

HP Fibre Channel ServerNet adapter (FCSA)

Data sheet



The Fibre Channel ServerNet adapter (FCSA) provides connectivity for the HP StorageWorks XP Disk Array family. The HP StorageWorks XP storage arrays meet the stringent NonStop server requirements for continuous availability, scalability, and mission-critical capabilities.

Using the FCSA and the Modular I/O subsystem, HP NonStop S-series servers S76000/S86000 and higher can now participate in enterprisewide storage area networks (SAN) and economically deliver unique levels of data integrity, continuous availability, and business continuity for critical enterprise applications.

The HP NonStop Modular I/O subsystem delivers the next-generation I/O building blocks for high-performance, high-availability NonStop servers.

The high-performance Fibre Channel ServerNet adapter

- Connects dual ServerNet fabrics to the PCI-X interface bus
- Provides dual Fibre Channel interfaces for Fibre Channel storage subsystems and devices
- Resides in the I/O Adapter Module (IOAM) enclosure
- Is a field replaceable unit (FRU)

The Fibre Channel ServerNet adapter is a new-generation ServerNet adapter that provides connectivity to the StorageWorks XP Disk Array family.

The Fibre Channel ServerNet adapter (FCSA) requires the new NonStop Modular I/O subsystem: the I/O Adapter Module (IOAM) enclosure, and the modular cabinet.

Fibre Channel ServerNet adapter (FCSA) key benefits

The key benefits of the Fibre Channel ServerNet adapter (FCSA) are

- Conformance to the NonStop Modular I/O subsystem: the FCSA fits in one of the 10 IOAM enclosure slots
- Conformance to the Fibre Channel IEEE standard
- Dual 2-gigabit-per-second Fibre Channel (FC) ports for redundant FC fabric availability
- Dual 2.5-gigabit-per-second ServerNet ports for redundant ServerNet fabric availability
- Dual FCSA adapters in different IOAM fault zones for availability
- Connection to existing NonStop S-series and future Intel Itanium processor-based NonStop servers via the IOAM
- Co-existence with other Modular I/O ServerNet adapters in the Modular I/O configurations
- Powerful processor on the FCSA baseboard and high-speed ServerNet paths that provide an interface from PCI-X bus to the industry-standard, dual ported Fibre Channel plug-in card

Fibre Channel ServerNet adapter (FCSA) key features

The FCSA features include

- High-performance, powerful embedded RISC processor
- Very large number of concurrent I/Os
- High-bandwidth I/O performance
- Two X and two Y ServerNet fabric connections (two redundant, complex ServerNet III ports)
- Dual ServerNet III to PCI-X bridge ASICs
- 2 x 128-megabyte on-board memory buffer
- Industry-standard Fibre Channel plug-in card
- Single PCI-X 1.0 expansion slot
- 64-bit, 100-megahertz PCI
- 2 x 2-gigabit-per-second Fibre Channel ports
- A common ServerNet I/O baseboard, which is also used for other adapters
- Common storage and networking code

FCSA System requirements

System requirements

Hardware	NonStop S76000 server and higher Fibre Channel ServerNet adapter (FCSA); minimum of two for fault tolerance Modular cabinet* IOAM enclosure Maintenance switch UPS for NA/Japan UPS for int'l. locations Ext. runtime module
Software	NonStop Enterprise Storage connectivity software NonStop Kernel operating system Release Version Update (RVU) G06.24 or later

* For details of the five different power configurations for the modular cabinet, refer to the *HP NonStop S-series Servers Ordering and Configuration Guide*. See the guide also for additional optional modular accessories and data cables.

FCSA specifications

Hardware	Dual port Fibre Channel ServerNet adapter compliant with the modular I/O form factor
	Single board provides the following part characteristics: <ul style="list-style-type: none">• Port 1—2 Gb/s Fibre Channel• Port 2—same as for port 1 Dual ServerNet fabric connection Connector: standard LC duplex (not allowed on port 1 and 2; optional on port 3 and 4)

Cabling operating distances

Mode of operation	Data rate	Media	Maximum	Connector distance
Fiber	2 Gb/s	850 nm, 50 um, MMF	250 meters	LC type

LED state

Green: power on

Amber: fault condition

The port status LEDs indicate the activity on the Fibre Channel ports.

Power status and fault indicator LEDs

LED	State	Description
Power status (Green)	Off	Adapter is faulty and has not been powered off
	On	Adapter is powered

Fault indicator status (Amber)	Off	Adapter is functional
	On	Adapter internal failure or service action is indicated by software or technician

After installing the FCSA, the green power status LED should come on within a minute.

After installing the FCSA, the amber fault indicator LED should come on and go off within a minute.

The port status LEDs indicates the activity on the Fibre Channel ports

Hardware state	Green LED (2 Gb/s)	Amber LED (1 Gb/s)	Description
Power off	Off	Off	
Power on, before FW download	On	On	
Power on, after FW initialization	1 flash	1 flash	Both flashing at the same time
FW fault	2 flashes	2 flashes	Alternate flashing
1 Gb/s link up	Off	On	
2 Gb/s link up	On	Off	
Activity at 1 Gb/s	Off	5 flashes/s	
Activity at 2 Gb/s	5 flashes/s	Off	

FCSA firmware

FCSA adapter firmware

Concurrent support of up to 16 processors

Supports dual ServerNet fabric connections

Support dual Fibre Channel connections

Compliance with IEEE standards

IEEE Fibre Channel

FCSA cabling requirements

Cables may be procured from HP or from third-party vendors.

The FCSA adapter uses the following standard cables provided by HP:

Type: LC-LC, MMF

Length: 2m, 5 m, 15 m, 40 m, 80 m, 250 m

FCSA connectors

Standard LC duplex connector

Environmental specifications

Dimensions 450 mm x 228 mm x 43 mm

Weight 3.17 Kg (7 lb)

Compliance Regulatory agencies compliance

The FCSA adapter meets all the requirements of the General Products Description and complies with the regulatory agencies of all the required countries in which the product will be sold.

EMC requirements compliance

FCC Rules Part 15, Subpart B (Class A Verified)

ICES-003, Digital Apparatus, June 1991 (Canada; Class A Verified)

EN55022/CISPR 22, 1998 (Class A Verified)

EN55024/CISPR 24, 1997

EN 61000-3-2, 1995

EN 61000-3-3, 1994

Environmental standards compliance

The FCSA adapter satisfies the environmental requirements imposed by the General Products Requirement Specification Section 8 and Section 14 for a Class B device.

Safety and regulatory agency standards compliance

The FCSA satisfies the safety requirements imposed by the General Products Requirement Specification.

Ordering information

Part number	Product name
M8840	Fibre Channel ServerNet adapter (FCSA)

For more information

For information on the HP StorageWorks XP family, visit www.hp.com/go/storage.

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