Sun StorEdge™ 2 Gb FC PCI Single Channel Network Adapter Release Notes

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Sun StorEdge 2 Gb FC PCI Single Channel Network Adapter Release Notes

This document contains the latest supplementary information for the Sun StorEdge™ 2 Gb FC PCI Single Channel network adapter (SG-XPCI1FC-QF2, formerly X6767A). Use it with the latest version of the *Sun StorEdge 2G FC PCI Single Channel Network Adapter Installation Guide* (part number 816-4999).

Note – The *Installation Guide* was not updated for this release, and its software installation instructions apply *only* to systems running the Solaris™ 8 and Solaris 9 Operating Systems (OS). Refer to "Diagnostic Support" on page 11 for information on testing your installation with Solaris 2.6 and Solaris 7 systems. Refer to "Diagnostic Support" on page 17 for information on testing your installation with Red Hat Enterprise Linux 2.1 and 3.0 systems.

This document contains the following sections:

- "Introduction" on page 2
- "Solaris 8 and Solaris 9 Systems" on page 2
- "Solaris 2.6 and Solaris 7 Systems" on page 7
- "Red Hat Enterprise Linux 2.1 and 3.0 Systems" on page 13

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Introduction

To use the Sun StorEdge 2 Gb FC PCI Single Channel network adapter with the Solaris 8 or Solaris 9 Operating Systems, you must use the Sun driver as described in the following section:

- "Solaris 8 and Solaris 9 Systems" on page 2

To use the adapter with systems running the Solaris 2.6 or Solaris 7 Operating Systems, you must use the QLogic driver as described in the following section:

- "Solaris 2.6 and Solaris 7 Systems" on page 7

To use the adapter with the Red Hat Enterprise Linux 2.1 and 3.0 Operating Systems, you must use the QLogic driver as described in the following section:

- "Red Hat Enterprise Linux 2.1 and 3.0 Systems" on page 13

Solaris 8 and Solaris 9 Systems

This section contains the following information about using the Sun StorEdge 2 Gb FC PCI Single Channel network adapter in Solaris 8 and Solaris 9 Operating Systems:

- "Qualified Platforms for Solaris 8 and Solaris 9 Systems" on page 2
- "Software Component Patches and Packages" on page 3
- "Known Issues and Bugs" on page 6
- "Diagnostic Support" on page 6

Qualified Platforms for Solaris 8 and Solaris 9 Systems

Minimum Operating System (OS) Levels

- Solaris 8 OS 4/01 release with the Solaris 8 recommended patch cluster.
- Solaris 9 OS with the Solaris 9 recommended patch cluster.

Host Platform Support

- Ultra™ 60 and 80 workstations
- Sun Blade™ 1000 and 2000 servers
- Sun Enterprise™ 220R, 250, 420R, and 450 servers
- Sun Enterprise 3x00–6x00
- Sun Enterprise V120
- Sun Enterprise 10000
- Sun Fire™ V210 and V240 servers
- Sun Fire 280R and 480 servers
- Sun Fire V880 server
- Sun Fire V1280 server
- Sun Fire 4800 and 4810 servers
- Sun Fire 6800 server
- Sun Fire 12000 server
- Sun Fire 15000 server
- Netra™ 20, 1125, and 140x servers

Storage System Support

- Sun StorEdge 39x0 series
- Sun StorEdge 3510 FC array
- Sun StorEdge 6120 array
- Sun StorEdge 6320 system
- Sun StorEdge 99x0 series
- Sun StorEdge T3/T3+ array
- Sun StorEdge A5200 array
- Sun StorEdge FC tape drives 9840B[1], 9940B, and FC LT02 with the Sun StorEdge L180, L700, L5500, and L6000 tape libraries

Software Component Patches and Packages

Before installing the Sun StorEdge 2 Gb FC PCI Single Channel network adapter card, ensure that the host has both the minimum required Solaris Operating System release with the recommended patch cluster and the software packages and patches listed in this section.

This section contains the following topics:

- "Required Packages for Solaris 8 and Solaris 9 Systems" on page 4
- "Required Patches for Solaris 8 and Solaris 9 Systems" on page 5

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1. FC-AL mode for the Sun StorEdge 9840B

Required Packages for Solaris 8 and Solaris 9 Systems

TABLE 1 lists the packages and their location. You need to install the packages before you install the patches. If the packages are already on the system from a previous installation, you do not need to install them again.

TABLE 1   Required Packages for Solaris 8 and Solaris 9 Systems

Packages	Location
SUNWsan	http://www.sun.com/storage/san
SUNWcfpl	same
SUNWcfplx	same

▼ To Download the Packages

1. **Go to** http://www.sun.com/storage/san.

   The Products & Services SAN page is displayed.

2. **Click Downloads in the right-hand navigation area, under Get.**

   If you are not already logged in, the Please Login page is displayed.

3. **Login to the Download Center.**
   - If you are a registered user, enter your user name and password.
   - If you are not a registered user, click **Register Now**.

     The registration page is displayed. Enter the requested information and click **Register**.

   After logging in or registering, the Terms of Use page is displayed.

4. **Read the terms of use. If you accept the terms, click Accept and then click Continue.**

   The Download page is displayed.

5. **Download either:**
   - **Solaris 8 SUNWcfpl/x and SUNWsan packages, English** (Solaris_8_SFS_packages.tar.Z, 47.25.KB)
   - **Solaris 9 SUNWcfpl/x and SUNWsan packages, English** (Solaris_9_SFS_packages.tar.Z, 47.21.KB)

   You will be prompted for a download directory. It is suggested that you download the packages to your /tmp directory.

6. **Unzip the packages listed in** TABLE 1. **It is recommended that you unzip the packages to your** /tmp **directory.**

▼ To Install the Packages

● **Use the** `pkgadd` **command to install the packages listed under** TABLE 1**.**

Read the README file for the packages and follow the instructions.

Required Patches for Solaris 8 and Solaris 9 Systems

TABLE 2 lists the patches necessary to use the Sun StorEdge 2 Gb FC PCI Single Channel network adapter for the Solaris 8 and Solaris 9 Operating Systems. Check `http://sunsolve.sun.com` for updates.

TABLE 2   Required Patches for Solaris 8 and Solaris 9 Systems

Name	Solaris 8 Operating System Patches	Solaris 9 Operating System Patches
`fcp`	not applicable	113046-xx
`luxadm`, `liba5k.so.2`	not applicable	113049-xx
Sun StorEdge Traffic Manager patch	111412-xx	113039-xx
`fctl/fp/fcp/usoc` driver	111095-xx	113040-xx
`fcip` driver	111096-xx	113041-xx
`qlc` driver	111097-xx	113042-xx
`luxadm/liba5k` and `libg_fc` patch	111413-xx	113043-xx
`cfgadm fp` plug-in library patch	111846-xx	113044-xx
SAN Foundation Software patch	111847-xx	111847-xx

▼ To Download the Patches

1. **Go to** `http://sunsolve.sun.com`**.**

   The SunSolve[SM] page is displayed.

2. **Click Patches in the left-hand navigation area.**

   The SunSolve Patch Portal page is displayed.

3. **Click PatchPro in the left-hand navigation area.**

   The PatchPro Hub page is displayed.

4. **Click Network Storage Products.**

   The PatchPro Interactive page is displayed.

5. **Select the appropriate OS Release and Platform.**

6. **In the SAN Products group, select at least version 4.2 for the StorEdge SAN Release.**

7. **Scroll down and click Generate Patch List.**

8. **Click Download Selected Patches.**

   You will be prompted for a download directory. It is suggested that you download the patches to your `/tmp` directory.

▼ To Install the Patches

1. **Ensure that you have installed all the packages listed in** TABLE 1 **before you install the patches.**

2. **Use the** `patchadd` **command to install the patches in the order in which they are listed in** TABLE 2.

Known Issues and Bugs

Refer to *Sun StorEdge SAN 4.x Foundation Software Release Notes* for information on known issues and bugs.

Diagnostic Support

Full support for the Sun StorEdge 2 Gb FC PCI Single Channel network adapter is available beginning with Sun Storage Automated Diagnostic Environment version 2.1.

Solaris 2.6 and Solaris 7 Systems

This section contains the following information about using the Sun StorEdge 2 Gb FC PCI Single Channel network adapter in Solaris 2.6 and Solaris 7 systems:

Qualified Platforms for Solaris 2.6 and Solaris 7 Systems

Minimum Operating System Levels

- Solaris 2.6 Update 5/98 with the latest Sun-recommended patch cluster
- Solaris 7 Update 11/99 with the latest Sun-recommended patch cluster

Host Platform Support

- Ultra 60 and 80 workstations
- Netra 1120/1125/1400/1405 servers
- Sun Enterprise 220R, 420R servers
- Sun Enterprise 250, 450, 3500, 4500, 5500, 6500, and 10000[2] servers

Storage System Support

- Sun StorEdge 3510 FC array (Solaris 2.6 OS only)
- Sun StorEdge 6120 array
- Sun StorEdge 6320 system
- Sun StorEdge T3+ array
- Sun StorEdge 9900 series

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2. Dynamic Reconfiguration is not supported on the Sun Enterprise 10000 server.

Switch Support

Switch	Minimum Version
Sun StorEdge Network 1 Gb FC Switch-8, -16	4.02.38
Sun StorEdge Network 2 Gb FC Switch-8, -16, -64	1.5.0.7
Brocade SilkWorm 3200, 3800	3.1
Brocade 3900, 12000	4.1
McDATA Sphereon 4500, 6064, 6140	4.01.00 (not supported on Sun StorEdge T3 array)

Third-Party Software Support

Third-Party Software Application	Minimum Version
QLogic SANblade Command Line Interface (CLI)	1.06.13
VERITAS Software	
Volume Manager VxVM with DMP[1] [2]	3.2
Cluster Server VCS[3]	2.0
File System VxFS	3.4
Or	
Volume Manager VxVM with DMP[1]	3.5 (Solaris 7 OS only)
Cluster Server VCS	3.5 (Solaris 7 OS only)
File System VxFS	3.5 (Solaris 7 OS only)
VERITAS NetBackup	4.5

1 To use the failover feature with VERITAS DMP, run the Sun StorEdge T3 array and Sun StorEdge 6120 and 6320 storage systems in read/write mode only, not MPxIO mode.

2 VERITAS Volume Manager VxVM with DMP 3.2 requires VERITAS VxVM patch 113201-04 or later.

3 VERITAS Cluster Server VCS 2.0 requires VERITAS patch 111912-01 or higher.

Sun Software Product Support

Sun Software Product	Minimum Version
Solstice Backup™	6.1
Sun StorEdge Enterprise Backup	7.0 (Solaris 7 OS only)
Solstice DiskSuite™	4.2.1
SunVTS™ disktest	2.1.3 (Solaris 2.6 O) 3.4 (Solaris 7 OS)

Unsupported Software

The following software is not supported by this product in the Solaris 2.6 or Solaris 7 Operating System:

- QLogic SANblade Manager
- QLogic SANblade Control FX
- SunVTS qlctest
- Sun™ Cluster
- Sun StorEdge Traffic Manager software
- Sun StorEdge Enterprise Storage Manager software
- Sun StorEdge SAN Foundation software
- Sun Storage Automated Diagnostic Environment

Software Component Patches and Packages

Before installing the Sun StorEdge 2 Gb FC PCI Single Channel network adapter on a Solaris 2.6 or Solaris 7 system, ensure that the host has both the minimum required Solaris Operating System release with the recommended patch cluster, and it must also have the required driver for the Sun StorEdge 2 Gb FC PCI Single Channel network adapter. This driver is supplied by QLogic.

Note that in Solaris 2.6 and Solaris 7 systems, you cannot boot with the QLogic Solaris SPARC® driver. Therefore, these host bus adapters (HBAs) must not be in the boot path.

Caution – Modification of the HBA boot firmware (FCode) or HBA parameters stored in non-volatile memory is not supported while running the QLogic Solaris SPARC driver. Such modification, if accomplished using procedures that may be documented elsewhere, can cause functional problems when the HBA is later used with the Sun `qlc` driver in Solaris 8 or Solaris 9 systems.

This section contains the following topics:

- "Required Packages for Solaris 2.6 and Solaris 7 Systems" on page 10
- "Required Patches for Solaris 2.6 and Solaris 7 Systems" on page 10
- "Migration Path" on page 11

Required Packages for Solaris 2.6 and Solaris 7 Systems

TABLE 3 lists the packages for Solaris 2.6 and Solaris 7 systems. If the packages are already on the host system from a previous installation, you do not need to install them again.

TABLE 3 Required Packages for Solaris 2.6 and Solaris 7 Systems

Package	Minimum Version
QLogic Solaris SPARC driver package	4.13.01
QLogic SANblade CLI	1.06.13

▼ To Download the Packages

1. **Go to** `http://www.qlogic.com/support/drivers_software.asp`**.**

2. **In the "OEM and ISV approved/recommended drivers and firmware" section, click SUN.**

3. **In the table, "Sun Supported Drivers for Solaris 2.6 and Solaris 7," locate the appropriate Solaris SPARC driver package (SG-XPCI1FC-QF2) and click Download.**

4. **Also click and print the "Associated QLogic Driver" Readme and Release Notes files.**

5. **In the same table, locate "SANblade CLI for Solaris" and click Download.**

6. **Also click and print the Release Notes and User's Guide files.**

▼ To Install the Packages

● **Use the** `pkgadd` **command to install the packages in** TABLE 3**.**

Refer to the Readme file for the packages and follow the instructions.

Required Patches for Solaris 2.6 and Solaris 7 Systems

No QLogic patches are required for Solaris 2.6 and Solaris 7. For future updates, you can check `http://www.qlogic.com/support/drivers_software.asp`.

Migration Path

To later migrate from a Solaris 2.6 or Solaris 7 system, check the document, *Migration Path to Solaris 8/9*, available with documentation for the Solaris SPARC driver package at `http://www.qlogic.com/support/drivers_software.asp`.

Known Issues and Bugs

Review the Release Notes for the QLogic Solaris SPARC driver package for the latest information on known issues and bugs affecting Solaris 2.6 and Solaris 7 systems.

Diagnostic Support

Sun Storage Automated Diagnostic Environment does not support the Sun StorEdge 2 Gb FC PCI Single Channel network adapter running on Solaris 2.6 and Solaris 7 systems.

You can test the installation on Solaris 2.6 and Solaris 7 systems using the QLogic SANblade CLI. For product documentation, go to the QLogic web site at `http://www.qlogic.com/support/drivers_software.asp`, and in the OEM approved/recommended drivers and firmware section, click SUN.

QLogic SANblade CLI

The QLogic SANblade CLI is an HBA management utility that can exercise your system to verify the functionality, reliability, and configuration of the Sun HBA. You must install the QLogic SANblade CLI utility to perform diagnostics on the Sun HBA with the QLogic Solaris SPARC driver package.

▼ To Verify the Installation

1. **To start the QLogic SANblade CLI locally, type the following as root:**

```
# cd /opt/QLogic_Corporation/SANblade_CLI
# ./scli
```

2. **At the QLogic SANblade CLI Main Menu, type the number that corresponds to the Perform Diagnostics option.**

3. **At the Select Adapter menu, enter the number that corresponds with the adapter you are going to test.**

   Note – To perform the Read/Write Buffer Test, you must not run an 8-byte operation. As documented in Sun Bug 4903081, the Sun StorEdge T3/T3+ array and Sun StorEdge 6120 or 6320 array fail the SANblade CLI 8-byte Read/Write Buffer Test.

4. **If you want to run the loopback test, place a loopback plug into the FC port on the HBA that you want to test.**

5. **At the Diagnostic Tests Selection menu, type 1 to select Loopback Test.**

6. **At the Configure Diagnostic Loopback Test Parameters menu, type the number that corresponds with the option to Run Diagnostic Test with Current Configuration.**

7. **At the Test Proceed menu, type 1 (Yes) to proceed.**

8. **At the warning message, "Do you want to proceed with the test(s)?" enter 1, Yes, if you have no outstanding I/O on the adapter under test.**

9. **Verify that the test has passed by reviewing the Status column in the Diagnostic Loopback screen output. Each Status entry should read "Success".**

Red Hat Enterprise Linux 2.1 and 3.0 Systems

The QLogic Linux x86 driver (QLogic Corporation `qla2300` Linux driver) for the Sun StorEdge 2 Gb FC PCI Single Channel network adapter is a software driver that provides the capability to use Sun x86 servers, running the Linux operating system (Linux x86). This software driver can be downloaded from a QLogic web site.

The QLogic `qla2300` Linux (Red Hat) driver and the SANblade CLI for Linux x86 diagnostics will be available for download from a QLogic web site dedicated to Sun system users.

This section contains the following information about using the Sun StorEdge 2 Gb FC PCI Single Channel network adapter in Red Hat Enterprise Linux 2.1 and 3.0 Systems:

- "Qualified Platforms for Red Hat Enterprise Linux 2.1 and 3.0 Operating Systems" on page 13
- "Software Component Patches and Packages" on page 16
- "Known Issues and Bugs" on page 17
- "Diagnostic Support" on page 17

Qualified Platforms for Red Hat Enterprise Linux 2.1 and 3.0 Operating Systems

The following hardware and software are qualified with the Red Hat Enterprise Linux 2.1 and 3.0 Systems.

Minimum Operating System Levels

- Red Hat Enterprise Linux (RHEL) 2.1 (32-bit) AS, ES, and WS
- Red Hat Enterprise Linux (RHEL) 3.0 (32-bit) AS, ES, and WS
- Red Hat Enterprise Linux (RHEL) 3.0 (64-bit) AS and WS

Host Platform Support

TABLE 4   Host Platform Support

	2.1 (32-bit)	3.0 (32-bit)	3.0 (64-bit)
Sun Fire V60x server	Yes	Yes	No
Sun Fire V65x server	Yes	Yes	No
Sun Fire Sun V20z server	No	Yes	Yes

Storage Systems Support

- Sun StorEdge 3510 FC array (RAID)
- Sun StorEdge 3510 FC array (JBOD)
- Sun StorEdge 3511 FC array (SATA)
- Sun StorEdge 6120 array (full failover support using Sun StorEdge Traffic Manager software on RHEL 2.1)
- Sun StorEdge 6320 system (full failover support using Sun StorEdge Traffic Manager software on RHEL 2.1)
- Sun StorEdge 6920 system
- Sun StorEdge FC tape drives 9840B[3], 9940B, and FC LT02 with the Sun StorEdge L180, L700, L5500, and L6000 tape libraries

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3. FC-AL mode for the Sun StorEdge 9840B

Fibre Channel Switch Support

TABLE 5   Fibre Channel Switch Support

Switch	Minimum Firmware Version
Sun StorEdge Network 2 Gb switches	1.5.0.7
Sun StorEdge Network 2 Gb Brocade SilkWorm 3200 switch	3.1
Sun StorEdge Network 2 Gb Brocade SilkWorm 3800 switch	3.1
Sun StorEdge Network 2 Gb Brocade SilkWorm 3900 switch	4.1
Sun StorEdge Network 2 Gb Brocade SilkWorm 12000 Core Fabric switch	4.1
Sun StorEdge Network 2 Gb McDATA Sphereon 4300 switch	4.01.00
Sun StorEdge Network 2 Gb McDATA Sphereon 4500 switch	4.01.00
Sun StorEdge Network 2 Gb McDATA Intrepid 6064 director	4.01.00
Sun StorEdge Network 2 Gb McDATA Intrepid 6140 director	4.01.00

Sun Software Product Support

Sun StorEdge Traffic Manager 4.4 software is supported with the Red Hat Enterprise Linux 2.1 Operating System.

Unsupported Software

The following software is not supported by the Red Hat Enterprise Linux 2.1 and 3.0 Operating Systems:

- QLogic SANblade Manager
- QLogic SANblade Control FX
- SunVTS qlctest
- Sun Cluster software
- Sun StorEdge Enterprise Storage Manager software
- Sun StorEdge SAN Foundation software
- Sun Storage Automated Diagnostic Environment

Software Component Patches and Packages

Before installing the Sun StorEdge 2 Gb FC PCI Single Channel network adapter on a Red Hat Enterprise Linux 2.1 or 3.0 system, ensure that the host has the required driver for the Sun StorEdge 2 Gb FC PCI Single Channel network adapter. This driver is supplied by QLogic.

Note that with Red Hat Enterprise Linux 2.1 and 3.0 systems, you cannot boot with the QLogic Linux driver. Therefore, these host bus adapters (HBAs) must not be in the boot path.

Caution – Modification of the HBA boot firmware (FCode) or HBA parameters stored in non-volatile memory is not supported while running the QLogic Linux driver. Such modification, if accomplished using procedures that may be documented elsewhere, can cause functional problems when the HBA is later used with the Sun `qlc` driver in Solaris 8 or Solaris 9 systems.

Required Packages for Red Hat Enterprise Linux 2.1 and 3.0 Operating Systems

TABLE 6 lists the packages and the minimum version required. You need to install the packages before you install any patches. If the packages are already on the system from a previous installation, you do not need to install them again.

TABLE 6   Required Packages for the Red Hat Enterprise Linux 2.1 and 3.0 Systems

Package	Minimum Version
QLogic `qla2300` (Red Hat) Linux driver	7.00.02
QLogic SANblade CLI for Linux x86	1.06.14

▼ To Download the Packages

1. **Go to** `http://www.qlogic.com/support/drivers_software.asp`**.**

2. **In the "OEM and ISV approved/recommended drivers and firmware" section, click SUN.**

3. **In the table, "Sun Supported Drivers for Red Hat Linux 2.1 and 3.0," locate the Red Hat Linux driver** `source.tgz` **file and click Download.**

4. **Also click and print the Readme file.**

5. **In the same table, locate the SANblade CLI utility and click Download.**

6. **Also click and print the Readme and User's Guide files.**

▼ To Install the Driver

1. **Extract the source files that reside in the** `source.tgz` **file by following the instructions in the Readme file that was printed in Step 4 of "To Download the Packages" on page 16.**

2. **Once the source files are extracted, compile the driver by following the instructions given in the Readme file.**

▼ To Install the SANblade CLI File

● **Follow the instructions in the Readme file that was printed in Step 6 of "To Download the Packages" on page 16.**

Known Issues and Bugs

None.

Diagnostic Support

Sun Storage Automated Diagnostic Environment does not support the Sun StorEdge 2 Gb FC PCI Single Channel network adapter running on Red Hat Enterprise Linux 2.1 and 3.0 systems.

You can test the installation on Red Hat Enterprise Linux 2.1 and 3.0 systems using the QLogic SANblade CLI. Instruction for running the QLogic SANblade CLI are given in the SANblade CLI User's Guide that was downloaded in Step 6 of "To Download the Packages" on page 16.

QLogic SANblade CLI

The QLogic SANblade CLI is an HBA management utility that can exercise your system to verify the functionality, reliability, and configuration of the Sun HBA. You must install the QLogic SANblade CLI utility to perform diagnostics on the Sun HBA with the QLogic Linux driver package.

▼ To Verify the Installation

1. **To start the QLogic SANblade CLI locally, type the following as root:**

```
# cd /opt/QLogic_Corporation/SANblade_CLI
# ./scli
```

2. **At the QLogic SANblade CLI Main Menu, type the number that corresponds to the Perform Diagnostics option.**

3. **Consult the SANblade CLI User's Guide that was downloaded in Step 6 of "To Download the Packages" on page 16.**

Service Contact Information

If you need help installing or using this product in the United States, call 1-800-USA-4SUN, or go to:

`http://www.sun.com/service/contacting/index.html`