SANworks by Compaq

Release Notes -
Linux X86 Kit V2.0B for Enterprise Virtual Array

Part Number: AV-RTJ4D-TE

Fourth Edition (April 2003)

Product Version: 2.0B

This document contains the most recent product information about the *SANworks by Compaq* Linux Kit V2.0B used for integrating host servers with the *StorageWorks*™ Enterprise Virtual Array (VCS Version 2.0).

For the latest version of these Release Notes and other product documentation, visit the *StorageWorks* website at:

http://h18006.www1.hp.com/storage/index.html

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Printed in the U.S.A.

Release Notes - Linux X86 Kit V2.0B for Enterprise Virtual Array

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Release Notes Contents

These release notes cover the following major topics:

Intended Audience

This document is intended to assist customers who purchased the hp StorageWorks Enterprise Virtual Array and the associated hp SANworks Operating System kits. Other associated software packages are:

- hp SANworks Virtual Controller Software Package V2.0 for Dual HSV Controllers
- hp SANworks Snapshot for Virtual Controller Software V2.0 for Dual HSV Controllers

This document is also intended for use by hp Customer Service personnel responsible for installing and maintaining designated devices associated with this storage system.

Conventions

The following conventions are used throughout this document:

- Unless otherwise specified, all references to VCS V2.0 refer to the software package (kit) and documentation version level. These software packages and documentation support VCS V2.0.

- Unless otherwise specified, all documentation that supports VCS V1.0, VCS V1.01, and VCS V1.02, also supports VCS 2.0.
- The *System Software for Enterprise Virtual Array* is the storage system software that contains Virtual Controller Software (VCS), Environmental Monitoring Unit (EMU) firmware, programmable component images, diagnostics, and message files. This storage system software is usually represented by a four-digit number, for example V2.000.
- Unless otherwise specified, all references to a controller or controller pair should be interpreted as the HSV110 Controller or HSV110 Controller pair.
- Unless otherwise specified, all references to the Enterprise Storage System or storage system should be interpreted as the Enterprise Virtual Array.
- Unless otherwise specified, all references to rack should be interpreted as the 9000-Series Enterprise Storage System Rack.
- Unless otherwise specified, all licensing references to host ID should be interpreted as the storage system World Wide Name (WWN).
- Unless otherwise specified, all references to the management appliance should be interpreted as the hp SANworks Management Appliance.
- Unless otherwise specified, all references to a single instance of a management agent, or the element manager, should be interpreted as the hp SANworks HSV Element Manager.
- The term Fabric means Fibre Channel Switched (FC-SW) connectivity.

New Features

This section briefly describes new features and changes that are supported by the Version 2.0B release of the Platform Kit together with the array controller running VCS Version 2.0.

New Features for Version 2.0B

The following are major enhancements included in the V2.0B release of the Platform Kit.

- **Rapid Deployment Pack**—ProLiant Essentials Rapid Deployment Pack provides automated server deployment and redeployment via a central console using imaging and scripting technologies for ProLiant servers. The deployment console provides simple drag-and-drop functionality for deployment events. The Platform

Kit CD-ROM contains software components, drivers, and utilities that are located in the /rdp directory. See readme.txt on the CD-ROM for a more detailed description of Rapid Deployment Pack, installation instructions, and restrictions. For general information on Rapid Deployment Pack, go to http://h18013.www1.hp.com/products/servers/management/rdp/index.html.

NOTE: If you are using a BL20p or BL40p server, use the components in the /rdp/rhas21 directory instead of the regular platform kit.

- **Rapid Deployment Pack Procedures**—Two new Rapid Deployment Pack procedures were added for the installation of Fibre Channel Utilities and the qla2x00 driver RPM. The procedures are listed under Host Considerations, page 15.
  - Fibre Channel Utilities—The RPM fibreutils-1.1.0-3.i386.rpm contains assorted utilities that complement the qla2x00 driver package. The fibreutils package contains the utility hp_fccfg.sh. The hp_fccfg.sh script allows you to recompile the driver if needed and change the default queue depth for disk devices attached to a qla2300 series fibre channel adapter.
  - qla2x00 Driver RPM—The RPM qla2x00-<version>.<distibution>.rpm contains an adapter driver for the HP supported fibre channel adapter for Red Hat Advanced Server 2.1. The RPM contains the driver source code, precompiled modules for the base kernels of the Linux versions mentioned, and system startup scripts. This procedure applies to ProLiant servers only.
- **Blade Servers**—Platform Kits now support ProLiant Blade Servers BL20p and BL40p with Linux Red Hat Advanced Server 2.1.
- **Multi-path Support**—Platform Kits now offer multi-path support with the addition of SecurePath V3.0.

IMPORTANT: Platform Kit V2.0B supports multi-path ONLY. To obtain single-path Linux (V2.0A), download HBA driver V6.0.2 from http://h18007.www1.hp.com/storage/diskarrays-support.html.

Enterprise Virtual Array Storage System

This document contains the most recent product information about the Enterprise Virtual Array. An Enterprise Virtual Array storage system consists of the following:

- One pair of HSV110 Controllers.
- An array of physical disk drives that the controller pair controls. The disk drives are located in drive enclosures that house the support systems for the disk drives.

- Associated physical, electrical, and environmental systems.
- The HSV Element Manager, which is the graphical interface to the storage system. The element manager software resides on the Management Appliance and is accessed through a browser.
- Management Appliance, switches and cabling.
- At least one host attached through the fabric.

Enterprise Virtual Array System Software

hp SANworks Virtual Controller Software (VCS) V2.0 provides storage software capability for the HSV110 Array Controller and is provided in the VCS V2.0 software kit.

Enterprise Virtual Array Documentation

The Enterprise Virtual Array Catalog of Associated Documentation is included on the Technical Documentation page. You can display a comprehensive list of Enterprise Virtual Array documentation, as well as associated product documentation that may be required to operate your storage system. To access the Technical Documentation page, go to:

http://h18006.www1.hp.com/products/storageworks/enterprise/documentation.html

Support Release Information

For future product support release information visit

http://h18006.www1.hp.com/storage/index.html

This website provides downloadables for storage products.

Supported Configurations

Refer to the Enterprise Virtual Array Quick Specs for supported configurations. The *HP StorageWorks Heterogeneous Open SAN Design Reference Guide* is a detailed guide for SAN configurations and is available at:

http://h18004.www1.hp.com/products/storageworks/san/documentation.html

Supported Operating Systems

The Enterprise Virtual Array storage system is compatible with the following operating systems:

- Tru64 UNIX
- Windows NT/Windows 2000/Windows Server 2003
- OpenVMS
- Sun Solaris
- HP-UX
- IBM AIX
- Linux
- Novell NetWare (single-path only)

Table 1–1 lists the operating system's specifications, which are compatible with the Enterprise Virtual Array.

NOTE: Table 1-1 contains current minimum level operating system specifications at the time of the Enterprise Virtual Array V2.0 release. Some component versions may change due to revision. For the latest information go to:

http://h18006.www1.hp.com/storage/index.html

Table 1–1: Operating System Specifications

Platform	OS Version	*Kernel	FCA (HBA)	Adapter Firmware	Adapter Driver	Secure Path
X86 Red Hat AS SuSE Linux Enterprise Server	2.1 7	2.4.9-e.3smp or 2.4.9-e.12smp 2.4.7-64GB-SMP or 2.4.18-64GB-SMP	281541-B21 (FCA2214) 321835-B21 (FCA2214DC)	3.01.18	6.04.00	3.0

Blade Server ProLiant BL20p is shipped with an in-built HBA, driver version 6.04.00.

Table 1–2 details the Linux Storage System Attachments

Table 1–2: Platform/Storage System Attachment

Platform or Operating System	Platform HBA SAN Attachment	Multi-Path Support	Enterprise Virtual Array SAN Attachment	EMA/ESA 12000, EMA 16000, MA/RA8000, MA6000 Storage System SAN Attachment
X86 Red Hat AS 2.1 SuSE Linux Enterprise Server 7	281541-B21 (FCA2214) 321835-B21 (FCA2214DC)	Supported with Secure Path V3.0	* Multi-path	F-Port using FABRIC topology Transparent or Multiple-Bus Failover

* Platform Kit V2.0B supports multi-path ONLY. To obtain single-path Linux (V2.0A), download HBA driver V6.0.2 from http://h18007.www1.hp.com/storage/diskarrays-support.html.

Table 1–3 details the supported web browsers.

Table 1–3: Supported Browsers

OS	OS Version	Browser	Minimum Version
Linux	See Table 1-1	Netscape	V4.76 or later

Switch Support

This Fibre Channel Platform Kit supports the Fibre Channel switches and firmware versions listed in Table 1–4.

IMPORTANT: StorageWorks recommends that you do not mix switch firmware versions in your SAN. It is considered best practice to uniformly upgrade all switches in the SAN.

Table 1–4: Fibre Channel Switch Support

Description	Part Number	Firmware Version
SAN Switch 8 (8 Port FC, 1 Gbps)	158222-B21 DS-DSGGB-AA	2.6.0h
SAN Switch 16 (16 Port FC, 1 Gbps)	158223-B21 DS-DSGGB-AB	2.6.0h
SAN Switch 8-EL (8 Port FC Entry Level, 1 Gbps)	176219-B21 DS-DSGGC-AA	2.6.0h
SAN Switch 16-EL (16 Port FC Entry Level, 1 Gbps)	212776-B21 DS-DSGGC-AB	2.6.0h
SAN Switch 2/32(16-32 Ports FC, 2 Gbps)	230616-B21 DS-DSGGS-AA	4.0.2b
SAN Switch Integrated (32 Port FC, 1 Gbps)	230616-B21 DS-DSGGS-AA	2.6.0h
SAN Switch Integrated 64 (64 Port FC, 1 Gbps)	230617-B21 DS-DSGGS-AB	2.6.0h
SAN Switch 2/16 (16 Port FC, 2 Gbps)	240602-B21 DS-DSGGD-AA	3.02k
SAN Switch 2/8-EL (8 Port FC Entry Level, 2 Gbps)	258707-B21 DS-DSGGD-AC	3.02k
SAN Switch 2/16-EL (16 Port FC Entry Level, 2 Gbps)	283056-B21 DS-DSGGD-AD	3.02k
SAN Core Switch 2/64 (32-64 Ports FC, 2 Gbps)	254508-B21 DS-DSGGE-AB	4.0.2b
SAN Director 64 (32-64 Ports FC, 1 Gbps)	254512-B21 DS-DMGGD-AA	02.00.00
SAN Edge Switch 32 (32 Ports FC, 1 Gbps)	2T-M3032-AA (See Note)	02.00.00
SAN Edge Switch 16 (16 Ports FC, 1 Gbps)	2T-M3016-AA (See Note)	02.00.00

Table 1–4: Fibre Channel Switch Support (Continued)

SAN Director 2/64 (32-64 Ports FC, 2 Gbps)	286809-B21 DS-DMGGD-BA	02.00.00
SAN Director 2/140 Switch (140 Ports FC, 2 Gbps)	316093-B21 DS-DMGGD-CA	04.01.02
SAN Edge Switch 2/32 (32 Ports FC, 2 Gbps)	286810-B21 DS-DMGGE-BC	02.00.00
SAN Edge Switch 2/16 (16 Ports FC, 2 Gbps)	286811-B21 DS-DMGGE-BB	02.00.00
SAN Edge Switch 2/24 (24 Ports FC, 2 Gbps)	316095-B21 DS-DMGGE-BD	04.01.02

NOTE: The listed 1 Gbps SAN Edge Switches are CSS (Custom Services and Solutions) orderable only. Please contact your StorageWorks sales representative at 1-800-STORWORK for further information on these CSS components.

For the latest versions of switch firmware, please visit the StorageWorks website:

http://www.hp.com/country/us/eng/prodserv/storage.html

Operating Constraints

Any operating constraints specific to the Enterprise Virtual Array hardware and HSV Element Manager can be found in their respective release notes.

Failover/Failback

There are specific failback preference settings for the HSV controllers that are operating system specific (see the Enterprise Virtual Array hardware release notes for details).

Avoiding Problem Situations

Avoiding problem situations specific to the hp SANworks Management Appliance can be found in the Management Appliance Update January 2002 Release Notes.

Avoiding problem situations specific to the hp SANworks HSV Element Manager can be found in the HSV Element Manager Release Notes.

In addition, avoiding problem situations pertaining Enterprise Virtual Array hardware can be found in the hardware release notes.

Codeload Usage

When a maximum configured system is running at maximum load, codeload functionality cannot be used effectively due to Secure Path timing constraints. The system may time out before codeload is completed. Because of this behavior, VCS upgrade should be done during off peak usage.

Enterprise Storage System Notes

Cable Requirements

When an Enterprise Virtual Array is installed, an SC–to–LC (1-Gb to 2-Gb) cable is required for host connectivity. Table 1–5 provides a listing of available cables.

Table 1–5: LC-SC cables

Length	Description	hp Part Number
2.0 m ± 40 mm	CA ASSY, LC-SC, Optical 2M	187891-002
5.0 m ± 80 mm	CA ASSY, LC-SC, Optical 5M	187891-005
15.0 m ± 150 mm	CA ASSY, LC-SC, Optical 15M	187891-015
30.0 m ± 300 mm	CA-ASSY, LC-SC, Optical 30M	187891-030
50.0 m ± 500 mm	CA-ASSY, LC-SC, Optical 50M	187891-050

Table 1–6: LC-LC cables

Length	Description	hp Part Number
2.0 m ± 40 mm	2-meter LC-LC Multi-Mode Fibre Cable	221692-B21
5.0 m ± 80 mm	5-meter LC-LC Multi-Mode Fibre Cable	221692-B22
15.0 m ± 150 mm	15-meter LC-LC Multi-Mode Fibre Cable	221692-B23
30.0 m ± 300 mm	30-meter LC-LC Multi-Mode Fibre Cable	221692-B26
50.0 m ± 500 mm	50-meter LC-LC Multi-Mode Fibre Cable	221692-B27

Licensing Support Information

If you have trouble obtaining a License Key or need other licensing support information, refer to the *hp StorageWorks Enterprise Virtual Array License Instructions* which are shipped with the VCS V2.0 software kit.

For assistance with incorrect Authorization ID, contact your authorized HP Authorized Service Provider.

For assistance with lost Authorization ID and Authorization ID not shipped, contact your HP order channel.

Installation Instructions

It is important to check the configuration of your kernel sources before installing your Solution Software. There may be a need to compile the adapter driver from source or compile a new SCSI layer module called scsi_mod.o. Follow the steps in the Preparation section below before installing your Platform Software. Also check the information provided in Avoiding Problem Situations, page 10 and Host Considerations, page 15 before you begin installation.

IMPORTANT: These installation instruction supersede those found in the Installation and Configuration Guide that came with your Solution Software.

Preparation

Ensure that your kernel source files are installed

1. Check the currently running kernel version by typing:

   uname -r

The output from this command provides a kernel number. For example, 2.4.7-64GB-SMP.

2. Check the version of the kernel source's RPM, if installed, by typing:

   rpm -q kernel-source

The output from this command provides a version number. For example, kernel-source-2.4.7.SuSE-17.

If the kernel source is not installed, install the kernel source RPM from the vendor of your particular distribution such as Red Hat or SuSE.

If the kernel source is installed, ensure that the kernel sources match the currently running kernel by repeating step 1.

Ensure that your .config file exists in the kernel source directory

1. Type the command:

   ls .config

The .config file contains the current kernel configuration. The kernel source directory is normally in /usr/src/linux-2.4 for Red Hat systems and /usr/src/linux on SuSE systems. If this file does not exist, create it by using a kernel configuration program.

Ensure the current kernel is SMP

1. Type the command:

   more /proc/version

If SMP appears in the output, you are running an SMP kernel. If not, you are running a UNI kernel. Only SMP kernels are supported in Platform Software version 2.0B.

Check the configuration of the kernel

This step is important because if the kernel configuration does not match that of the current kernel the modules that are compiled may not load. The consequences of this mismatch can cause issues such as the FC adapters' not being configured and the system's not being able to boot because the SCSI layer module cannot be loaded from initrd. To check or change the kernel configuration, perform the following steps:

1. Access the kernel source directory. The directory is /usr/src/linux-2.4 for Red Hat systems and /usr/src/linux on SuSE systems.
2. Type either of the two following commands:

   make menuconfig

   make xconfig

3. Enable the following kernel options if they are not already enabled:

   - Processor type and features>Symmetric multi-processing support

   Enable this option if your system is running an SMP kernel or will boot into an SMP kernel.

   - SCSI support>SCSI support

   Set this option to 'modular' for Red Hat systems and 'part of the kernel' for SuSE systems.

   - SCSI support>SCSI disk support

Set this option to ‘modular’ for Red Hat systems and ‘part of the kernel’ for SuSE systems.

- SCSI support>SCSI generic support
- SCSI support>Probe all LUNs on each SCSI device

Install and Uninstall

Perform the following steps to install the Platform Software:

1. Insert the Linux Kit CD.
2. Type the command:

   ./install_stgwks.v2

The script installs all components.

User intervention may be required if the qla2x00 RPMs do not have a precompiled binary driver for your system. If this is the case, the driver binaries must be compiled during installation.

The system prompts the user “Do you want to compile a new qla2x00 driver (y/n)?”

3. Type ‘**y**’ and allow the system to complete the installation.

On Red Hat systems, the SCSI blacklist must be modified. The SCSI blacklist is a list of recognized SCSI devices in one of the SCSI layers’ source files. For example, /usr/src/linux-2.4/drivers/scsi/scsi_scan.c.

Three steps must be done to edit the SCSI blacklist:

- Add entries for some supported HP devices to the list.
- Recompile the SCSI layer modules (scsi_mod.o).
- Create a new initrd.

These steps are handled automatically in the edit_initrd.redhat script included with the Red Hat driver RPMs. Follow the procedure below to run the script:

1. Type the command:

   /opt/hp/storage_drivers/qla604/utils/edit_initrd.redhat

After displaying a verification message, the system asks “Do you want to continue (y/n)?”

2. Type ‘**y**’.

The script returns and requests that you enter the initrd you want to edit.

3. Type the filename of the initrd in the form of initrd-<kernel version>.img. For example, initrd-2.4.7-10.img.

On SuSE SLES-7 systems, if you have a qla2300.o module in your initrd, run the /opt/hp/storage_drivers/qla604/utils/remove_qla2x00.suse script to prevent the module from starting.

IMPORTANT: If you are using LILO as your boot loader, you must run /sbin/lilo to reconfigure the boot loader. Failure to do so may result in your not seeing storage or an inability to boot the system.

To uninstall the Platform Software:

1. Insert the Linux Kit CD.
2. Type the command:

   ./install_stgwks.v2 -u

The script uninstalls all components.

Host Considerations

This section contains information on issues and important reminders regarding the host servers.

Host Type

Set the host type for Linux servers to “Sun Solaris”. If this is not set, the operating system may have a problem binding correctly to EVA devices.

ProLiant BIOS Changes

A setting must be changed in the BIOS of a ProLiant server that has more than three HBAs installed. If this setting is not changed, you may not be able to see all attached devices. To change this setting, follow the steps below.

1. Press <F9> to access **RBSU (ROM-Based Setup Utility)** during POST. This is normally after 5i DiskArray initialization.
2. Select **System Options** then **OS Selection** and then **Linux**.
3. Select **Advanced Options** then **MPS Table Mode**.
4. Select **Auto Set Table.**

5. Press <ESC> twice and then <F10> to save the configuration.

probe-luns and Secure Path

Do not issue the probe-luns command against qla2300 adapters while Secure Path is loaded. This causes a kernel panic. An example of this command is probe-luns -l -i qla2300.

Uninstalling Secure Path

Before uninstalling Platform Software, Secure Path software must be uninstalled first. If this uninstall order is not followed, you cannot remove Secure Path kernel modules.

qla2x00 Adapter Driver Package

The RPM qla2x00-<version>.<distribution>.rpm contains adapter drivers for the HP supported fibre channel adapter for Red Hat Advanced Server 2.1. The RPM contains the driver source code, precompiled modules for the Linux kernel versions listed in Table 1–1, and system startup scripts. The driver version in this RPM is 6.04.00. This procedure applies to ProLiant servers only.

IMPORTANT: There are references to qla2200 in the qla2x00 code. Platform Software version 2.0B does not support qla2200 single-path functionality. qla2300 is necessary for multi-path support and is all that is supported in the 2.0B version of this Platform Software Kit. To obtain single-path Linux (V2.0A), download HBA driver V6.0.2 from

http://h18007.www1.hp.com/storage/diskarrays-support.html.

Install and Uninstall

To install the qla2x00 RPM, follow the directions that are in the Rapid Deployment Pack User Guide for deploying RPMs to a ProLiant server. You can also copy the qla2x00.rpm file to your system by typing the command:

```
# rpm -i  qla2x00-<version>.<distribution>.i386.rpm
```

To remove the qla2x00 package, type the command:

```
# rpm -e qla2x00
```

The edit_initrd.redhat script is found in the /opt/hp/storage_drivers/qla604/utils directory on Red Hat systems. This script must be run after the driver RPM is installed so that HP storage devices appear correctly to the system. On SuSE SLES-7 systems, if you have a qla2300.o module in your initrd, run the /opt/hp/storage_drivers/qla604/utils/remove_qla2x00.suse script to prevent the module from starting.

Components of qla2x00

Driver Source Code

The driver source code is located in the /opt/hp/storage_drivers/qla604/src directory. You may need to compile new driver modules if you rebuild your kernel. It is recommended that you use the hp_fccfg.sh script in the fibreutils RPM.

NOTE: The kernel sources for the current kernel must be installed to proceed with the driver module recompilation.

If you want to rebuild the driver modules manually, perform the following steps:

1. Change the directory to /opt/hp/storage_drivers/qla604/src.
2. Remove any previously compiled drivers by typing the command:

   make -f makefile.sp clean

3. Compile the driver modules by typing the command:

   make -f makefile.sp SMP=1

NOTE: If you are using a SuSE distribution, add the flag OSVER=linux at the end of the command line.

4. Copy the qla2300.o files to the /lib/modules/<kernel version>/kernel/drivers/scsi directory.
5. Reload the qla2300 module or reboot your server.

Precompiled Driver Binaries

Included in the RPM is a precompiled qla2300 driver module. The module was compiled for the supported base kernel and the supported errata kernel. The RPM installer attempts to load the precompiled module when the RPM is installed. The driver may fail to load if you are not running a supported kernel or your kernel name does not match the standard naming convention. If the driver load fails for some reason, recompile the driver module for your environment by following the steps above.

System Startup Scripts

Code is included in the system startup scripts in either the /etc/rc.d/rc.sysinit (Red Hat systems) or /etc/rc.d/boot (SuSE systems) script so that the qla2300 module loads when the system boots.

Fibreutils Utility

The RPM fibreutils-1.1.0-3.i386.rpm contains a utility that complements the qla2x00 driver package. The fibreutils utility hp_fccfg.sh is a script that allows the user to recompile the driver if needed and change the default queue depth for disk devices attached to a qla2300 series fibre channel adapter.

Install and Uninstall

To install the fibreutils RPM, follow the directions that are in the Rapid Deployment Pack User Guide for deploying RPMs to a ProLiant server. The fibreutils RPM can also be installed by copying the .rpm file to your system and typing the command:

```
# rpm -i fibreutils-1.1.0-3.i386.rpm
```

To remove the fibreutils package, type the command:

```
# rpm -e fibreutils
```

hp_fccfg.sh

The `hp_fccfg.sh` script recompiles and reloads the qla2300.o module, modify the current kernel source configuration, and change the default queue depth of the disk devices attached to a qla23xx adapter. To use this script, you must have the qla2x00 driver RPM installed on your system, as well as the kernel sources.

1. Start the script by typing the command:

   ```
   # hp_fccfg.sh
   ```

The Main Menu is displayed.

Main Menu Options

The options available from the main menu are:

- Recompile QLA Driver
- Change Default QDepth
- Run make menuconfig
- Run make xconfig
- Reload qla2200 and qla2300
- Quit

Main Menu options are explained in detail below.

Recompile QLA Driver

This option recompiles and reloads the QLA driver. If chosen, this option calls another menu called **Recompile QLA Driver**. Its menu options are **Compile SMP Secure Path Compatible Driver** and **Back to Main Menu.** Choosing **Compile SMP Secure Path Compatible Driver** compiles the qla2300.o module and places it in the correct directory to be used by insmod. Any change to the driver module file, such as copying, displays in the /var/log/messages file.

Change Default QDepth

This option allows a change to the default queue depth for all devices seen by the qla2xxx adapter. When this option is selected, the previous queue depth number displays and the system prompts for a new number. The number entered must be between 1 and 256 inclusive. Reload the adapter driver or reboot the system for the new queue depth number to take effect.

Run make menuconfig and Run make xconfig

These options run the standard kernel source configuration programs. **Make menuconfig** is a text-based program; **make xconfig** is a windowing program written in TCL.

Reload qla2200 and qla2300

This option reloads the adapter driver module. This option is especially useful after the user has recompiled drivers. The **Reload qla2200 and qla2300** option runs the rmmod command against the qla2300 kernel module. The system then uses the module startup script in /etc/init.d to reload the driver.

NOTE: You may receive a failure message stating that the kernel module failed to load. This is an errant message and can be ignored.

IMPORTANT: There are references to qla2200 in the qla2x00 code. Platform Software version 2.0B does not support qla2200 single-path functionality. qla2300 is necessary for multi-path support and is all that is supported in the 2.0B version of this Platform Software Kit. To obtain single-path Linux (V2.0A), download HBA driver V6.0.2 from

http://h18007.www1.hp.com/storage/diskarrays-support.html.

Selective Storage Presentation (SSP) on SuSE SLES-7

A server reboot is required after using Selective Storage Presentation (SSP) to grant host access to a LUN.

Storage System Scripting Utility for Enterprise Virtual Array

Refer to the HSV Element Manager release notes prior to using the Storage System Scripting Utility (SSSU), as SSSU communicates directly with the element manager.

Windows 2000 Dynamic Disk SnapShots and SnapClones

The use of SnapShots and SnapClones in HP SANs is not supported in a Windows 2000 environment if the SnapShot or SnapClone is presented to the same Windows 2000 host as the LUN from which the SnapShot or SnapClone was created. SnapShots and SnapClones are features of the HSG80 and HSV110 controller based HP Storage systems. All Dynamic disks on a system have information in their metadata about the other dynamic disks on the system that exist. When Windows is presented with two dynamic disks that have the same information on them, it does not have code to resolve the conflict.

Documentation Anomalies

Installation and Configuration Guide Anomalies

Page 2-3, step 3:

The SSSU executable is installed in the following directory by default:

```
/opt/CPQhsv/bin
```

The directory is incorrect. The following directory is correct:

```
/usr/local/sssu/bin
```

- Single-path support only is specified in the Installation and Configuration Guide. With the release of V2.0B, multi-path is now supported.
- The “Installing the Host Kit” instructions found in chapter 2 of the Installation and Configuration Guide is superseded by the Installation Instructions found on page 12 of this document.
- The Installation and Configuration Guide refers to Alpha support. This support was dropped with the release of V2.0B.