SANtricity™ Storage Manager

Configuration Guide for Tru64 UNIX

TM1393-2-E3, Third Edition

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Document Description

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This document provides required general reference information and configuration material necessary to the installation and operation of the disk subsystem and connection through a Tru64 UNIX host system, and will remain the official reference source for all revisions/ releases of this product until rescinded by an update.

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Conventions

The following conventions have been used throughout this book.

Definitions of Safety Notices

DANGER indicates an imminently hazardous situation that will result in death or severe personal injury.

WARNING indicates a potentially hazardous situation that could result in death or severe personal injury.

CAUTION indicates a potentially hazardous situation that could result in moderate or minor personal injury.

Definitions of Informational Notices

CAUTION indicates a potentially hazardous situation that could result in data loss (or other interruption) or equipment damage.

IMPORTANT indicates information or criteria that is necessary to perform a procedure correctly.

NOTE indicates a concept that will be clarified or a maintenance tip that will be presented.

Revision Record

Edition or Revision	Date	Affected Pages or Remarks
First Edition	March 2003	New Book.
Second Edition	April 2003	Text revisions.
Third Edition	May 2004	Editorial and typographic changes.

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Configuration

System administrators can use the following configuration information to enable a Tru64 UNIX system to physically connect and supply network access to a disk subsystem. To manage the disk subsystem, configure volumes, or monitor performance, install the SANtricity Storage Manager software on a Windows 2000 workstation and connect it to the disk subsystem using the out-of-band method.

General Reference

This section contains information on basic configuration issues and hardware requirements, including operating system versions.

Operating System Requirements

Ensure the current host system contains one of the following versions of the Tru64 UNIX operating system, and has been loaded with the latest patch levels:

- version 5.0
- version 5.0A
- version 5.1
- version 5.1A
- version 5.1B

Hardware Requirements

Refer to the following specifications to ensure the current Tru64 UNIX system meets the system hardware requirements:

- 64-bit MIPS RISC R12000 (minimum 180 MHz)
- CDROM drive
- Mouse or similar pointing device
- 256 MB system memory (512 MB or more recommended)
- 256 MB system swap area (512 MB or more recommended)
- Ethernet network interface card

Fibre Channel Hardware Specifications

This section provides information about the available Fibre Channel equipment that is part of the tested hardware solution, including model numbers of supported host bus adapters (HBAs) and switches, tested driver and firmware levels, and specific hardware restrictions.

More information on HBAs and switches is available through the following sources:

- Any documentation that came with a particular HBA or switch, especially any operating system-specific information
- Vendor and manufacturer support web sites
- Technical support

HBA Information

The following information pertains to supported 2-gigabit HBAs.

LSI Logic LSI44929O

The LSI Logic LSI44929O was tested with the following driver, firmware, and BIOS revisions:

- Driver: 1.02.00
- Firmware: 2.00.10
- BIOS: 2.02.00

Download the specified driver, firmware, and bios from the following web site:

```
http://www.lsilogic.com/support
```

LSI Logic LSI40919O

This LSI Logic LSI 40919O HBA was tested with the following driver, firmware, and BIOS revisions:

- Driver: 1.02.00
- Firmware: 2.00.10
- BIOS: 2.02.00

Download the specified driver, firmware, and bios for this HBA from the following web page:

```
http://www.lsilogic.com/support
```

Fabric Switches

Information about supported fabric switches is located at the “Certified Compatibility Matrix” link on the following web page:

```
http://www.lsilogicstorage.com/partners/compatible.html#
```

The following information is specific to using a Brocade® SilkWorm® 3800 fabric switch in a Tru64 UNIX environment.

Brocade SilkWorm 3800

The Brocade SilkWorm 3800 fabric switch is a 16-port switch that was tested with the following driver firmware level:

- Firmware: 3.1.1b

This switch has the following restriction: The storage network may have poor fabric/ switched performance if switch settings allow for interleaved data frames.

NVSRAM Configuration

This section contains information about the NVSRAM configuration and specific settings required to access the disk subsystem through a Tru64 UNIX host system.

Control Module and Array Module Controllers

The controllers in the control modules and array modules are not interchangeable. The following table lists the software and hardware that have been tested with Tru64 UNIX. The list also provides a reference for the appropriate controllers to use in each model of control module and array module.

Table 1 Tested Software/Hardware Combinations

Configuration Software	Compatible Hardware
SANtricity Storage Manager 8.30	9176 array module – 4774 controllers D178 array module – 4884 controllers D280 array module – 5884 controllers D173-010 and D173-014 array modules – 2772 controllers
SANtricity Storage Manager 8.40	D178 array module – 4884 controllers D280 array module – 5884 controllers D220 array module – 2882 controllers

NVSRAM Packages

NVSRAM files are downloadable packages that specify default settings for the disk subsystem controllers. You will install these files on the host system and download them to the disk subsystem controllers as necessary. Refer to the *SANtricity Storage Manager Installation Guide* for instructions on when and how to download these files.

CAUTION **Do *not* attempt to download NVSRAM packages unless instructed to do so in the *SANtricity Storage Manager Installation Guide* or by technical support**.

Inappropriate application of these files could cause serious problems with your disk subsystem.

Configuring NVSRAM for the Tru64 Host

To support data accessibility through the Tru64 host system, set the SANtricity Storage Manager Host Type to IRIX and run the modification script as described on below.

Scripts to Modify NVSRAM Configuration Files

To ensure proper operation of the disk subsystem when connected to a Tru64 UNIX host system, make the following modification to the NVSRAM.

Procedure

1. Start the storage management software.
2. In the Enterprise Management Window, select the disk subsystem for which you want to modify NVSRAM settings.
3. Select Tools >> Execute Script.

   The Script Editor window opens.
4. Type the following in the Script Editor window:

   For the D178 array module (4884 controller) only:

```
show controller[a] HostNVSRAMByte[0xa, 0x24];
show controller[b] HostNVSRAMByte[0xa, 0x24];
set controller[a] hostNVSRAMByte [0xa, 0x24]=0x1;
set controller[b] hostNVSRAMByte [0xa, 0x24]=0x1;

show controller[a] nvsrambyte[0x34];
show controller[b] nvsrambyte[0x34];
set controller[a] nvsrambyte[0x34]=0x31;
set controller[b] nvsrambyte[0x34]=0x31;
```

   For all other array modules:

```
show controller[a] HostNVSRAMByte[0x5, 0x24];
show controller[b] HostNVSRAMByte[0x5, 0x24];
set controller[a] hostNVSRAMByte [0x5, 0x24]=0x1;
set controller[b] hostNVSRAMByte [0x5, 0x24]=0x1;

show controller[a] nvsrambyte[0x34];
show controller[b] nvsrambyte[0x34];
set controller[a] nvsrambyte[0x34]=0x31;
set controller[b] nvsrambyte[0x34]=0x31;
```

5. From the Script Editor text menu, select Tools >> Verify and Execute.

   The script executes, and a Script Execution Complete message is displayed.

6. Close the Script Editor window.

   A dialog opens that asks if you want to save the script.

7. Select “No.”

8. Exit the storage management software.

9. Power off the controllers.

10. Power on the controllers.

End Of Procedure