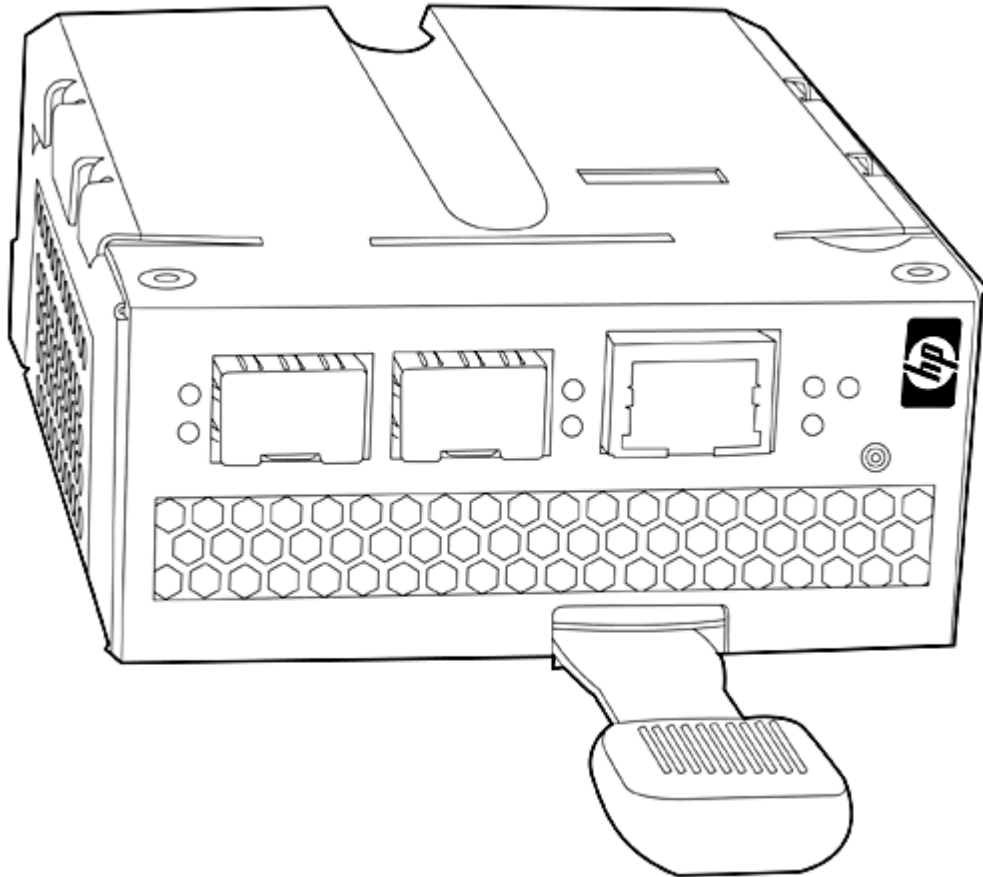


Overview

The McDATA 4Gb SAN Switch for the HP p-Class BladeSystem brings a new paradigm for server to storage network connectivity. IT organizations now have the capability to lower cost, minimize deployment time, and save precious rack space through the integration of fibre channel switching into the HP BladeSystem. Server connectivity to the switch is built into the BladeSystem chassis backplane eliminating cabling and small form factor interconnects (SFP). The McDATA 4Gb SAN Switch plugs into the back of the BladeSystem. It installs quickly and easily into the GbE2 Interconnect Switch for HP p-Class BladeSystem, or the Cisco Gigabit Ethernet Switch Module for HP p-Class BladeSystem, and provides seamless integration into existing or planned McDATA based storage networking fabrics.



What's New

- McDATA 4Gb SAN Switch Element Manager
-

Overview

Key Features and Benefits

- **Integrated design**
 - Consolidation of enterprise components saves cost and space
 - Zero foot print
- **Fibre channel connections between the servers and switch reside on the BladeSystem backplane**
 - Associated costs for FC cables and SFPs are eliminated
 - Faster time to deploy, just plug in the switch
 - Minimal external cabling
- **4Gbps SAN facing ports**
 - Auto-sensing recognizes 4 Gb, 2 Gb & 1 Gb devices
- **Redundant switches (2) per BladeSystem**
 - Each server blade has a redundant path to the fabric resulting in highly available solution for SAN connectivity
 - Enables use of multipathing software for an automated failover solution
- **Interoperability**
 - Seamless non disruptive integration into existing McDATA fabrics
 - Support for HP storage

Model

McDATA 4Gb SAN Switch for HP p-Class BladeSystem

A8001A

Product Highlights

Configuration support Please visit: <http://h18000.www1.hp.com/products/storageworks/san/documentation.html>

Product Features

- Small cube design plugs into the rear of the BladeSystem Chassis
 - 1/2/4 Gb auto-sensing ports
 - 8 internal and 2 external facing ports
 - RJ 45 ports
 - 2 Switches may be placed in each BladeSystem
 - Management software for simple installation and operation
 - Seamless non disruptive integration into existing McDATA fabrics
 - Tested to operate in the most demanding Enterprise- class environments
 - Integrated, enterprise-level management through HP StorageWorks High Availability Fabric Manager (HAFM) 8.8 or later and equivalent McDATA EFCM-based environments
-

Firmware

- Supports McDATA services such as security, event monitoring and performance monitoring
 - Non disruptive, on line code load and activation
-

Software Components, Standard

McDATA Web Server

- Embedded browser-based interface setup for configuration, control and monitoring of the switch resides on the switch.
 - Easy to use interface for switch configuration (including zoning), setting threshold alarms, and loading additional software features or firmware upgrades
-

Software Components, Optional

SANtegrity Enhanced

- SANtegrity Enhanced combines the capabilities of SANtegrity Binding with added authentication functionality
- Binding protects your SAN from disruption by intruders or by accident, by creating multiple layers or access control barriers at the port or fabric level
- Authentication is the requirement that each device participating in a storage network prove its identity

McDATA 4Gb SAN Switch Element Manager

- Provides consistent, enterprise-level management of McDATA 4Gb SAN Switch for HP p-Class BladeSystem within an HP StorageWorks M-Series or McDATA OEM infrastructure
 - Supported by HP StorageWorks HA Fabric Manager 8.8 or later and equivalent McDATA EFCM-based OEM infrastructures
 - Requires firmware 5.2.2 or later
-

Product Highlights

BladeSystem Compatibility

NOTE: The McDATA 4Gb SAN Switch must be deployed with p-Class BladeSystem infrastructure and will only work with the BL p-Class Server Enclosure with Enhancements.

Servers	ProLiant BL20p ProLiant BL25p ProLiant BL30p ProLiant BL35p ProLiant BL40p ProLiant BL45p Integrity BL60p
ProLiant BL p-Class Server Blade Enclosures	BL p-Class Server Blade Enclosure with enhanced backplane components
ProLiant BL p-Class Ethernet Switches (one required per McDATA 4Gb SAN Switch)	Cisco Gigabit Ethernet Switch Module for HP p-Class BladeSystem GbE2 Interconnect Switch for HP p-Class BladeSystem

Service and Support, HP Care Pack, and Warranty Information

Warranty	<p>(1-1-1) Hardware Warranty - One-year on-site warranty, 8x5, next business day response, installation not included.</p> <p>NOTE: The hardware warranty covers firmware and embedded non-saleable software. Saleable software carries its own warranty, please see below.</p> <p>Software Warranty: HP warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery.</p> <p>EXCLUSIVE REMEDY: The entire liability of HP and its suppliers and your exclusive remedy for software that does not conform to this Limited Warranty shall be the repair or replacement of the defective media. This warranty and remedy are subject to your returning the defective media during the warranty period to HP in the country in which you obtained the software.</p>
HP Service & Warranty Support	<p>HP Service & Warranty Support Additional Warranty protection and/or HP Installation packages can be purchased.</p> <p>NOTE: Certain restrictions and exclusions apply. Consult the Customer Support Center for details. HP provides a one-year, hardware limited warranty, fully supported by a worldwide network of resellers and service providers.</p> <p>In addition, available service offerings include a full range of HP Care Pack packaged hardware and software services:</p> <ul style="list-style-type: none">• Installation• Extended coverage hours and enhanced response times• System management and performance services <p>For more information on warranty and support options, please visit our Web site at: http://www.hp.com/hps/tech/storage/supp/.</p>
Software Product Services	<ul style="list-style-type: none">• Stand-alone telephone support• Rights to new license version• Media and documentation updates
Hardware Product Services	<ul style="list-style-type: none">• Installation services• On-site maintenance (includes warranty support)• Response time upgrades during the warranty period• Post-warranty coverage
HP Care Pack Services Warranty Upgrade Options	<p>Service offerings include a full range of Customer HP Care Pack services for both hardware and software services:</p> <ul style="list-style-type: none">• Response - Upgrade on-site response from next business day to same day 4-hours• Coverage - Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours• Duration - Select duration of coverage for a period of 1, 3, or 5 years <p>Additional Warranty protection and/or HP Installation packages can be purchased.</p> <p>NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details</p>

Service and Support, HP Care Pack, and Warranty Information

HP Care Pack Information

HP Care Pack is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.

- HP Care Pack is not available for less than the product's warranty duration.
- HP Care Pack is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required.
- HP Care Pack services are prepaid.

For additional HP Care Pack (hardware & software) information, as well as orderable part numbers, please refer to the URL listed below:

<http://h18005.www1.hp.com/services/carepaq/index.html>

Additional Services

Implementation service, SAN Architecture service. For more information on service options, please visit our Web site at: <http://www.hp.com/go/san>.

Configuration Information

Model Name	Model Description	Part Number
McDATA 4Gb SAN Switch	<ol style="list-style-type: none">1. 4 Gb SAN Switch; 8 internal, 2 external facing fibre channel ports,RJ45 and Ethernet port - a maximum of 2 McDATA switches per Blade Chassis2. McDATA Web Server for simple installation and administration3. The Switch includes 2 4 Gb SFPs and 1 retimer card, license and documentation	A8001A
SANtegrity Enhanced (Optional)	Combines SANtegrity Binding, which provides protection from problems due to accidental misconfigurations, with SANtegrity Authentication, which provides protection from WWN spoofing or malicious users	T4263A
McDATA 4Gb SAN Switch Element Manager (Optional)	Provides consistent, enterprise-level management of McDATA 4Gb SAN Switch for HP p-Class BladeSystem within an HP StorageWorks M-Series or equivalent McDATA OEM infrastructure	T4298A

Technical Specifications

Fibre Channel ports	2 external ports (ships with two 4 Gb SFPs)		
Scalability	Support and Scalability Guidelines, reference HP StorageWorks SAN Design Reference Guide: http://h18006.www1.hp.com/products/storageworks/san/documentation.html		
Performance	4 GB/sec line speed, full duplex		
Switch core	Non-blocking		
Fabric latency	<2 μ sec. with no contention, cut-through routing		
Maximum frame size	2112-byte payload		
Classes of service	Class 2, Class 3, Class F (inter-switch frames)		
Port types	FL_Port, F_Port, and E_Port; self-discovery based on G_Port or GL_Port		
Data traffic types	Fabric switches support unicast, multicast (256 groups), and broadcast		
Media types	Small Form-Factor Pluggable (SFP)		
Laser	Short-wave up to 500 m (1,640 ft); long-wave up to 10 km (6.2 mi) when available		
Supported software	SANtegrity Enhanced software McDATA 4Gb SAN Switch Element Manager		
Management access	10/100 Ethernet (RJ-45)		
Diagnostics	POST and embedded online/offline diagnostics		
Dimensions	Width	1.5 in (3.8 cm)	
	Height	3.4 in (8.6 cm)	
	Depth	4.75 in (12.1 cm), 7 in (17.9 cm) with handle	
	Weight	1.94 lbs (.88 kg)	
Environment	Temperature	Operating	41° to 104° F (5° to 40° C)
		Non-operating	-40° to 158° F (-40° to 70° C)
	Vibration	Operating	0.2 G, p-p 5-500-5 Hz
		Non-operating	2.0 G p-p, 5-500Hz
Fibre Channel Standards And Revisions	FC-FG Rev 3.5 FC-AL Rev. 4.6 FC-FLA Rev 2.7 FC-PLDA Rev 2.1 FC-PH-2 Rev 7.4 FC-GS-2 Rev 5.3 FC-PH-3 Rev 9.4 FC-SW Rev 3.3 FC-AL-2 Rev. 7.0 FC-PH Rev 4.3		

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