



Dell PT-1016 Pass-Through Module

Generations Ahead

4Gb/s FIBRE CHANNEL

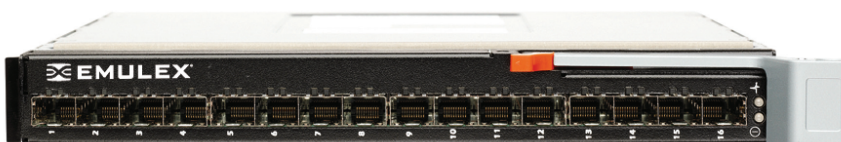
Pass-Through Module for the
Dell PowerEdge M1000e

Pure Simplicity

The Dell PT-1016 Pass-Through Module (PTM) provides investment protection for data centers that are already equipped with a networking infrastructure by providing a direct connection between the servers and the SAN without worry about interoperability issues. The PTM eliminates bottlenecks between the servers and SAN by providing full-bandwidth, dedicated connections. The unmanaged design of the PTM makes integration seamless and less time consuming than switched options without the hassles and complication of reduced bandwidth, “virtualized” interconnects. The PTM design is hot pluggable and provides for high-availability failover when deployed in pairs within the server chassis eliminating the chance of application downtime as a result of an unlikely failure of a PTM.

Product and Feature Description

With nothing to configure and minimal management needed, the Dell PT-1016 is the simplest means of connecting the Dell PowerEdge M1000e blade server platform to an existing SAN. The Dell PT-1016 guarantees the highest performance with dedicated connections between each server blade and SAN switches. Interoperability issues are eliminated as the Dell PT-1016 is protocol transparent and can be used with existing infrastructure that delivers complete embedded flexibility.



KEY BENEFITS

- ⦿ Provides 4, 2 or 1Gb/s FC connectivity up to 16 Dell blade servers and a SAN fabric
- ⦿ Per port dedicated connection for guaranteed bandwidth to each server port
- ⦿ Highest port density available in Dell's connectivity options
- ⦿ Provides uncompromising scalability to the fullest capability of the Dell chassis
- ⦿ Hot-plug capability and redundancy provide true high-availability for 24x7 data center operation
- ⦿ Investment protection—utilize existing SAN infrastructure with no interoperability issues

The Dell PT-1016 provides:

- ▶ Simplicity of unmanaged design eliminates configuration hassles
- ▶ Elimination of interoperability issues with transparent, pass-through protocol
- ▶ Compact, ultra dense form factor
- ▶ 4, 2 or 1Gb/s FC connectivity on each port
- ▶ Hot pluggable design that eliminates downtime during service actions
- ▶ Completely dedicated connection for each server blade

Dell PT-1016

4Gb/s FIBRE CHANNEL

Pass-Through Module

Dell PowerEdge M1000e Blade Server Platform Connectivity Options

Feature	Dell PT-1016	Fabric Switch	Access Gateway
Speeds	4, 2, 1Gb/s FC	4, 2, 1Gb/s FC	4, 2, 1Gb/s FC
Ports	16 external, 16 internal	8 external, 16 internal	8 external, 16 internal
Dedicated connection	Yes, guaranteed bandwidth to SAN	No, shared bandwidth to SAN 2:1 oversubscription	No, shared bandwidth to SAN 2:1 oversubscription
NPIV support	No	No	Yes
Guaranteed interoperability with existing infrastructure	Yes	No	No
Management	Unmanaged	HTTP, telnet, etc.	HTTP, telnet, etc.
Reduces network complexity	Yes, nothing to manage	Yes	Yes, virtualized HBAs require fewer domains
Allow seamless server replacement	No	No	Yes

Product Specification Summary

Feature	Description
Blade type	Fibre Channel Pass-Through
Performance	4Gb/s FC per port, non-blocking
Port configuration	16 4Gb/s FC internal connections to Server Blades 16 4Gb/s FC external uplinks
Port type	4Gb/s, FC optical SFPs, shortwave
Power requirements	21.8W nominal, 24.0W max 1.8 amps nominal, 2.2 amps max
Heat dissipation	74.4 BTU/hr nominal, 81.9 BTU/hr max
Warranty	1 year, parts and labor (Emulex to Dell, not end-customer warranty) End-customer warranty from Dell - TBD

Ordering information

- For ordering information on the Dell PT-1016, contact your local Dell sales representative
- Dell part No. PTM FI (UN328)**
Dell PT-1016 Bulk Pack
- Dell part No. PTM APOS (WR728)**
Dell PT-1016 Single-Pack
- Dell part No. PTM FRU (DR694)**
Dell PT-1016 FRU
- Dell part No. PTM SFP (PU956)**
Dell Single FC SFP Optical Transceiver

Architecture

- Fibre Channel ports:
 - 16 external, 16 internal
- Physical interface:
 - Hot-pluggable industry-standard copper & optics SFP transceivers at all ports



Physical attributes

- Dimensions:
 - Overall (including handle and connector guide pins)
10.72" W x 1.16" H x 12.08" D
27.2cm x 2.9cm x 30.7cm
 - Main enclosure (excluding latching handle and connector)
10.04" W x 1.16" H x 9.20" D
25.5cm x 2.9cm x 23.4cm
- Weight: 5.04 lbs, 2.3 kg

Environmental

- Temperature: operating 0 to 40°C

Parameter	Requirement
Non-operational random vibration	1.54 Grms, 10-250 Hz 15 min/side, 6 sides
Non-operational square wave shock	32 G, 270 in/sec, 6 sides
Non-operational half sine shock	71 G, 2 ms, 6 sides
Vibration, packaged unit, single pack	1.146 Grms, 1-200 Hz, 30 min/side, 6 sides
Vibration, packaged unit, multi-pack	1.146 Grms, 1-200 Hz, 30 min/side, 6 sides

Agency approvals

- Product safety:
 - UL recognized to UL 60950-1:2003, First Edition
 - CUR Recognized to CSA22.2, No. 60950-1-03
 - IEC 60950-1 (2001) [CB Scheme]
 - EN 60950-1 (2001) +A11
 - EN 60825-1 (1994) +A1 +A2
 - CFR Title 21, Laser AEL Class 1, FDA/CDRH
- EMC:
 - FCC Rules, CFR Title 47, Part 15, Subpart B, Class A
 - Industry Canada, ICES-003 (2004), Class A
 - EN55022 (2006) / CISPR 22 (2005) Class A; EN55024 (1998) +A1 +A2
 - EN61000-3-2 (2000) +A2; EN61000-3-3 (1995) +A1
 - VCCI V-2 / V-3 / V-4 (2006), Class A
 - KN22 (2005) Class A, KN24 (2005)
- Supplementary information:
 - European Union Low Voltage Directive 73/23/EEC
 - European Union EMC Directive 2004/108/EC
 - CE-Marking Directive 93/68/EEC (Carries the CE-Mark accordingly)
 - Australian EMC Framework (Carries the C-Tick mark accordingly)

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