

# BROCADE Mi10K DIRECTOR



## STORAGE AREA NETWORK

## High Performance for Expanding SANs

### HIGHLIGHTS

- Provides up to 256 Fibre Channel/FICON ports for expanding Brocade M-EOS SAN fabrics in open systems and mainframe environments\*
- Operates natively with Brocade B-Series switch, director, and backbone-class devices using common management tools—providing investment protection and a smooth migration path
- Enables safe and effective consolidation efforts through virtual fabrics and partitioning
- Reduces risk and increases availability with advanced security and diagnostic tools
- Facilitates business continuity by enabling link distances greater than 190 km at 10 Gbit/sec

Today's enterprise Storage Area Networks (SANs) are growing exponentially. To reduce costs and make the best use of existing equipment and resources, IT organizations must be able to consolidate and simplify their storage networking environments. The Brocade® Mi10K Director meets this challenge by providing a highly flexible, reliable, and robust solution for enterprise data centers utilizing Brocade M-Enterprise OS (M-EOS) fabrics.

With the Brocade Mi10K, organizations can securely and efficiently consolidate large and geographically distributed networks supporting the most demanding open systems and mainframe environments. Providing up to 256 Fibre Channel or FICON® ports in a compact 14U chassis, the Brocade Mi10K delivers broad scalability advantages.

### THE BROCADE ADVANTAGE

Organizations with enterprise data centers continue to rely on the valuable features of the Brocade Mi10K to ensure high-performance SAN connectivity. Organizations can also *natively* connect Brocade 8 Gbit/sec switches, Brocade 48000 Directors, and Brocade DCX™ Backbones to the Brocade Mi10K without disruption—enabling improved utilization of shared storage resources with complete Brocade Mi10K 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.



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

Key benefits include:

- **Robust performance:** The Brocade Mi10K provides 1, 2, 4, and 10 Gbit/sec throughput to meet varying application needs. In addition, Open Trunking enables organizations to further increase performance by balancing data traffic across underutilized links.
- **Advanced security:** The Brocade Mi10K features robust authentication and RADIUS support to help prevent accidental or malicious intrusions.
- **Simplified manageability:** Heterogeneous administration with Brocade Enterprise Fabric Connectivity Manager (EFCM) reduces costs by providing a single, intuitive tool for all SAN management, including mixed M-Series and B-Series fabrics.
- **High availability:** Advanced diagnostics help detect problems before they occur.

## 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](http://www.brocade.com).

## BROCADE MI10K DIRECTOR SPECIFICATIONS

Availability	
<ul style="list-style-type: none"> <li>• Designed to provide 99.999 percent uptime capabilities to meet the highest availability standards</li> <li>• Hot-plug, redundant power supplies, fans, processors, and switch cards</li> <li>• Hot-plug optics and port modules</li> <li>• Online diagnostics</li> <li>• HotCAT technology for online, non-disruptive firmware load and activation</li> <li>• Port fencing</li> <li>• Predictive optics monitoring</li> <li>• Safe zoning mode</li> </ul>	
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	
256 ports per chassis	
239 Fibre Channel domain addressing	
Supported	
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

Heterogeneous Enterprise Fabric Connectivity Manager (EFCM); SNMP v1/2/3; CLI – Telnet, SSH, SSHv2; FICON Management Server (CUP); in-band management (OSMS)

## Virtual Director

Virtual fabrics

Partitioning

## Security

Hard partitioning, password authentication, RADIUS support, security log, login banner, E/F\_Port authentication, CHAP authentication, SSHv2, IP ACLs, SSH, SSL, SNMP v3, port binding, switch binding, and fabric binding

## Fabric Services

Simple Name Server, Management Server, Fabric Configuration Server, Unzoned Name Server, Fabric Zone Server, FICON CUP Server, Fabric Login Server, Fabric Controller, Domain Controller, RSCN filtering

## Diagnostics

Power-on self-test, internal and external loopback, online system health, Fibre Channel ping, hot device detection, predictive optics, Traceroute, Global Name Services display, route table display

## Serviceability

HotCAT (hot code activation technology); call-home, e-mail (with McDATA software); FRU beaconing

## Installation Options

Rack-mountable, Brocade cabinet rack

## Environmentals

Temperature	Non-operating: 0° C to 60° C (32° F to 140° F) Operating: 0° C to 40° C (32° F to 104° F)
Humidity	Non-operating: 5%–80% Operating: 8%–80%
Maximum altitude	Non-operating: 12,192 m (40,000 ft.) Operating: 3,048 m (10,000 ft.)

## Physical Dimensions

Height	67.2 cm (24.5 in. 14U)
Width	44.3 cm (17.5 in.)
Depth	86.4 cm (34.0 in.)
Weight	152.0 kg (335.0 lbs.)

## Electrical

Operating voltage	200–240 VAC
Amps (max.)	12 Amps at 208 VAC
Heat output (max.)	8,533 BTU/hour
Watts (max.)	2500

For information about supported SAN standards, visit [www.brocade.com/sanstandards](http://www.brocade.com/sanstandards)

For information about switch and device interoperability, visit [www.brocade.com/interoperability](http://www.brocade.com/interoperability)

For information about hardware regulatory compliance, visit [www.brocade.com/regulatorycompliance](http://www.brocade.com/regulatorycompliance)

**Corporate Headquarters**

San Jose, CA USA  
T: (408) 333-8000  
info@brocade.com

**European Headquarters**

Geneva, Switzerland  
T: +41 22 799 56 40  
emea-info@brocade.com

**Asia Pacific Headquarters**

Singapore  
T: +65-6538-4700  
apac-info@brocade.com

© 2008 Brocade Communications Systems, Inc. All Rights Reserved. 06/08 GA-DS-1000-03

Brocade, Fabric OS, File Lifecycle Manager, MyView, and StorageX are registered trademarks and the Brocade B-wing symbol, DCX, and SAN Health are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. All other brands, products, or service names are or may be trademarks or service marks of, and are used to identify, products or services of their respective owners.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.



**BROCADE**