 2 Gbps or 1 Gbps
- N ports, NL ports, F ports, FL ports, E ports
- Class 2, 3 connectionless

Management port
- Ethernet 10/100 BaseT with RJ45
- RS-232 serial port with RJ45

iSCSI Initiator Support

Microsoft
- Windows 2000, 2003

Solaris
- SPARC 2.6, 8, 9, 10
- X86

Linux
- Red Hat AS 3, 4, 5
- SuSE Enterprise Server 8, 9, 10

VMware
- ESX Server v3.x

AIX
- AIXL 5

HP-UX
- HP-UX 9, 10

QLogic
- 4010, 4050

Apple
- OS-X (via ATTO driver)

Protocols

SANbox 6140
- iSCSI to FCP
- CHAP Security and Authentication

Performance Features

Fibre Channel port speed
- 2-Gbps, full-duplex, auto negotiating for compatibility with existing 1-Gbps devices

Ethernet/iSCSI port speed
- 1-Gbps, full-duplex, auto negotiating for compatibility with existing 100-Mbps devices

Maximum data rate
- 320 MBps aggregate

Input/output operations per second (IOPS)
- 35,000 aggregate

Ports per chassis
- Two FC, Two Ethernet/iSCSI
- FC: hot-pluggable, standard SFPs
- Ethernet/iSCSI: RJ45

Supported SFP types
- Shortwave (optical)
- Longwave (optical)

Cable types
- Optical (FCI): 50/62.5 micron multi-mode fiber
- 9 micron single-mode fiber
- Unshielded twisted pair (Ethernet/iSCSI)
- Cat 5e or better

Interoperability
- Compatible with FC-SW-2 complaint switches
- Management interoperability with leading SAN management applications

Device Management

Management methods
- Wizard-based configuration tools
- Command line interface (CLI)
- SNMP and SMI-S

Access methods
- Dedicated out-of-band Ethernet 10/100 BaseT, RJ45

Diagnostics
- Power-on self-test (POST) of all functions

User interface
- LED indicators, CLI, and web utilities

Mechanical

Enclosure types/options
- Optional side-by-side rack mount kit

Dimensions
- Width: 177.8 mm (7.00") – half rack
- Height: 42.16 mm (1.66") (1U)
- Depth: 243.58 mm (9.59")

Power supply
- 48W maximum (optics included)
- 100 VAC to 240 VAC; 50 Hz to 60 Hz
- 0.5A at 100–125 VAC; 0.25A at 200–240 VAC

Cooling
- Two fans with back-to-front airflow

Environmental/Safety

Operating
- Temperature: +5C to +40C (41F to 104F)
- Humidity: 5% to 90% non-condensing
- Altitude: 0 to +10,000 ft
- Vibration: IEC 68-2, 5-500Hz, random, 0.21G rms, 10 minutes
- Shock: IEC 68-2, 4g, 11ms, 20 repetitions

Non-operating
- Temperature: -40C to +70C (-40F to 158F)
- Humidity: 5% to 93% non-condensing
- Altitude: 0 to +50,000 ft
- Vibration: IEC 68-2, 5-500Hz, random, 2.09G rms, 10 minutes
- Shock: IEC 68-3, 30g, 292 ips, 3 repetitions, 3 axis

Agency
- UL 60950 (USA)
- CSA 22.2 No. 60950 (Canada)
- EN 60950 (EC)
- CB Scheme-IEC 60950

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