

StorageTek®

StorageNet Access Hub

Tape Backup Using Veritas NetBackup

222759-01

Revision History

Tab Level	Description
01 (04/99)	Initial release.

The U.S. Department of Commerce restricts the distribution of technical information contained in this document when exported outside the U.S. Therefore, careful attention should be given to compliance with all applicable U.S. Export Laws if any part of this document is to be exported.

© 1999 Storage Technology Corporation, Louisville, Co. All rights reserved. Printed in USA.

Address comments concerning this manual to:

StorageTek
Technical Communications
7600 Boone Avenue North
Minneapolis, MN 55428-1099
USA

Comments may also be submitted over the Internet by addressing them to:

doccomment@network.com

Always include the complete publication number and title of the document with your comments.

Notice to the Reader

The material contained in this publication is for informational purposes only and is subject to change without notice. StorageTek is not responsible for the use of any product options or features not described in this publication, and assumes no responsibility for any errors that may appear in this publication. Refer to the revision record (at the beginning of this document) to determine the revision level of this publication.

StorageTek does not by publication of the descriptions and technical documentation contained herein, grant a license to make, have made, use, sell, sublicense, or lease any equipment or programs designed or constructed in accordance with this document or programs designed or

constructed in accordance with this information.

This document contains references to the trademarks of the following firms. These and other trademarks in this manual are the properties of their respective companies and corporations.

Corporation	Referenced Trademarks and Products
Veritas, Inc.	NetBackup

These references are made for informational purposes only.

Note:

This usage example does not use the Access Hub API included on the API CD-ROM. It presents a tested tape backup solution using specific software and hardware listed in this document. The API provides programmable access to Hub functions that could be adapted to a similar scenario in future releases of Veritas software.

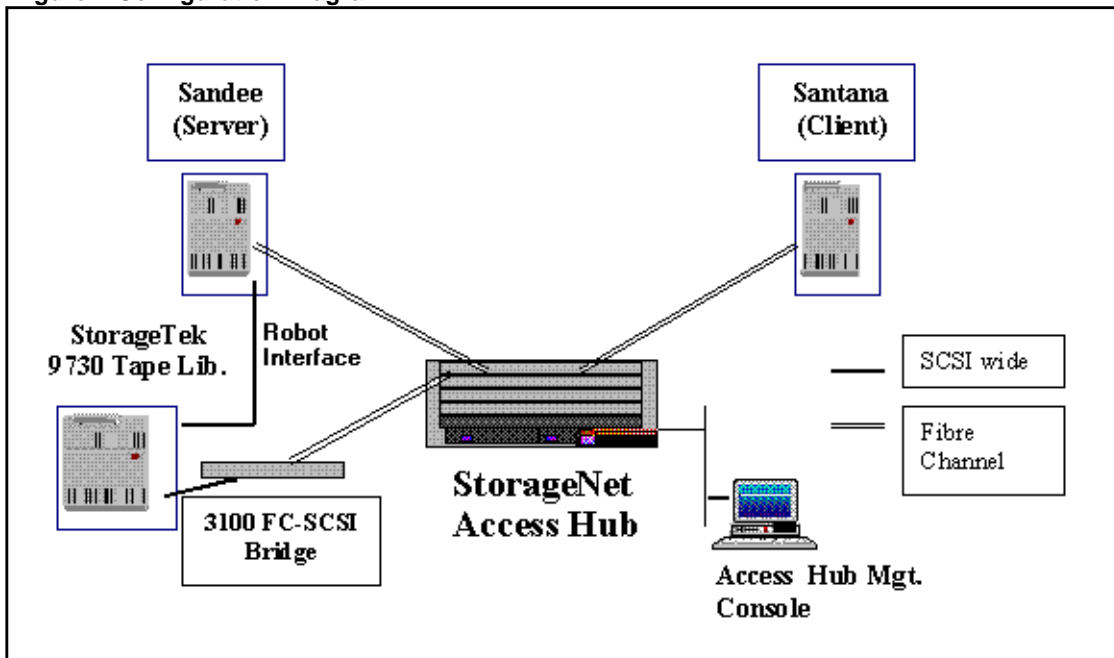
Veritas Tape Backup Example

This is an overview description of how Veritas NetBackup interacts with the StorageNet Access Hub in a tape backup scenario. This overview includes a very basic description of configuration requirements and a general overview of flow and control.

Basic Configuration

Figure 1 is a diagram of a configuration used for a tape backup demonstration. In this configuration, The StorageTek 9730 DLT 7000 tape library is used by the servers (Santee and Santana) for tape backup via Veritas NetBackup Release 3.1 software.

Figure 1 Configuration Diagram



The tape drive is attached to the loop through a StorageTek 3100 Fibre Channel/SCSI bridge. The tape drive must be on the same arbitrated loop as the servers. The servers can use the same physical drive. Each server needs to have a logical SCSI definition added to the JNI configuration files in `/kernel/drv/st.conf` for every drive used for backup. These definitions must include a Fibre Channel world wide name. An example is shown later in this document. The servers can acquire the information they need if the drives are placed on a loop with the servers, and then the servers are booted with the `-r` option (`boot -r` is needed to initiate auto-discovery).

Because several logical drives may map to the same physical drive, you need to manage contention among the servers. The Veritas NetBackup software includes a Scheduler program that initiates backups on a timed schedule. When scheduling backups, you need to be sure that the backup time windows for the logical drives do not overlap.

Configuration Detail

The following is a detailed description of hardware and software used in the configuration pictured in Figure 1.

- Server Sandee
 - Platform - Tatung SPARCstation 20
 - SCSI adapter - SCSI-Diff-Wide SBus
 - Fibre Channel Host Bus Adapter - JNI SBus HBA (driver software package JNIfca 2.2)
 - Operating system - Solaris 2.6
- Server Santana
 - Platform - Sun Ultra-250
 - Fibre Channel Host Bus Adapter - JNI PCI HBA (driver software package JNIfcaPCI 2.2.0.JNI.04)
- StorageTek 3100 Fibre Channel-SCSI bridge
 - Firmware - 9819j
 - FC-optical - SCSI-Diff-Wide
- StorageTek 9730 DLT7000 tape library
- StorageTek StorageNet Access Hub
 - Functional Firmware - V1.1-0 22-Mar-1999 - part number 222639-02
 - Boot Firmware - V1.1.0 22-Mar-1999 - part number 222638-02
 - Short Wave Multi-mode FC board - part number 89203107-04
- Veritas NetBackup Version 3.1.1g

Additions to the Veritas NetBackup JNI Configuration Files

The following definitions were added to the JNI configuration files in /kernel/drv/st.conf for both servers. These definitions are logical representations of the physical drives in the 9730 tape library, which is located on the same arbitrated loop as the two servers. To the servers, the tape drives appear to be SCSI devices directly attached to the master server.

```
-----begin
name="st" class="scsi"
        target=1 lun=0 wwn="100000e002002239";
name="st" class="scsi"
        target=1 lun=0 wwn="100000e002002921";
name="st" class="scsi"
        target=1 lun=1 wwn="100000e002002921";
name="st" class="scsi"
        target=1 lun=2 wwn="100000e002002921";
-----end
```

Backup Scenario/Flow and Control

A hypothetical backup scenario may help illustrate the general flow and control of a tape backup within the configuration in Figure 1. The success of this hypothetical backup depends on the following, as described earlier in this document:

- Logical definitions must be added to the JNI Configuration files on the servers.
- The servers must be booted with the -r option to enable the servers to automatically discover the addition of the logical devices.
- A timed backup has been scheduled using a logical device, with the understanding that a physical tape drive on the arbitrated loop can only be used for one backup at a time. The schedules for backups that use the logical devices cannot overlap.

Given the above, assume the following:

1. A scheduled backup for server Santana is triggered. The setup schedules are:

```
santana backup window
8-12    4-8 pm    freq. 8hrs
```

```
sandee backup window
12-4    8-12 pm   freq. 8 hrs
```

2. Activate (time is 7:00)
3. At 8:00 the backup for Santana is triggered. Santana assumes it has ownership of the tape drives and begins backup. Note that the robot is controlled by Sandee through a SCSI connection, as shown in figure 1.
4. Santana completes its backup.
5. At 12:00, Sandee begins its backup.

