

Fibre Channel Switch

PROFILE XP MEDIA PLATFORM

Installation Manual



SOFTWARE VERSION 5.8

071-8520-00
JULY 2006

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Revision Status

Rev Date	Description
July 15, 2006	Brocade Fibre Channel switch manual for the 4Gig Silkworm 200E.

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Grass Valley Product Support

To get technical assistance, check on the status of problems, or report new problems, contact Grass Valley Product Support via e-mail, the Web, or by phone or fax.

Web Technical Support

To access support information on the Web, visit the product support Web page on the Grass Valley Web site. You can download software or find solutions to problems by searching our Frequently Asked Questions (FAQ) database.

World Wide Web: <http://www.thomsongrassvalley.com/support/>

Technical Support E-mail Address: gvgtechsupport@thomson.net.

Phone Support

Use the following information to contact product support by phone during business hours. After-hours phone support is available for warranty and contract customers.

United States	(800) 547-8949 (Toll Free)	France	+33 (1) 34 20 77 77
Latin America	(800) 547-8949 (Toll Free)	Germany	+49 6155 870 606
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Southern Europe	+33 (1) 34 20 77 77	Hong Kong	+852 2531 3058
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Authorized Support Representative

A local authorized support representative may be available in your country. To locate the support representative for your country, visit the product support Web page on the Grass Valley Web site.



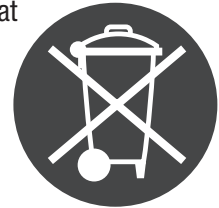
END-OF-LIFE PRODUCT RECYCLING NOTICE

Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive and in the United States from the Environmental Protection Agency, individual state or local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight, however you are responsible for the removal of the equipment from your facility and packing the equipment ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at 800-547-8949 or 530-478-4148 and ask to be connected to the EH&S Department. In addition, information concerning the program can be found at: www.thomsongrassvalley.com/environment



Welcome

You can use your 8- or 16- port Brocade 4 Gbit/s SilkWorm 200E Fibre Channel switch (fabric OS 5.0.1 or higher) to create fabrics for Grass Valley Profile Video Network systems (Internet Protocol only).

The Brocade *SilkWorm 200E Hardware Reference Manual* is your primary reference on the installation and initial setup of the SilkWorm 200E switch. The Grass Valley *Fibre Channel Switch Installation Manual* supplements the information provided by the Brocade SilkWorm documentation. It describes how to configure the SilkWorm 200E switch for use with Profile XP servers and provides general information on using a switch in a Profile Video Network system.

Support for Your Fibre Channel Switch

Your Brocade 200E SilkWorm Switch is sold, supported, and serviced by Grass Valley.

If you have any questions about your Brocade 200E SilkWorm Switch, or if you need any help or service for the switch, please contact your local Grass Valley Support representative listed at the front of this manual

NOTE: Do not contact Brocade directly for support of your Brocade 200E SilkWorm Switch.

Installing a Switch in a Profile Video Network

Compared to a Fibre Channel hub, the Fibre Channel 4 Gbit/sec switch improves the performance of your Video Network by:

- Increasing the bandwidth between any two Fibre Channel devices by eliminating the shared bandwidth required by a Fibre Channel Arbitrated Loop.
- Improving the scalability of your Video Network. By managing your inter-switch connections, you can increase the size of your network without the shared bandwidth concerns of a large loop.
- Providing optional multicast capability, which lets you move material to several machines at once, rather than with several individual transfers.

Figure 0-1 shows the Profile Fibre Channel switch in a simple fabric environment.

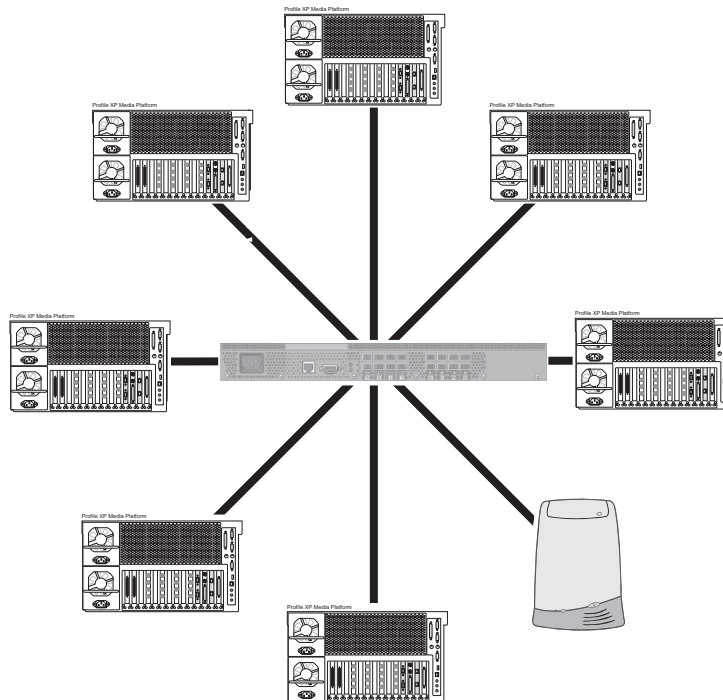


Figure 0-1. The Profile XP Fibre Channel 4 Gbit/sec Switch

Profile System Software Requirements

All Profile XP System Software versions fully support the Profile Fibre Channel Switch. Be sure to read the Profile XP Release Notes to learn about any new requirements.

All versions of Profile XP Fibre Channel boards have the required firmware for operation with the Profile Fibre Channel Switch. You do not need to change the Fibre Channel firmware or drivers on Profile XP systems.

Bear in mind the following considerations when setting up your Brocade switch for use with Profile systems:

- You do not need to set the Fibre Channel hardware address of Profile systems

connected to the Fibre Channel switch. These addresses are assigned dynamically in a fabric environment.

- The Brocade SilkWorm 200E switch is only compatible with the Profile XP series of servers. However, you can use it in a network with other Brocade switches that connect to PDR servers.

The sections that follow describe the installation and use of the Brocade SilkWorm Switch in a Profile Video Network environment.

Topics include:

- Configuring the Brocade SilkWorm 200E for the Profile system
- Avoiding loop configurations in a fabric (switched) environment.

Configuring Your Fibre Channel Switch

Your Brocade 200E SilkWorm Switch will operate correctly in your Fibre Channel fabric environment using the default settings with the following exceptions:

1. Set IP address, subnet mask, default gateway.

NOTE: *Never set the FC IP address. The setting should always be 0.0.0.0 for the FC IP address.*

2. Set the domain for your site.

NOTE: *Each Brocade 200E SilkWorm Switch must have a unique DomainID for the local fabric. You should specify these values individually for each switch and not allowing the switches to select their own DomainID values. Setting DomainIDLock to True prevents the switch from changing the DomainID when a new switch is added to fabric.*

3. Set Sequence Level Switching (Non-SCSI Tachyon Mode) to 1.
4. Change the VC Priorities settings 6 and 7 from 3 to 2.

Refer to the *SilkWorm Hardware Reference Manual* for instructions on how to make these settings.

Connecting Devices to the Switch

Follow the instructions in the *SilkWorm Hardware Reference Manual* to connect your Profile systems and other devices to the Fibre Channel switch. You should also take note of the following guidelines when setting up your fabric environment.

Cable Lengths

Use the appropriate cable types and SFP (Small Form Pluggable) for the length of your Fibre Channel connections. The Brocade SilkWorm 200E requires the use of fiber-optic cable.

NOTE: *Profile Fibre Channel cables sold for use with Fibre Channel hubs do not have the required connectors for use with the Fibre Channel switch. You must obtain cables appropriate for use with the switch.*

Single-Switch Fabric

Figure 0-2 shows a basic Fibre Channel fabric, in which up to eight devices are connected to the switch. Each device sends and receives only the data that is specific to that device. Each device benefits from a dedicated connection, which allows for the full Fibre Channel bandwidth to each device.

NOTE: As shown in Figure 0-2, you must not connect a Fibre Channel Arbitrated Loop to a Fibre Channel Switch port. Grass Valley does not support loops in a fabric environment.

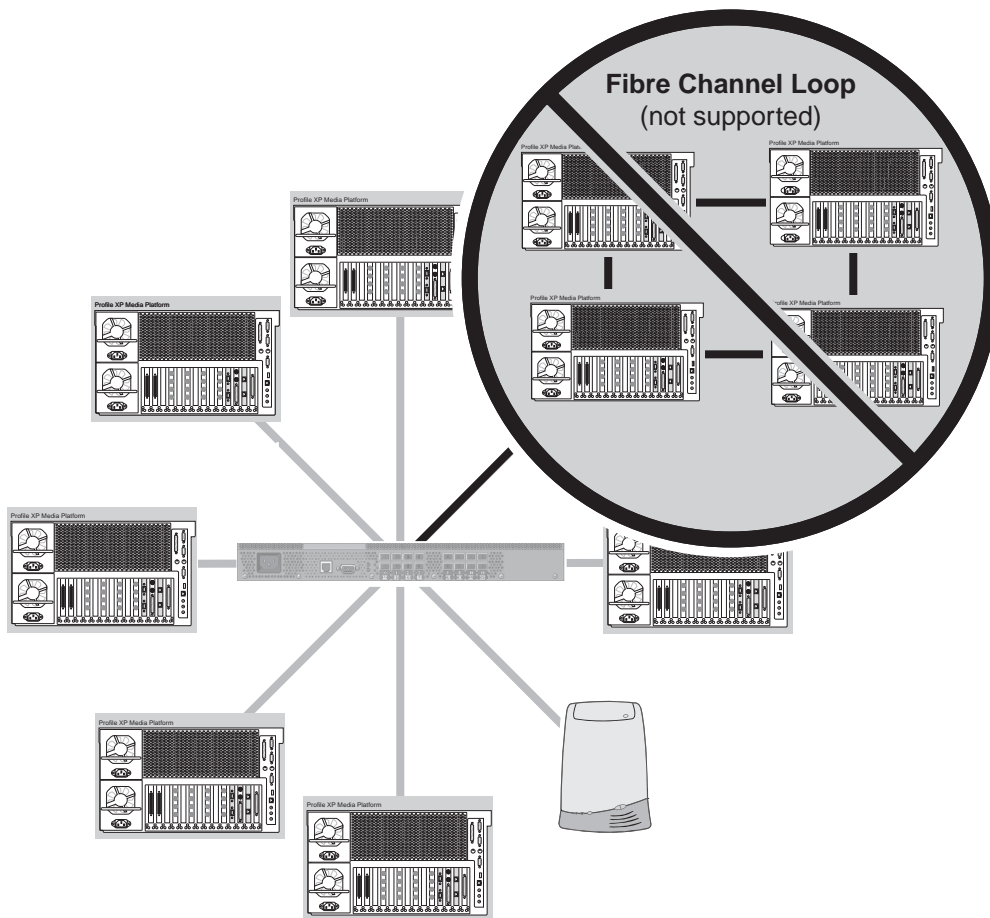


Figure 0-2. Single-switch fabric with no loops attached

Multi-Switch Fabric

If you need to connect more than sixteen Fibre Channel devices together in your video network, you must use more than one switch to make your connections. When increasing the size of your fabric, you should follow some basic rules:

- You should ensure that you have at least two inter-switch connections from each switch. This provides:
 - Redundant paths between switches.
 - The ability to balance loads over several connections.
- Increasing the number of inter-switch connections will increase the bandwidth between the switches, and thus between devices connected to different switches.

Figure 0-3 illustrates a fabric comprising two Fibre Channel switches. Note the two connections between the switches.

Figure 0-4 shows three switches connected together. Note that each switch is connected to two other switches. You do not need two connections between each pair of switches, as the failure of any one connection will still provide an alternate connection over another route.

Adding more inter-switch connections will increase the redundancy and bandwidth capability, but it will reduce the total number of devices which you can connect to each switch.

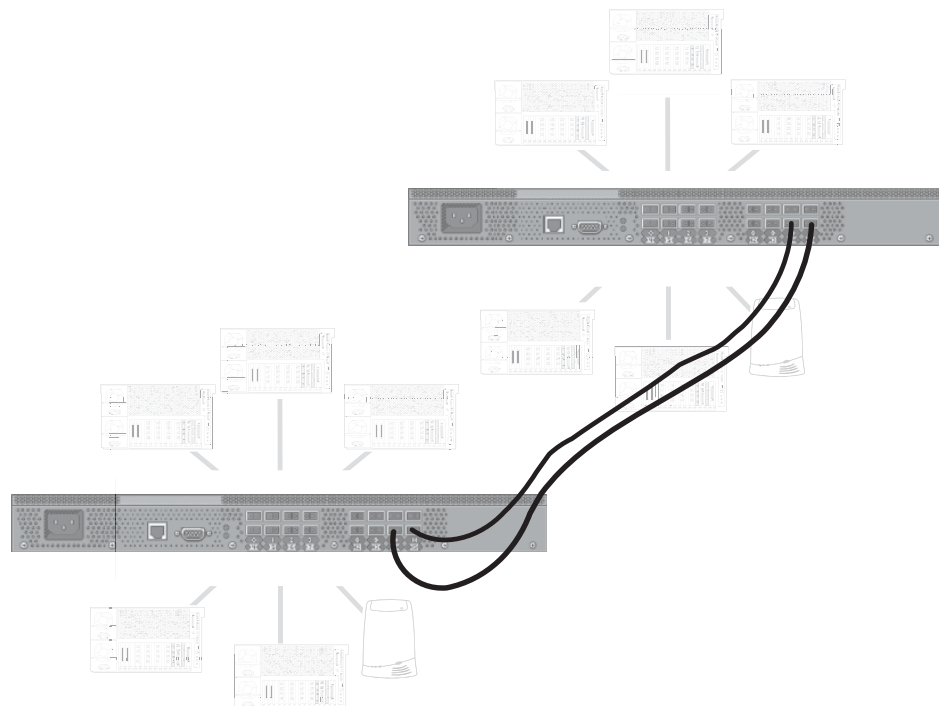


Figure 0-3. A sample two-switch fabric

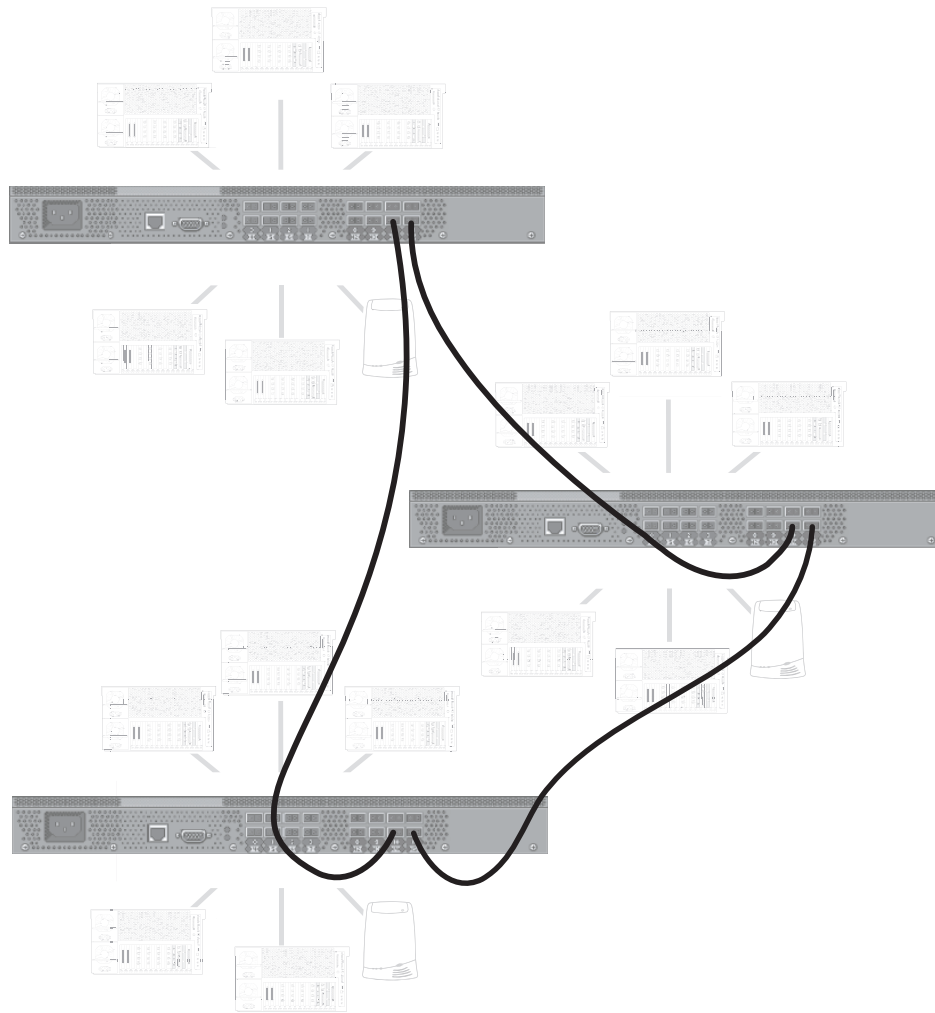


Figure 0-4. A sample three-switch fabric

Monitoring your Brocade Fibre Channel Switch

You can use NetCentral, a Grass Valley SNMP Manager, to monitor the state of your Fibre Channel switch. The information presented in NetCentral allows you to verify the normal operation of your switch and to detect any problems that may occur. If you set one or more appropriate SNMP trap destination addresses on your switch, you can also be alerted immediately when problems occur on the switch.

If you are using NetCentral to monitor your Brocade 200E SilkWorm Switch, you can access online help from the NetCentral interface. For general help with NetCentral manager, select **Help | NetCentral Help Topics**.

For help specific to monitoring Brocade 200E SilkWorm Switch system devices, select **Help | Device Providers** and then select the monitored device.

For more information on NetCentral, see the *NetCentral User Guide*.