

EMC Connectrix ES-5832B



The EMC[®] Connectrix[®] ES-5832B is a high-speed, highly reliable hardware device that delivers fabric-based encryption services to secure data assets either selectively or on a comprehensive basis. The switch scales non-disruptively, providing 48 to 96 Gbit/s of encryption processing power to meet the needs of the most demanding environments with flexible, on-demand performance. It also is tightly integrated with EMC's RSA[®] Key Manager, which can scale to support key lifecycle services across distributed environments.

System Architecture

Fibre Channel Ports

32 ports, universal (F/L/E/EX/M)

Ethernet Ports

Two redundant 1000Base Ethernet ports for clustering and I/O synchronization during re-keying operation

Smart Cards

Master key recovery cards

Compatibility

IEEE 1619 standard-based mode

DataFort compatible mode

Encryption

AES256-XTS block cipher for disk encryption (IEEE 1619-compliant); AES256-ECB block cipher for DataFort compatibility mode

Data Re-keying

Online or offline conversion of data from cleartext to ciphertext; manual or automated re-keying sessions

Crypto Scalability

Up to 256 target devices; 1024 host ports per encryption engine

Crypto Engine

Maximum 96 Gbit/s hardware processing for disk

Performance

- 2.125 Gbit/s line speed, full duplex
- 4.25 Gbit/s line speed, full duplex
- 8.50 Gbit/s line speed, full duplex
- Auto-sensing of 2, 4, and 8 Gbit/s port speeds
- Optionally programmable to fixed-port speed

Fibre Channel Scalability

Full fabric architecture of 239 switches

ISL Trunking

Frame-based trunking with up to eight 8 Gbit/s ports per ISL trunk with optional license; up to 64 Gbit/s per ISL trunk

Maximum Frame Size

2112-byte payload

Classes of Service

Class 2 (unencrypted traffic), Class 3 (encrypted and unencrypted), Class F (Interswitch Frames)

Data Traffic Types

Fabric switches supporting unicast, multicast (255 groups), and broadcast

Media Types

4 Gbit/s: Requires Connectrix hot-pluggable, Small Form-factor Pluggable (SFP), LC connector; 4 Gbit/s Short-Wavelength Laser (SWL); 4 Gbit/s Long-Wavelength Laser (LWL); 4 Gbit/s Extended Long-Wavelength Laser (ELWL); distance depends on fiber-optic cable and port speed

8 Gbit/s: Requires Connectrix hot-pluggable SFP+, LC connector; Short-Wavelength Laser (SWL); distance depends on fiber-optic cable and port speed

USB

One USB port for system log file downloads or firmware upgrades

Fabric Services

Simple Name Server (SNS), Registered State Change Notification (RSCN), NTP v3, Reliable Commit Service (RCS), Dynamic Path Selection (DPS), Brocade Advanced Zoning (default zoning, port/WWN zoning, broadcast zoning), N_Port ID Virtualization (NPIV), FDMI, Management Server, FSPF, Enhanced Group Management, IPFC, Frame Redirection, Port Fencing, BB credit recovery

Optional fabric services: Fabric Watch, Extended Fabrics, ISL Trunking, Advanced Performance Monitoring, Adaptive Networking (per-data flow QoS, Ingress Rate Limiting, Traffic Isolation, Fabric Dynamics Profiling, and Integrated Routing)

FIPS Certification

FIPS 140-2 Level 3-compliant package

Connectivity Management

Administrator Roles

Administrator, fabric administrator, security administrator, recovery officer

Management

Telnet, HTTP, LDAP, Syslog, SCP, auditing, IP filtering; SNMP v1/v3 (FE MIB, Fibre Channel Management MIB); Advanced Web Tools; Connectrix Manager Data Center Edition; SMI-S compliant, SMI-S scripting toolkit, Administrative Domains

Management Access

10/100/1000 Ethernet (RJ-45), in-band over Fibre Channel; serial port (RJ-45); USB; call-home integration enabled through Connectrix Manager

Management Protocols

SSL, SSH v2, HTTPS, LDAP, RADIUS, Role-Based Access Control (RBAC)

SAN Security

DH-CHAP (between switches and end devices), port binding, switch binding, secure RPC, trusted switch, change tracking

Compatibility

All Connectrix B-Series switches and directors

Diagnostics

POST and embedded online/offline diagnostics, including RASTrace logging, environmental monitoring, non-disruptive daemon restart, FCping and Pathinfo (FC traceroute), Port Mirroring (SPAN port) Key Management NetApp LKM 4.0 or later; RSA Key Manager

Key Management

RSA Key Manager

Physical Specifications

Enclosure

Non-port to port side airflow; 2U, 19-inch EIA-compliant, power from non-port side

Size

Width: 42.9 cm (16.98 in)

Height: 8.7 cm (3.4 in)

Depth: 64.8 cm (25.5 in)

Weight: 22.4 kg (49.4 lbs) with two power supply FRUs, without SFP/SFP+ transceivers

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: 10% to 85% non-condensing

Non-operating and storage (non-condensing): 10% to 95% non-condensing

Altitude (feet/meters)

Operating: Up to 3000 meters (9,842 feet)

Storage: Up to 12 kilometers (39,370 feet)

Shock

Operating: 20 g, 6 ms half-sine

Non-operating: half sine, 33 g 11 ms, 3/eg Axis

Heat Dissipation

Maximum 80 ports: 1183 BTU/hr

CO² Emissions

1048.57 kg per year (with eight ports)

Airflow

Maximum 76 CFM (cu. ft/min); nominal 53 CFM

Power Requirements**Power Inlet**

C13

Input Voltage

85 to 264 VAC nominal

Frequency

47 to 63 Hz

Power Consumption

347 watts with 32 8-Gb ports

Configurations**Base Crypto Model**

Connectrix Encryption Switch, 32 Fibre Channel ports, 48 Gbit/s maximum hardware encryption processing

Upgrade Model

Connectrix Encryption Switch, 32 Fibre Channel ports, 96 Gbit/s maximum hardware encryption processing

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



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