

STORAGE Concentrator™

Setting Up Disk Staging with Bakbone NetVault

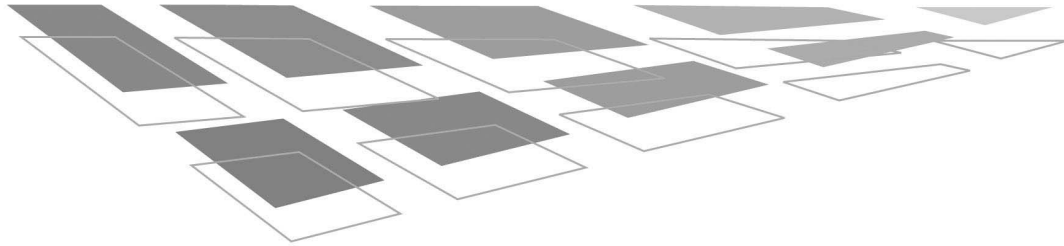


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Section 1 Preface

Introduction

This guide provides the information needed to set up Bakbone NetVault to provide disk staging with Stonefly Network's IP-SAN solution, the *Storage Concentrator*[™] device.

When the *Storage Concentrator* is coupled with the Bakbone NetVault backup software, a disk-to-disk backup solution is created that enables Bakbone NetVault to backup server-attached storage to *Storage Concentrator*'s logical volumes across a standard IP network.

Restoration of data from IP-SAN logical volumes to the server-attached storage is seamlessly accomplished via Bakbone NetVault's virtual tape technology.

Using this guide allows you to:

- Create virtual tapes on Bakbone NetVault
- Create a backup from internal disk to the IP-SAN disk
- Restore from the IP-SAN volumes to the server's internal disks

This booklet does not address the full solution workflow that allows a group of Bakbone NetVault clients to backup to their own IP-SAN volumes and then to a Bakbone backup server. To implement this type of solution, please call your area representative (VAR).

After completing the steps in this guide, proceed to the *Storage Concentrator User's Guide*. Refer to "Section 2 – Using the Administrative Interface" for information on how to efficiently and effectively manage data storage, data protection, and data delivery on your network.

Users

This setup guide is intended to be used by network administrators and assumes a basic understanding of:

- Local area networks (LAN)
- Ethernet and Ethernet-switching concepts
- Storage area networking (SAN)

Other Resources


Other useful information regarding the set up and use of your *Storage Concentrator* can be found in the following:

- The *Storage Concentrator User's Guide*
- The *Storage Concentrator Setup Guide*
- The StoneFly Networks Web site: www.stonefly.com
- The *Storage Concentrator Online Help* in the administrative interface (following initial setup)

Conventions

The following tables list the conventions used throughout this guide.

Icons

| Icon | Type | Description |
|--|------|--------------------------------------|
|  | Note | Special instructions or information. |

Text

| Convention | Description |
|----------------------|----------------------------------|
| Boldface word | An action is required. |
| Type or Enter | Input the requested information. |

Section 2 Setting Up Disk Staging with Bakbone NetVault

This section provides step-by-step instructions for setting up the Bakbone NetVault software to provide disk staging with the *Storage Concentrator* device.

Getting Started

Before beginning the setup process, make sure you have gathered the following equipment and information:

- The *Storage Concentrator* device
- The Bakbone NetVault software
- A Windows PC or Linux computer or laptop using Internet Explorer 5.0 or later (Windows PC only) or Netscape 4.7 or later (Windows PC or Linux)
- The computer must be configured to communicate in the 192.168.0.0 network
- A network crossover cable
- Network settings specific to your network:
 - IP address
 - Network setting
 - Broadcast IP setting
 - Netmask setting
 - Gateway setting

Assumptions

It is assumed that the following conditions exist before proceeding with the setup procedure:

- Your Windows 2000 (W2K) hosts are switched on and are running Intel SNIC cards.
- The target setup is configured to point to the *Storage Concentrator* IP address via the Intel control panel.
- You have installed the Bakbone NetVault software and the virtual disk package on the server and the client, and they are connected by an Ethernet link.

Setting up the *Storage Concentrator*

To set up the *Storage Concentrator*:

- 1 Launch the *Storage Concentrator*, and click **Volumes** in the left list.
- 2 Click **Create New Volume**.
- 3 In **Volume Name**, enter a name for the volume.
- 4 Enter notes as desired.
- 5 Do one of the following:
 - For simple volume creation, enter a size in the **Desired Volume Size** field, or
 - Select **Manual Create**, and assign the virtual volume across different disks, as desired.



For more information, see “Volumes and Access Control Lists” in Section 2, “Using the Administrative Interface” in the *Storage Concentrator i1000 User’s Guide*.

- 6 Click **Submit**.

This opens the Access Control List (ACL) screen.

- 7 Locate the virtual volume that you just created, and set the backup client and backup server options to **Read/Write**.
- 8 Click **Submit**.

This completes the *Storage Concentrator* setup. Proceed to “Setting up the Windows 2000 Backup Server.”

Setting up Windows 2000 Backup System

Set up the Storage Concentrator before proceeding.

To set up the Windows 2000 backup server:

- 1 Open the Intel SNIC control panel, and select the *Storage Concentrator* target IP address.

A new logical unit number (LUN) appears in the right of the screen.
- 2 Select the new logical hard drive, and click **OK**.

The control panel closes automatically.
- 3 Right-click **My Computer**, and select **Manage**.
- 4 Click **Disk Management**, then click **Next**.
- 5 Select the virtual disk (usually disk 2 and higher), then click **Next**.
- 6 Click **Finish**.
- 7 Do one of the following:
 - Enter a value in **Partition Size**, or
 - Click **Next**.
- 8 Select a drive, and click **Next**.
- 9 Enter the name of the virtual volume, but accept all other defaults, and click **Next**.
- 10 Click **Finish**.

This process usually takes less than one minute for a 4GB partition.
- 11 When the partition is complete, close the screen.
- 12 In DOS, run **chkdsk <driveletter> /F** to verify that you can locate the virtual disk.

This completes the setup of the Windows 2000 server backup system.

To set up the Windows 2000 backup client:

- 1 Open the Intel SNIC control panel, and select the *Storage Concentrator* target IP address.

A new LUN appears in the right of the screen.

- 2 Select the new logical hard drive, and click **OK** to close the control panel.

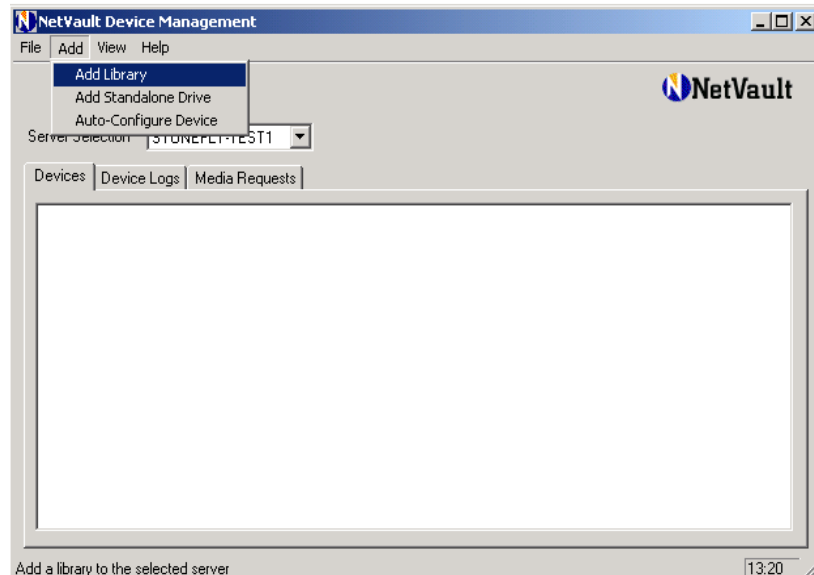
This completes the setup of the Windows 2000 client backup system. Proceed to “Setting Up the Bakbone NetVault Virtual Library.”

Setting Up the Bakbone NetVault Virtual Library

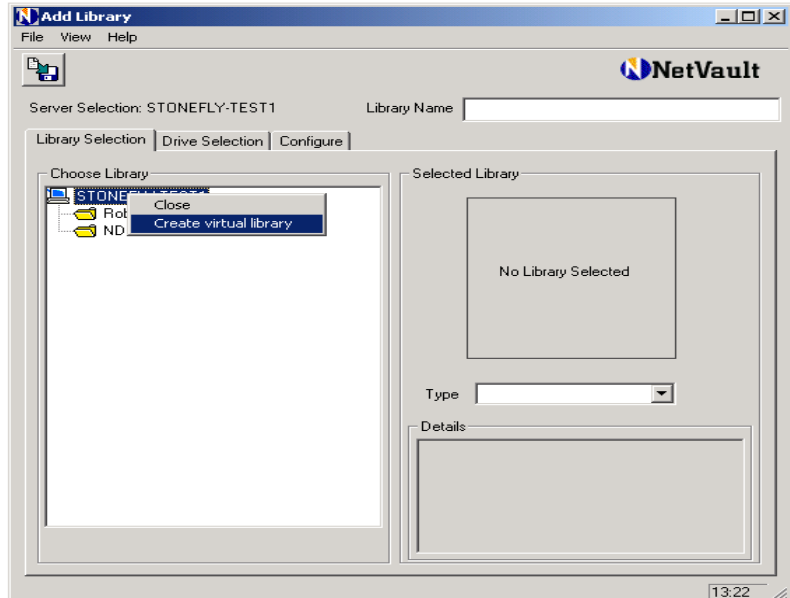
Before proceeding, be sure that the Bakbone NetVault software and the virtual disk package are installed on the server and the client, and that they are connected by an Ethernet link.

To set up the NetVault virtual library:

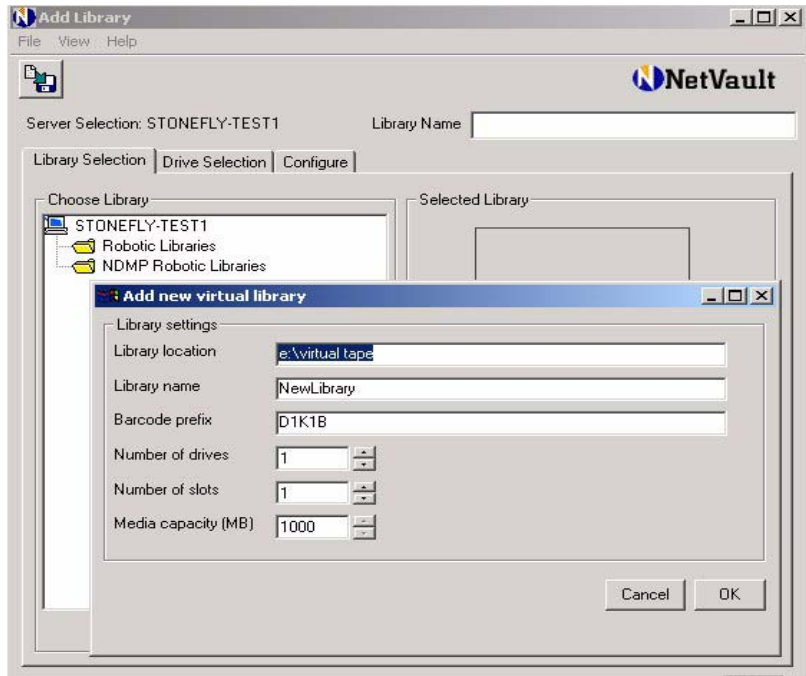
- 1 In the NetVault application, navigate to **Device Management**, and select **Add/Add Library**.



- 2 Right-click the **Backup Client** icon, and select **Create Virtual Library**.



This opens the Add New Virtual Library screen.



3 Enter the following information:

- **Library Location** - name of the directory where you want the disk library to be created
- **Library Name** - name of the directory that will contain the library
- **Barcode Prefix** - name of the files that will act as the virtual media



NetVault uses file names in the same way it uses barcodes on real tapes.

- **Number of Drives** - number of drives
- **Number of Slots** - number of slots
- **Media Capacity (MB)** - the amount of disk space required



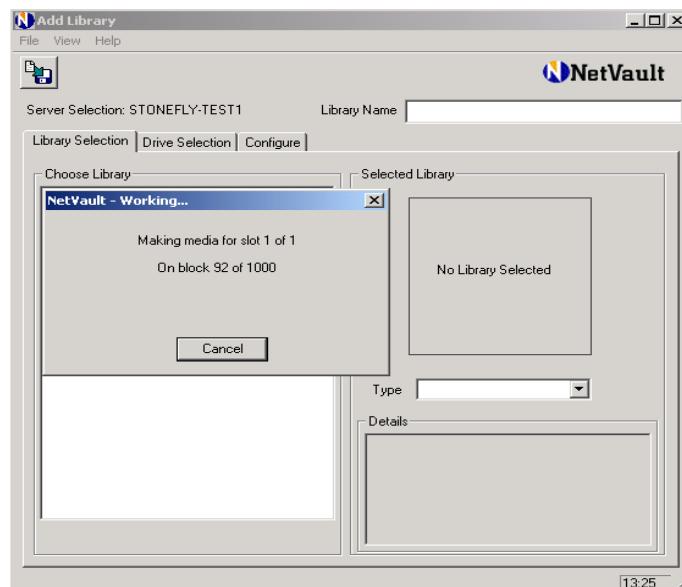
NetVault creates one file of the size specified for each slot, according to the following formula:

- $\text{media capacity} \times \text{no. of slots} = \text{required amount of disk space}$

Example: (slot) 1 x (drive) 1 = (capacity) 2000 for a single 2GB backup virtual tape

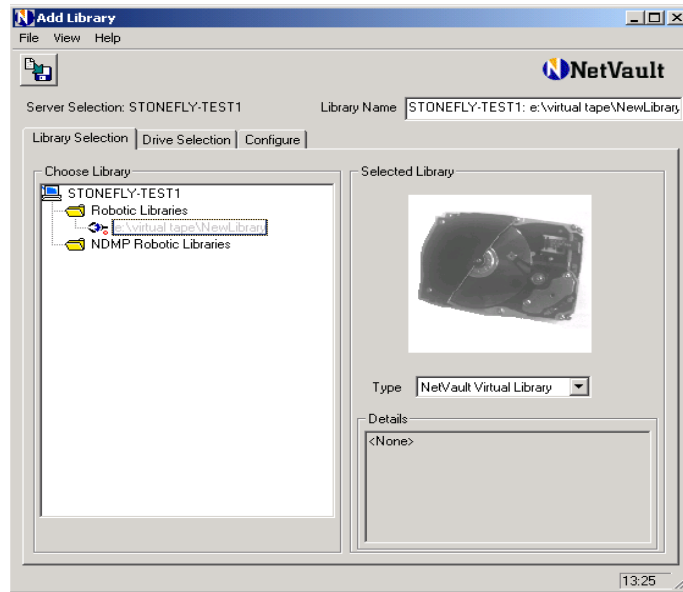
4 Click **Submit**.

It can take several minutes to build the library depending on the size of media and number of slots.

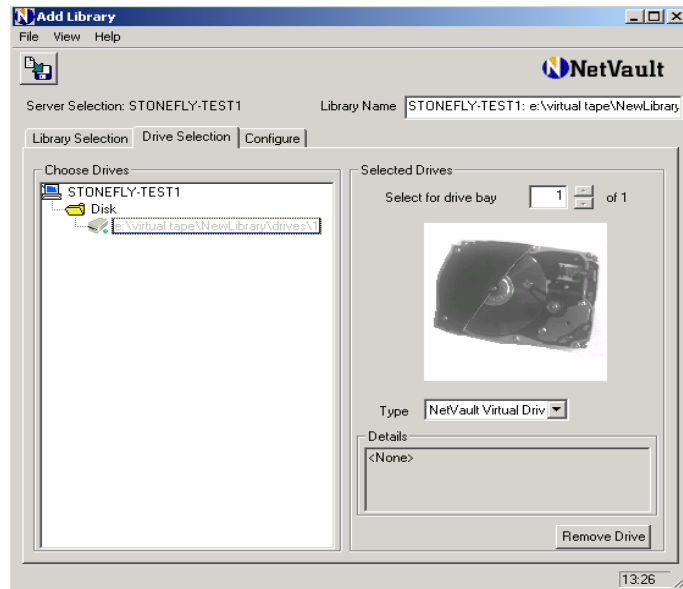


When the library is finished, you might want to add the library as a normal tape library. To do this:

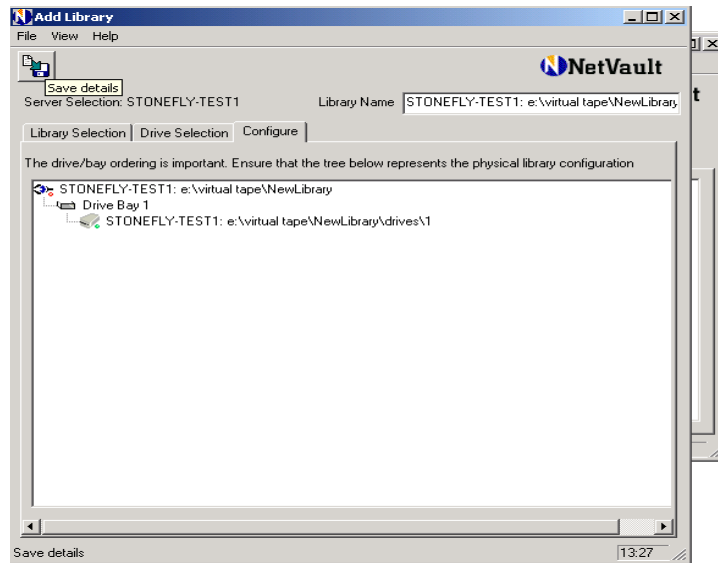
- 1 Select the **Library Selection** tab.
- 2 Right-click the new library, and click **Select**.



- 3 Select the **Drive Selection** tab.
- 4 Right-click the new library, and click **Select**.



- 5 Click the **Save Details** icon, and click **OK** to close the screen.



This completes the setup of the Bakbone NetVault Virtual Library. Proceed to Section 3, “Testing.”

Section 3 Testing Backup and Restore Systems

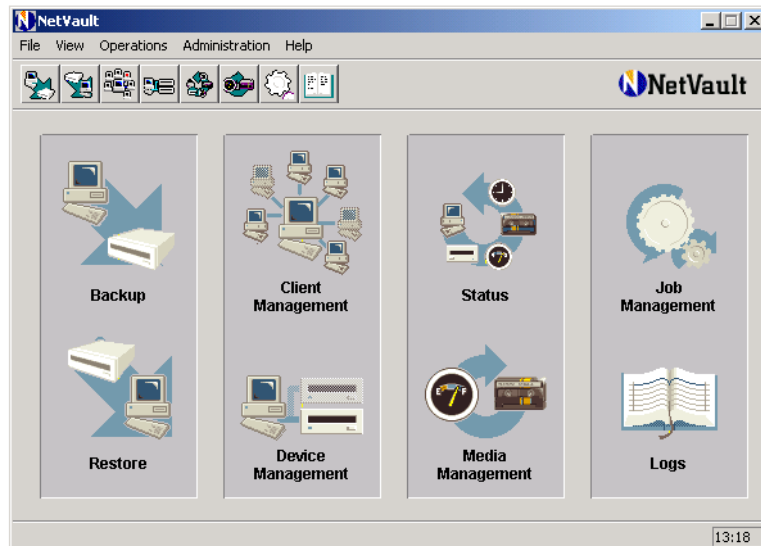
This section provides step-by-step instructions for testing the backup and restore functions of the Bakbone NetVault software. It is recommended that all of the tests be performed to assure optimum performance.

Testing the Client Backup System

Use the following steps to test the disk staging functions that you set up in Section 2, “Installation.”

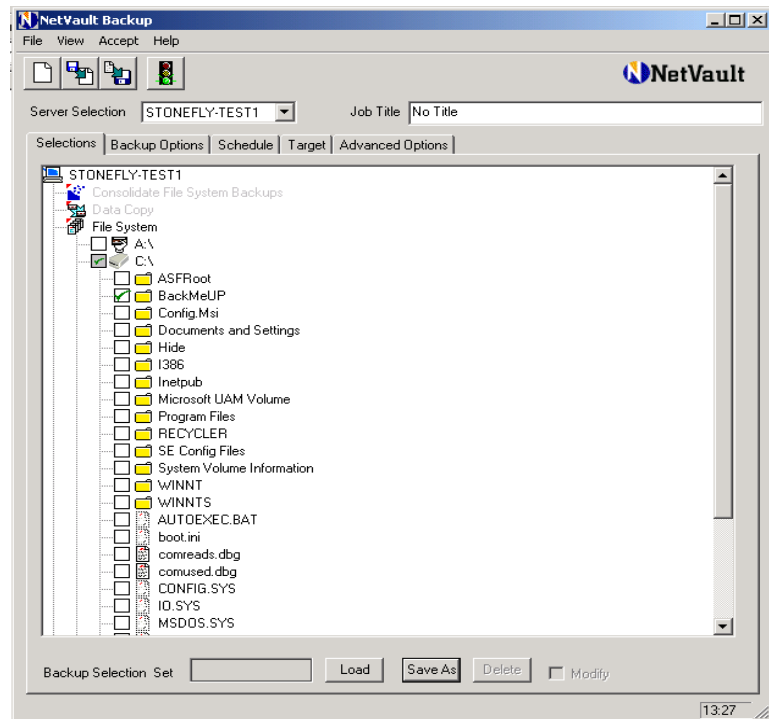
To test the backup from the internal backup client disk to the client virtual disk, do the following:

- 1 In the Bakbone NetVault application, click **Backup**.

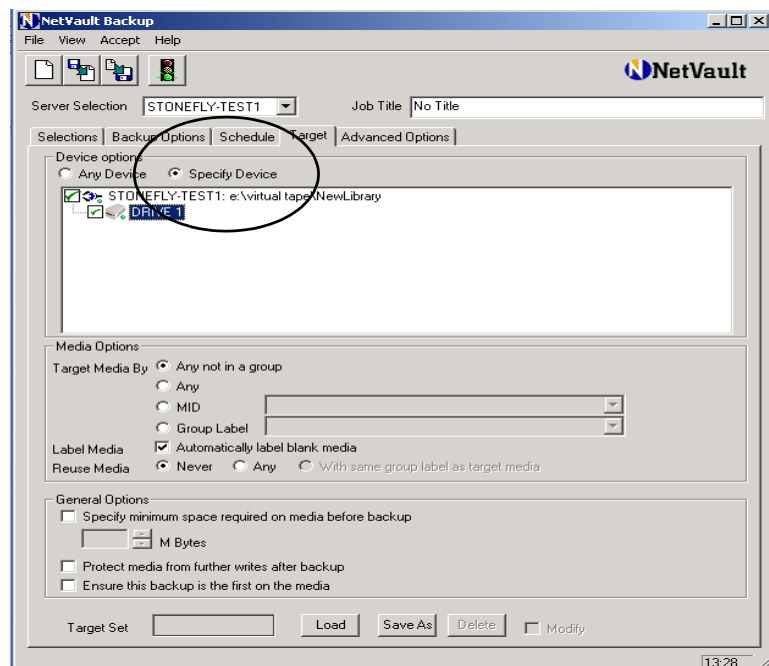


- 2 Double-click **Backup Client**.
- 3 Select **FileSystem**.

- 4 Locate the directory that needs to be backed up.

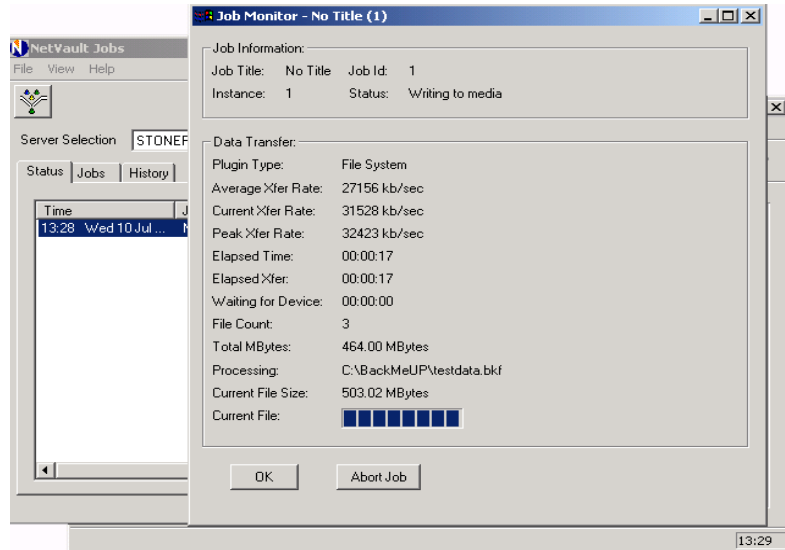


- 5 Select the **Target** tab.
- 6 Select the **Specific Device** option.



- 7 Select the virtual library that was just created by the backup client, and enter a title for the job in **Job Title**.

- 8 Click **Submit**.
- 9 Close the screen.
- 10 Click **OK**.
- 11 To view the progress of the job, double-click **Job Management**.



- 12 Proceed to the following section to perform a test of the backup server.

Testing the Backup Server

Follow the steps in the section after you test the client backup system.

This procedure tests the solution by running a backup from the internal server disk to the virtual disk.

To test the backup function from the internal backup server disk to the client virtual disk, do the following:

- 1 In DOS, run **chkdsk E: /F** (check volume script) to review the changes just made by the backup client. You can also add the volume script to an automated backup or restore.

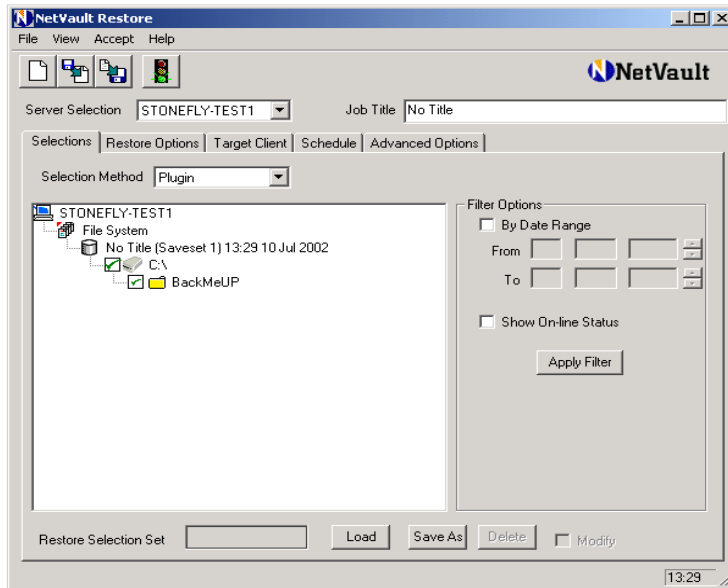
Caution! Never run a check volume script and a client backup at the same time.



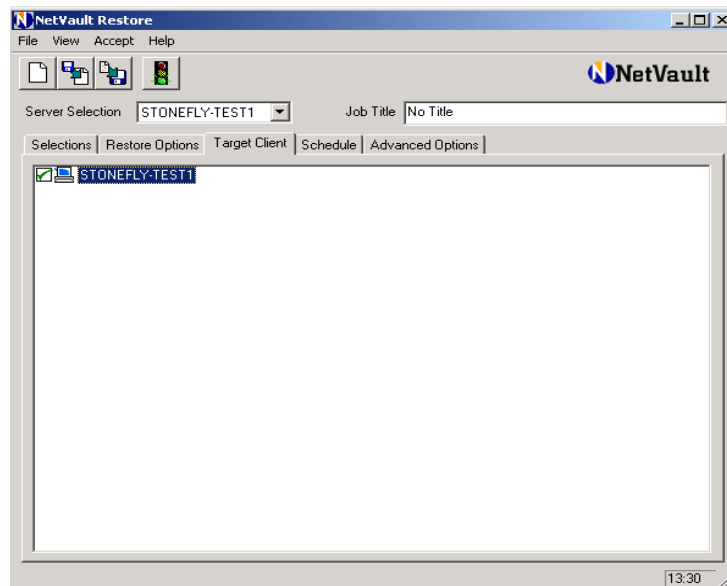
This step unmounts and remounts the drives with an additional volume check.

- 2 Click **Backup**.

- 3 Double-click **Backup Server**.
- 4 Select **FileSystem**.
- 5 On the backup client virtual disk, select the directory that you want to back up.



- 6 Select the **Target Client** tab.



- 7 Select the **Specific Device** option.
- 8 Select the physical tape or another new virtual library that is only seen by the backup server.
- 9 Enter a title for the job in **Job Title**.

- 10 Click **Submit**.
- 11 Close the screen.
- 12 Click **OK**.
- 13 To view the progress of the job, double-click **Job Management**.
- 14 Proceed with the following test of the client restore function.

Testing the Restore Client

Follow the steps in the section after you test the backup server.

This procedure tests the restore function by setting up a standard restore from the internal backup server disk to the virtual disk.

To test the restore function from the shared client virtual disk to the client internal disk, do the following:

- 1 In DOS, run **chkdsk E: /F** (check volume script) to review the changes just made by the backup client.

You can also add the volume script to an automated backup or restore. If a response is requested by the system, the response can also be automated.

Caution! Never run a check volume script and a client backup at the same time.



This step unmounts and remounts the drives with an additional volume check.

- 2 Click **Restore**.
- 3 Double-click **Backup Client**, and select the backup job and the actual directory below the option.
- 4 In the **Target** tab, click **Backup Client**.
- 5 Enter a title for the job.
- 6 Click **Submit**.
- 7 Close the screen.
- 8 Click **OK**.
- 9 To view the progress of the job, double-click **Job Management**.
- 10 Proceed with the following test of the server restore function.

Testing the Restore Server

Follow the steps in the section after you test the restore client.

This procedure tests the restore function from the backup server's own virtual disk to the shared client virtual disk.

To test the restore function from the backup server virtual disk to the shared client virtual disk:

- 1 In DOS, run **chkdsk E: /F** (check volume script) to review the changes just made by the backup client.

You can also add the volume script to an automated backup or restore. If a response is requested by the system, the response can also be automated.

Caution! Never run a check volume script and a client backup at the same time.



This step unmounts and remounts the drives with an additional volume check.

- 2 Click **Restore**.
- 3 Double-click **Backup Server**, and select the backup job and the actual directory below the option.
- 4 In the Target tab, click **Backup Client**.
- 5 Enter a title for the job.
- 6 Click **Submit**.
- 7 Close the screen.
- 8 Click **OK**.
- 9 To view the progress of the job, double-click **Job Management**.

You will know that the preceding tests are successful when the client is able to locate the job and restore data from it. The database remembers the job via its disk label and attributes.

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