

BROCADE M6140 DIRECTOR



STORAGE AREA NETWORK

Performance and Flexibility for Small and Midsize Enterprise SANs

HIGHLIGHTS

- Provides up to 140 Fibre Channel/FICON ports for expanding Brocade M-EOS SAN fabrics in small and midsize enterprise data centers*
- Offers a unique, cost-efficient, modular design that enables scalability in 4-port increments
- Operates natively with Brocade B-Series switch, director, and backbone-class devices using common management—providing investment protection and a smooth migration path
- Supports 1, 2, and 4 Gbit/sec data transfer speeds across local SANs and up to 10 Gbit/sec for certain types of applications
- Helps ensure business continuity by providing five-nines reliability

The Brocade® M6140 Director provides a reliable, high-performance solution for small to midsize data centers utilizing Brocade M-Series Storage Area Network (SAN) fabric devices. Designed to support 24×7, mission-critical open systems and System z environments, the Brocade M6140 enables IT organizations to further consolidate and simplify their storage networks while keeping pace with rapid data growth and changing business requirements.

Providing up to 140 Fibre Channel or FICON® ports, the Brocade M6140 supports 1, 2, and 4 Gbit/sec transfer speeds to address a broad range of application performance needs. For data replication and backup to remote sites, the Brocade M6140 provides 10 Gbit/sec Fibre Channel transfer speeds over dark fiber using DWDM. And to help ensure uninterrupted

application performance, the Brocade M6140 features extensive component redundancy to achieve 99.999 percent system reliability.

The Brocade M6140 utilizes special port cards in up to 35 slots, enabling organizations to scale their SAN environments in small 4-port increments for cost-effective flexibility. Organizations can also *natively* connect Brocade 8 Gbit/sec switches, Brocade 48000 Directors, and Brocade DCX™ Backbones to the Brocade M6140



* Brocade M-EOS fabrics are McDATA switches and directors running McDATA Enterprise OS.

without disruption—enabling improved utilization of shared storage resources with complete Brocade M6140 functionality. The ability to protect M-Series investments helps reduce costs, streamline deployment in expanding SANs, and provide a seamless path for future infrastructure migration.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include education, support, and services. For more information, contact a Brocade sales partner or visit www.brocade.com.

BROCADE M6140 DIRECTOR SPECIFICATIONS

Availability

- Designed to provide 99.999 percent uptime capabilities to meet the highest availability standards
- Hot-plug, redundant power supplies, fans, and processors
- Hot-plug optics and port modules
- Online diagnostics
- HotCAT technology for online, non-disruptive firmware load and activation
- Port fencing
- Predictive optics monitoring

Supported Connectivity

Fibre Channel, FICON, FICON Cascading (M-Enterprise OS and Fabric OS®), FICON CUP

Compatibility

Management Access IP	IPv4, IPv6
Fibre Channel Element MIB	FE-MIB
TCP/IP MIB-II Groups	System, interface, address translation, IP, ICMP, TCP, UDP, SNMP
Classes of service	Class 2, Class 3, Class F

Performance

Port Speed 1, 2, 4, and 10 Gbit/sec at full duplex

Open Trunking heterogeneous load balancing

Scalability

140 ports per chassis

31 Fibre Channel domain addressing

Supported Optical Media

Performance	1.063 Gbit/sec line speed, full duplex; 2.125 Gbit/sec line speed, full duplex; 4.25 Gbit/sec line speed, full duplex; auto sensing of 1, 2, and 4 Gbit/sec port speeds; 10.5 Gbit/sec line speed, full duplex
Media type	<u>2 Gbit/sec</u> : Small Form-factor Pluggable (SFP), LC connector; 2 Gbit/sec Short Wavelength Laser (SWL); 2 Gbit/sec Long Wavelength Laser (LWL); 2 Gbit/sec Extended Long Wavelength Laser (ELWL) <u>4 Gbit/sec</u> : Small Form-factor Pluggable (SFP), LC connector; 4 Gbit/sec SWL; 4 Gbit/sec LWL; 4 Gbit/sec ELWL <u>10 Gbit/sec</u> : Gigabit Small Form-factor Pluggable (XFP), LC connector; 10 Gbit/sec SWL; 10 Gbit/sec LWL; 10 Gbit/sec ELWL Distance subject to fiber-optic cable and port speed

Management Options

Brocade Enterprise Fabric Connectivity Manager (EFCM), SA OS/390 through FICON Management Server (CUP), SNMP, Open Systems Management Server

Security

Password authentication, RADIUS support, security log, login banner, E/F_Port authentication, CHAP authentication, SSHv2, IP ACLs, SSH, SNMP v3, port binding, switch binding, and fabric binding

Fabric Services

Simple Name Server, Management Server, Broadcast, Name Server Zoning, RSCN Filtering

Diagnostics

Power-on self test; online port, CTP, SBAR; internal and external loopback; online system health

Serviceability

Non-disruptive firmware upgrades; HotCAT (hot code activation technology); call-home, e-mail (with Brocade software); smart thermal protection; unit, port, FRU beaconing

Installation Options

Rack-mountable, 19-inch EIA rack

Environmentals

Temperature	Non-operating: 34° F to 140° F Operating: 40° F to 104° F
Humidity	Non-operating: 5%–80% Operating: 8%–80%
Altitude	Non-operating: 12,192 m (40,000 ft.) Operating: 3,048 m (10,000 ft.)

Physical Dimensions

Height	52.9 cm (20.8 in. 12U)
Width	44.5 cm (17.5 in.)
Depth	61.3 cm (24.1 in.)
Weight	75.9 kg (167.0 lbs.)

Electrical

Operating voltage	200–240 VAC
Amps (max.)	4.2
Heat output (max.)	2,873 BTU/hour
Watts (max.)	841

For information about supported SAN standards, visit www.brocade.com/sanstandards

For information about switch and device interoperability, visit www.brocade.com/interoperability

For information about hardware regulatory compliance, visit www.brocade.com/regulatorycompliance

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