SPECIFICATION SHEET

EMC Connectrix ED-DCX-B Backbone Director

The EMC® Connectrix® ED-DCX-B Backbone Director enables large-scale consolidation, multi-protocol integration, and simplified management to dramatically reduce operational and capital costs. The DCX is designed to support 8 Gb/s Fibre Channel and provide the highest levels of performance. It combines unprecedented scalability and bandwidth with leading innovations in power, cooling, and port density. With the ED-DCX-B, you can build storage area networks (SANs) with hundreds of host and storage connections in open systems or mainframe environments. Additional options are also available, including Fibre Channel Routing Services and Fibre Channel over IP (FCIP) for SAN extension, iSCSI and FICON support, and FIPS compliance. With redundant power supplies, fans, control processor blades and core switching blades, the DCX provides enterprise-class levels of availability, reliability, and performance.

System Architecture

Fibre Channel Standards
- FC-PH
- FC-PH-2
- FC-PH-3
- FC-GS-2
- FC-FLA
- FC-FG
- FC-SW3

Fibre Channel Ports
- Choice of two to eight port blades in any combination of 16-port, 32-port, and 48-port blades for up to 384 auto-sensing 2, 4, and 8 Gb/s ports

Performance
- Full line-speed switching at
  - 2.125 Gb/s line speed, full duplex
  - 4.25 Gb/s line speed, full duplex
  - 8.50 Gb/s line speed, full duplex
  - auto-sensing of 2, 4, and 8 Gb/s port speeds
  - optionally programmable 2, 4, and 8 Gb/s ports
  - 10.5 Gb/s line speed, full duplex

Aggregate Chassis Bandwidth
- Aggregate bandwidth 6.5 Tb/s per chassis (384 ports x 8.5 Gb/s (line rate) x 2 (full duplex))

Bandwidth per Slot
- 544 Gb/s

Aggregate ICL Bandwidth
- 1.1 Tb/s; (4 ICLs x 16 FC connections x 8.5 Gb/s (line rate) x 2 (full duplex)); load-balanced using eight 8-port frame-based trunks and DPS

Fabric Latency
- Locally switched ports 700 ns; blade-to-blade latency is 2.1 µsec

Maximum Frame Size
- 2112-byte payload

Frame Buffers
- 2048 per 16-port group on 16/32-port blades and up to 2048 per 24-port group on 48-port blades, dynamically allocated

Classes of Service
- Class 2, Class 3, Class F (Interswitch Frames)

Port Types
- FL_Port (except FC8-48), F_Port, M_Port (Mirror Port), and E_Port; self-discovery based on switch type (U_Port); optional port type control

Media Types
- Requires Connectrix hot-pluggable, Small Form-Factor Pluggable (SFP), LC connector
- Short-Wavelength Laser (SWL) up to 500 meters (1640 feet)
- Long-Wavelength Laser (LWL) up to 10 km (6.2 mi)
- Distance depends on fiber-optic cable and port speed

Fabric Services
- Simple Name Server, Registered State Change Notification (RSCN), NTP, RADIUS, LDAP, fabric-wide and port-level binding, Reliable Commit Service (RCS), Brocade Advanced Zoning, Web Tools™, Fabric Watch™ , Extended Fabrics, ISL Trunking, DPS, QoS, Advanced Performance Monitoring, FICON/CUP, Adaptive Networking Services with QoS

Hot-swappable Components
- 2N redundancy, hot-swappable power supplies and cooling fans
- Redundant control processors
- Hot-swappable port blades
- Hot-swappable optics

Optional Features
- Fibre Channel Routing Services, FCIP for SAN extension, ICL kit, FIPS compliance kit

Installation Options
- The ED-DCX-B can be mounted within an EMC Connectrix EC-1700-B cabinet or a customer-supplied 19-inch cabinet that conforms to the EIA 310 standard

Connectivity Management

Interface
- EMC Connectrix Manager Standard/Enterprise 9.6 (optional)
- Fabric Manager 5.4
- Web Tools
- SSH, Telnet, HTTPS/SSL, RADIUS
- SNMP v3 (FE MIB, FC Management MIB)
- Third-party applications utilizing the Brocade SMI Agent

Management Access
- Call-home integration
- 10/100/1000 Ethernet (RJ-45) per control processor, in-band over Fibre Channel (requires fabric); serial port (RJ-45) and one USB per control processor module

Firmware Upgrades
- Non-disruptive code load and activation

Compatibility
- All Connectrix B Series switches and directors

Diagnostics
- POST and embedded online/offline diagnostics, including extensive RAS features, RAS trace logging, FCping and Pathinfo (FCtraceroute)

Physical Specifications

Enclosure
- 43.74 cm (17.22 in) width
- 61.24 cm (24.11 in, 14U) height
- 61.19 cm (24.09 in) depth without door
- 73.20 cm (28.82 in) depth with door
- 103.50 kg (228.20 lb) for 384-port configuration fully populated
- 39.55 kg (82.20 lb) for chassis

Environmental Specifications

Temperature
- Operating: 0° C to 40° C (32° F to 104° F)
- Non-operating: –25° C to 70° C (–13° F to 158° F)

Relative Humidity
- Operating: 20% to 85% non-condensing at 40° C (104° F)
- Non-operating and storage (non-condensing): 10% to 93% at 70° C (158° F)

Altitude (feet/meters)
- Up to 9,842 feet (3,000 meters)

Shock
- Operating: 20 G, 6 ms, half sine
- Non-operating: 33 G, 11 ms, half sine

Vibration
- Operating: 0.5 G p-p, 5 to 500 to 5 Hz
- Non-operating: 2.0 G p-p, 5 to 500 to 5 Hz

Heat Dissipation
- Min: 16-port configuration of 505 W, 1,722 BTU/hr
- Max: 384-port configuration of 1,337 W, 4,564 BTU/hr

CO2 Emissions
- 4.9 metric tonnes per year (with 384 ports at 0.42 kg/kWh)
- 1.6 kg per Gb/s per year

Power Requirements

Supported Power Range

Range:	85-264 VAC Auto-volt
Nominal:	200 to 240 VAC, single phase
Operating:	180 to 264 VAC auto-sensing
Frequency:	47 to 63 Hz
Current Rating:	15 Amps
In-rush Current:	20 Amps maximum, peak

Regulatory Requirements

	Safety	EMI
United States	UL 60950	FCC Part 15 Class A
Canada	CSA No. 60950	ICES-003 Class A
Australia/New Zealand	-	EN550022 Level A
Japan	IEC 60950	VCCI Class A
International	IEC 60950	CSPR22 Class A
European Community	EN60950	EN55022 Level A
	TUV, NEMKO	EN55024
Taiwan	CNS	13438 Class A

EMC² where information lives®

EMC Corporation
Hopkinton
Massachusetts
01748-9103
1-508-435-1000
In North America 1-866-464-7381
www.EMC.com

Published in the USA. 03/08 Specification Sheet H4157.1