VERITAS™

VERITAS NetBackup™ 5.1

Installation Guide

for Windows

N123588

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Preface

The purpose of this guide is to help NetBackup system administrators install and configure NetBackup™. The NetBackup system administrator is responsible for maintaining backups and disaster recovery plans using NetBackup.

This guide assumes the following:

- The NetBackup System Administrator possesses a basic understanding of Microsoft Windows system administration.
- The NetBackup System Administrator has had experience with the system on which NetBackup is to be installed.
- That all SCSI devices are properly attached and configured for the operating system.

Caution If a device is not properly configured for the operating system, backups made to that device may lead to backup failure and/or data loss.

What is in this manual?

This document is designed to step you through the installation process of the NetBackup Server or NetBackup Enterprise Server product. The installation procedures in this document step you through a typical NetBackup Server installation. The installation process for NetBackup Server is nearly identical for the NetBackup Enterprise Server product. Any differences in the installation process between the two products are identified in this document.

Within this document are general descriptions of the major components of NetBackup. In addition, this document provides easy-to-follow procedures about:

- Understanding and learning the basics of NetBackup
- Installing NetBackup server software
- Upgrading your current system with the latest version of NetBackup
- Uninstalling NetBackup from your server
- Installing alternate interfaces

- Installing NetBackup client software
- Uninstalling NetBackup client software

Getting Help

VERITAS offers you a variety of support options.

Accessing the VERITAS Technical Support Web Site

The VERITAS Technical Support Web site allows you to do any of the following:

- obtain updated information about NetBackup, including system requirements, supported platforms, and supported peripherals
- contact the VERITAS Technical Support staff and post questions to them
- get the latest patches, upgrades, and utilities
- view the NetBackup Frequently Asked Questions (FAQ) page
- search the knowledge base for answers to technical support questions
- receive automatic notice of product updates
- find out about NetBackup training
- read current white papers related to NetBackup

The address for the VERITAS Technical Support Web site follows:

`http://support.veritas.com`

Using VERITAS Telephone and E-mail Support

Telephone support for NetBackup is only available with a valid support contract. To contact VERITAS for technical support, dial the appropriate phone number listed on the Technical Support Guide included in the product box and have your product license information ready for quick navigation to the proper support group.

▼ **To locate the telephone support directory on the VERITAS web site**

1. Open `http://support.veritas.com` in your web browser.
2. Click the **Phone Support** icon. A page that contains VERITAS support numbers from around the world appears.

▼ **To contact support using E-mail on the VERITAS web site**

1. Open `http://support.veritas.com` in your web browser.
2. Click the **E-mail Support** icon. A brief electronic form appears and prompts you to:
   - Select a language of your preference
   - Select a product and a platform
   - Associate your message to an existing technical support case
   - Provide additional contact and product information, and your message
3. Click **Send Message**.

Related Resources

Appendix A, "Related Documents" on page 111 contains a complete list of books that provide additional product information. These documents are a natural progression for users who wish to learn more about NetBackup and the many features this product offers.

Glossary

If you encounter unfamiliar terminology, consult the NetBackup online glossary. The glossary contains terms and definitions for NetBackup and all additional NetBackup options and agents.

The NetBackup online glossary is included in the NetBackup help file.

▼ **To access the NetBackup online glossary**

1. In the NetBackup Administration Console, click **Help** > **Help Topics**.
2. Click the **Contents** tab.
3. Click **Glossary of NetBackup Terms**.

Use the scroll function to navigate through the glossary.

Additional NetBackup Server and Client Installation Terms

The following terms are used in this document in reference to clustered environments.

Active node

The designated node in a clustered environment where NetBackup is installed and from which NetBackup can push to other nodes in the cluster. In addition, the NetBackup services are running on an active node.

Inactive node

An inactive node in a clustered environment has NetBackup installed, however NetBackup and the NetBackup services are not running.

Migrating

Migrating, commonly referred to as failover, occurs when a node becomes unavailable, and the cluster resources are migrated to an available node.

Nodes

In a server cluster, two or more servers (called nodes) are linked in a network, and run cluster software that allows each node access to the shared SCSI bus to which any number of disks can connect.

Primary node or preferred node

The node in a clustered environment that is intended to be active the majority of the time.

Virtual Host name

The name of the cluster as known by the NetBackup environment. This is the name that the clients will have in their server list. It is also the name that the server uses when communicating to the client nodes.

Virtual IP address

This is the IP address of the cluster. The address that the virtual server name should resolve to.

Accessibility Features

NetBackup contains features that make the user interface easier to use by people who are visually impaired and by people who have limited dexterity. Accessibility features include:

- Support for assistive technologies such as screen readers and voice input (Windows servers only)

- Support for keyboard (mouseless) navigation using accelerator keys and mnemonic keys

For more information, see the *NetBackup System Administrator's Guide for Windows, Volume I* or the *NetBackup System Administrator's Guide for UNIX, Volume I*.

Conventions

The following section explains typographical and other conventions used in this guide.

Product-Specific Conventions

The following term is used in NetBackup documentation to increase readability while maintaining technical accuracy.

- Microsoft Windows, Windows

  Generic terms used to describe a specific product or operating system developed by Microsoft, Inc. Some examples are, Windows 2000, Windows Server 2003, Windows servers, Windows clients, Windows platforms, or Windows GUI. For more information on the Windows operating systems that NetBackup supports, refer to the *VERITAS NetBackup Release Notes for UNIX and Windows* or go to the VERITAS support web site at `http://www.support.veritas.com`.

Note When a specific Windows product is identified in the documentation, only that particular product is valid in that instance.

Typographical Conventions

Here are the typographical conventions used throughout the manuals:

Conventions

Convention	Description
GUI Font	Used to depict graphical user interface (GUI) objects, such as fields, list boxes, menu commands, and so on. For example: Enter your password in the **Password** field.

Conventions (continued)

Convention	Description
Italics	Used for placeholder text, book titles, new terms, or emphasis. Replace placeholder text with your specific text. For example: Replace *filename* with the name of your file. Do *not* use file names that contain spaces. This font is also used to highlight NetBackup server-specific or operating system-specific differences. For example: *This step is only applicable for NetBackup Enterprise Server.*
`Code`	Used to show what commands you need to type, to identify path names where files are located, and to distinguish system or application text that is displayed to you or that is part of a code example.
Key+Key	Used to show that you must hold down the first key while pressing the second key. For example: Ctrl+S means hold down the Ctrl key while you press S.

You should use the appropriate conventions for your platform. For example, when specifying a path, use backslashes on Microsoft Windows and slashes on UNIX. Significant differences between the platforms are noted in the text.

Tips, notes, and cautions are used to emphasize information. The following samples describe when each is used.

Note Used for important information that you should know, but that shouldn't cause any damage to your data or your system if you choose to ignore it.

Caution Used for information that will prevent a problem.

Command Usage

The following conventions are frequently used in the synopsis of command usage.

brackets [ ]

The enclosed command line component is optional.

Vertical bar or pipe (|)

Separates optional arguments from which the user can choose. For example, when a command has the following format:

`command` *`arg1`*`|`*`arg2`*

In this example, the user can use either the *arg1* or *arg2* variable.

Navigating Multiple Menu Levels

When navigating multiple menu levels, a greater-than sign (>) is used to indicate a continued action.

The following example shows how the > is used to condense a series of menu selections into one step:

❖ Select **Start** > **Programs** > **VERITAS NetBackup** > **NetBackup Administration Console**.

The corresponding actions could be described in more steps as follows:

1. Click **Start** in the task bar.
2. Move your cursor to **Programs**.
3. Move your cursor to the right and highlight **VERITAS NetBackup**.
4. Move your cursor to the right. First highlight and then click **NetBackup Administration Console**.

NetBackup Basics 1

This chapter is designed to provide you with a basic understanding of the features and functions of your product. Included are definitions of a few key NetBackup terms to assist you in this process.

Installing NetBackup software on the server and NetBackup client software on each of your remote computers provides an easy-to-use, reliable solution for backing up and restoring data.

How does NetBackup work?

NetBackup has three primary functions:

- Enables administrators to create backup policies to back up data.
- Saves backup catalogs and stores the data until you need to retrieve it.
- Retrieves stored data while providing a robust recovery tool should a disaster occur.

What is a backup policy?

A backup policy allows you to configure how and when backups are to be performed for your group of clients, all having similar backup requirements. You can configure your backup policy after you have determined the following:

- Which computers to back up
- Which files and folders to back up
- How often and when the backup shall take place
- How long the backup shall be retained
- Where the backups are stored
- Other attributes for customizing the backup

What are catalog backups?

NetBackup keeps vital information about your (regular) backups in a set of files called a *catalog*. Catalogs contain information about configuration, status, errors, and the files and folders that have been backed up. The catalog also keeps track of the location of the backed-up data.

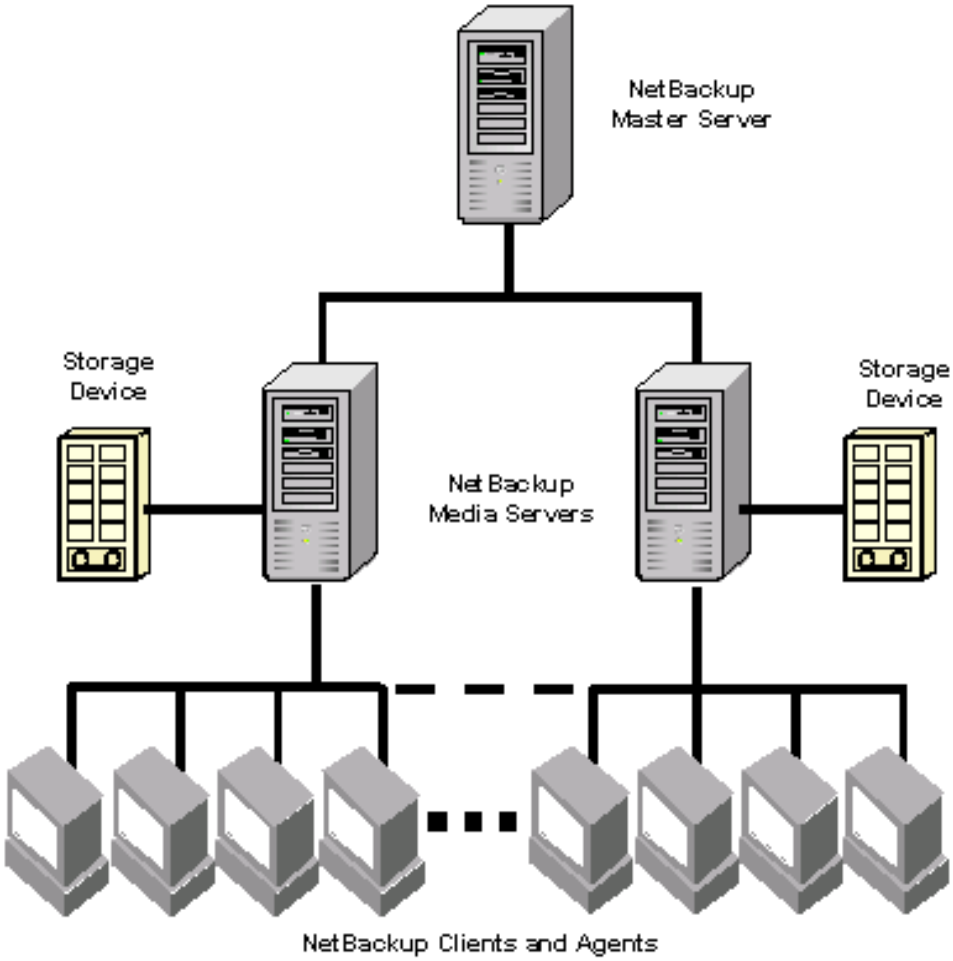
The binary catalog format is designed to improve the scalability and performance of catalog access in NetBackup. The binary catalog format improves catalog performance for browsing and searching on-disk catalogs, and in some cases, reduces the catalog file size. The binary catalog format is written by NetBackup on all platforms except NCR and Sequent. For more information about catalog formats, see the *NetBackup System Administration Guide, Volume I*.

A *catalog backup* is a backup copy of the catalog, which is necessary for NetBackup operations. For example, if a disk failure results in the loss of your catalog files, the easiest way to recover is to restore the catalog from its backup copy. This copy allows you to restore previously backed up data and resume your regularly scheduled backups. The process of backing up a catalog is the same for either catalog format.

What are the functional parts of NetBackup?

The following subsections describe basic terms and features to increase your understanding of how NetBackup works.

The following diagram shows the basic architecture of a NetBackup Enterprise Server configuration. The following subsections describe each of the major pieces within this configuration, the master server, media servers, and NetBackup clients.



Master Server

The *master server* is the computer where NetBackup server software is installed. There can be only one master server per backup domain. The NetBackup master server is responsible for the following functions:

- Contains the backup configurations and policies
- Runs the scheduler that initiates the automated backups
- Maintains databases/catalogs that track the location and contents of all backups

- Communicates with media servers to initiate backups and restore processes
- Provides both a command line interface and a graphical user interface, allowing you to:
  - Configure the backup operations.
  - Schedule automatic, unattended backups (regular backups). For example, to prevent interference with normal daytime operations, you can schedule your automatic backups to occur only at night.
  - Perform manual backups of any client.
  - Allow client users to perform their own backups and restores.
  - Control where backups are stored.
  - Control how long backup data is retained.
  - Restore data to any client.
  - Run reports to verify, manage, and troubleshoot backups and restores. These reports show status or highlight problems with NetBackup servers and clients.
  - Monitor the status of backup and restore jobs.
  - Configure and manage tapes and storage devices.

Media Servers

A *media server*, in a NetBackup Enterprise Server configuration, can be a standalone server that receives requests for backup and restore operations from the master server. (A master server can be configured as a media server as well.) There can be multiple media servers in a backup domain. In a configuration using NetBackup Server software (not Enterprise software), the master server and media server are the same host.

Media servers can:

- Communicate with the Media Manager (on the same system) to select media for backup and restore operations. Refer to "Media Manager" on page 6 for more information.
- Communicate with NetBackup clients during a backup or restore operation.
- Monitor the status of storage devices.

NetBackup Clients

NetBackup clients are the remote computers that have NetBackup client software installed. A NetBackup Enterprise Server configuration can have a virtually unlimited number of clients for each backup domain. With the proper conditions set, a client can direct a user request to the master server to perform a backup or restore operation.

Clients can perform the following functions:

- Validate connection requests from the NetBackup server.
- Support compression of the backup stream.
- Support include and exclude lists (a list that indicates which files to include in a backup and which files to exclude from a backup).

In general, NetBackup clients can be any combination of the following operating systems:

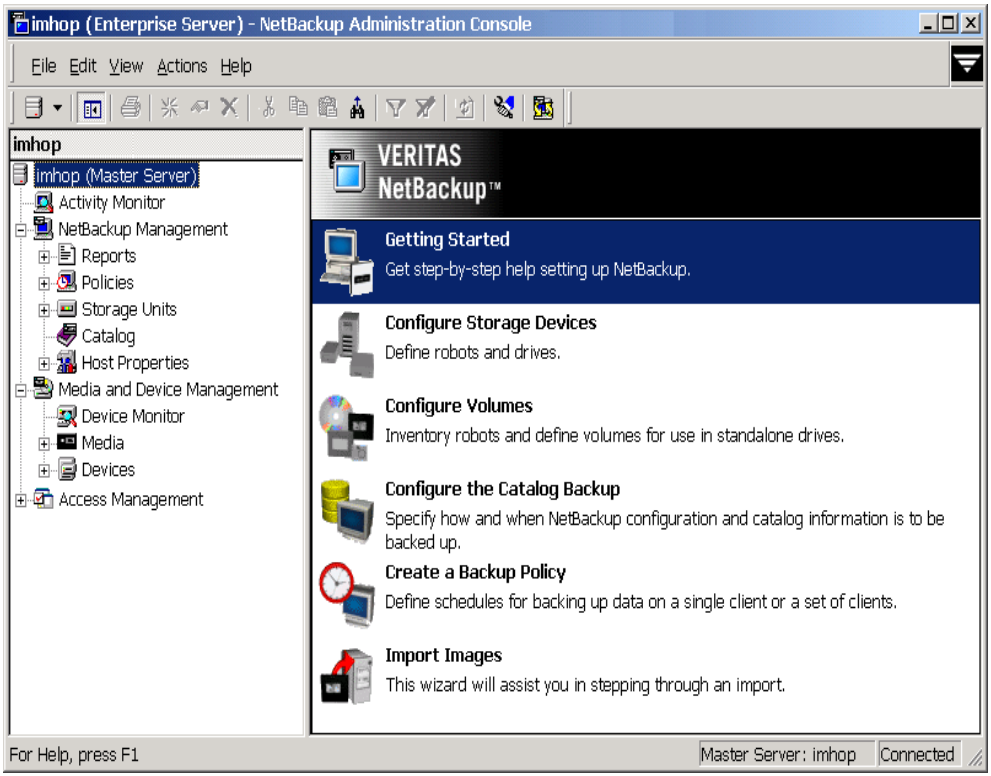
- AIX
- HP-UX Tru64/Alpha
- HP-UX 9000
- Linux
- Macintosh
- Novell
- Solaris
- Windows NT/2000/XP (32 and 64 bit)/2003 (32 and 64 bit)

For a complete list of supported clients and corresponding version numbers, refer the *NetBackup Release Notes*.

Storage Unit

A *storage unit* is a term that describes a storage device where NetBackup stores the files and data that are backed up. A storage unit can be a location on a disk, a set of drives in a robot, or one or more single tape drives of the same type that connect to the same media server.

In the following screen, selecting GUI object in the tree displays the individual units in the Details pane.



Storage units simplify administration because once defined, NetBackup points to a storage unit rather than to individual devices. For example, if a storage unit contains two drives and one is busy, NetBackup can use the other drive without administrator intervention.

Media

Media can be physical magnetic tapes, magnetic disks (also called removable media), or optical disks. Media is where data is stored. Non-removable media commonly referred to as *hard disk shares* is usually a directory on a hard disk.

Media Manager

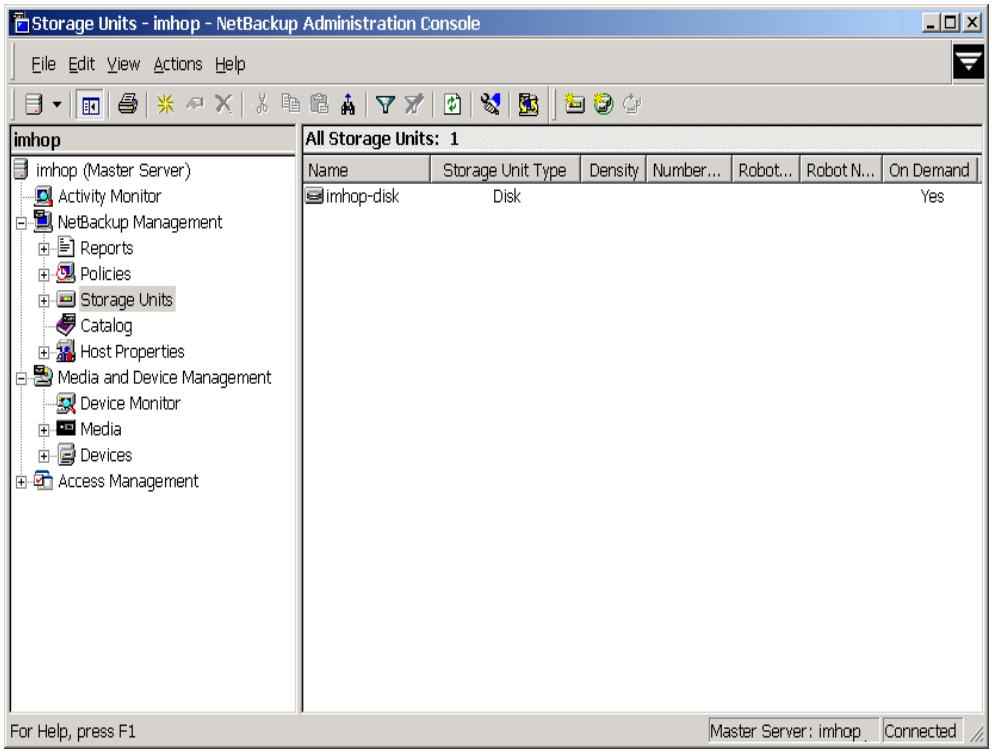
Media Manager, which is part of NetBackup is the VERITAS software that manages the robots, tape drives, and removable media. Media Manager primarily uses four tools:

- The Device Configuration Wizard guides you through device configuration.

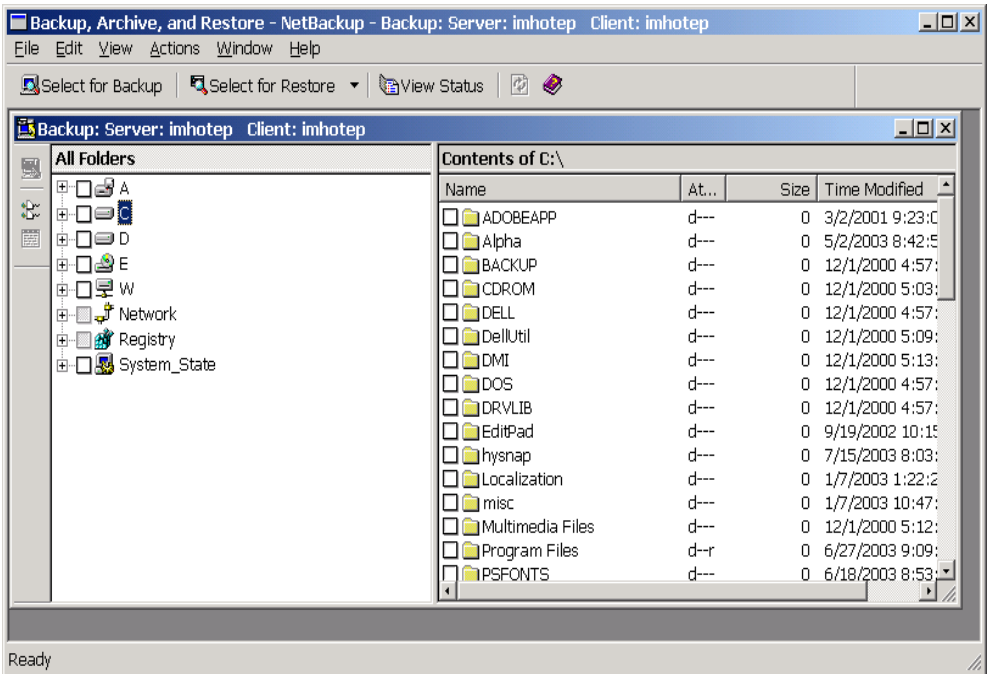
- The Volume Configuration Wizard, which guides you through volume configuration.
- The Media and Device Management graphical interface, which allows you to reconfigure storage devices and volumes separately.
- The Device Monitor graphical interface, which displays any pending requests for volumes and allows you to control and manage devices.

User Interfaces

The NetBackup Administration Console that is installed on a server is used for configuring, scheduling, monitoring, and managing NetBackup.



The NetBackup user interface (referred to as Backup, Archive, and Restore) that is installed on a client can be used for starting backups, managing archives, and initiating restores for that particular computer. The following figures are examples of both of these interfaces.


Backup, Archive, and Restore - NetBackup - Backup: Server: imhotep Client: imhotep
File Edit View Actions Window Help
Select for Backup
Select for Restore
View Status
Backup: Server: imhotep Client: imhotep
All Folders
A
C
D
E
W
Network
Registry
System_State
Contents of C:\
Name
At...
Size
Time Modified
ADOBEAPP
Alpha
BACKUP
CDROM
DELL
DellUtil
DMI
DOS
DRVLIB
EditPad
hysnap
Localization
misc
Multimedia Files
Program Files
PSFONTS
Ready

NetBackup Wizards

NetBackup provides the following wizards to assist you with installation and configuration. Once you have completed your initial setup with the Getting Started Wizard, the individual configuration wizards allow you to reconfigure devices, volumes, catalog backups, and backup policies separately as needed.

Wizards	Description
Getting Started	Provides step-by-step help for configuring NetBackup. By responding to a series of prompts, the Getting Started Wizard guides you through the following procedures for initial setup: ◆ Device Configuration ◆ Volume Configuration ◆ Catalog Backup Configuration ◆ Backup Policy Configuration ◆ A test to verify your configuration
Configure Storage Devices	Helps you define robots and drives.
Configure Volumes	Helps you define volumes for robots and standalone drives.
Configure Catalog Backup	Helps you configure how and when the NetBackup catalog is backed up.
Create a Backup Policy	Helps you configure regular backups for a client or a set of clients.
Import Images	Assists you in stepping through the import image process.
Configure a Shared Drive	Helps you configure a new shared drive or reconfigure an existing shared drive.

If you require any assistance while working through a wizard, you can click on the **Help** button on any particular window in the wizard.

Installation and Initial Configuration 2

This chapter discusses how to install and configure NetBackup. Depending on whether you are installing for the first time on a master server, upgrading an existing version of NetBackup, or installing NetBackup to a new client will require you to perform certain procedures to accomplish your task. The following list identifies some of the processes that you may need to perform to install, uninstall, or upgrade NetBackup.

- "Configuring Storage Devices for Windows," on page 12
- "NetBackup Installations," on page 14
- "Upgrading NetBackup," on page 51
- "Installing Alternative Administration Interfaces," on page 65 (Optional)
- "Uninstalling and Reinstalling NetBackup," on page 71
- "Configuring NetBackup Server Software," on page 77
- "Installing NetBackup Client Software," on page 83

From the NetBackup installation CD, you can also install additional products that are associated with NetBackup.

- NetBackup Tape Device Drivers
- NetBackup Advance Reporter (NBAR)
- NetWare Media Server
- Cluster Server Enterprise Agent for NetBackup

  This link installs the Cluster Server Enterprise Agent 2.2 for NetBackup (for Windows 2000 or later). Information on using this agent is covered in the *VCS Enterprise Agent for NetBackup Installation and Configuration Guide*.

  Version 1.2.1 of the agent (for Windows NT) can be installed from the VCS Enterprise Agent for NetBackup CD. Information on using this agent is covered in the *NetBackup High Availability System Administrator's Guide*.

The remainder of this chapter discusses the necessary steps to install NetBackup. For specific installation procedures about a particular add-on product, refer to the product-specific information associated with that product.

Configuring Storage Devices for Windows

Reliable use of NetBackup depends on the proper configuration of your storage devices. To ensure reliable backups and restores, you must configure devices for Windows according to the instructions provided by the device vendor and by Microsoft. Storage devices should be installed and configured *before* you configure NetBackup.

Caution An improperly configured device may lead to loss of data during a restore.

Supported Robot Types

A list of the supported robot types, organized by vendor and platform, can be found in the *NetBackup Release Notes for UNIX and Windows*. This list contains those devices that are supported at the time of this release. However, VERITAS periodically adds new robots to this list. For your convenience, VERITAS posts updates to the supported robots lists on the VERITAS Support web site. The following procedure will assist you in locating the most current support information.

▼ **To find the latest devices this release supports**

1. Open `www.support.veritas.com` in a web browser.
2. Select **NetBackup** in the Product Family list.
3. Select a product in the Select Product list.
4. Click the **Compatibility** tab.
5. Select the Product Version, Platform, and Language from the appropriate drop-down menus.
6. Click **Go**. All compatibility-related files will appear.
7. Click **Device and Library Compatibility Information - All Versions and Platforms**.
8. A new web page appears, and enables you to select the product level that you want to reference. Select an appropriate product level.
9. From this page you can choose to view device support information by individual vendor, or all support drives, libraries, or robot types.

Storage Device Configuration

First, complete all of the configuration steps specified by the storage device vendor and by Microsoft. After you have configured your storage device you are ready to begin the installation of the NetBackup software.

Note When installing NetBackup for the first time, VERITAS recommends that you install the latest device drivers for your storage device immediately after you install the NetBackup software and **before** you configure the product.

If you are upgrading NetBackup, you can install the latest device drivers before you upgrade NetBackup.

The VERITAS Tape Device Driver Install wizard (located on the NetBackup installation CD) steps you through the process of installing the latest device drivers. The steps below describe how to initiate this wizard.

If you do not have a CD, you can download the NetBackup Tape Device Driver Install software from the VERITAS Support web site:

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

▼ To initiate the Tape Device Driver Install wizard

1. Log on as Administrator on the server where you will be installing NetBackup.
2. Insert the NetBackup CD in the drive.
   - On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
   - On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.
3. In the VERITAS Browser, click the **Additional Product Installations** > **NetBackup Tape Device Driver** link. The NetBackup Tape Installer wizard appears.
4. Follow the prompts throughout the wizard to install the latest device drivers for your storage device.

Note As VERITAS supports more devices, you can download the latest external device mapping files on the Updates and Patches web page on the VERITAS Support web site: `http://www.support.veritas.com`.

5. After you complete this installation, configure the NetBackup software.

NetBackup Installations

This section prepares you for the installation of your NetBackup product by providing system requirements, license key information, and step-by-step instructions on:

- "NetBackup Server Installation Requirements," on page 14
- "Installing NetBackup Server Software," on page 17
- "Customizing a NetBackup Installation," on page 25
- "Remotely Installing NetBackup," on page 29
- "Installing NetBackup in a Clustered Environment," on page 36
- "Installing NetBackup Silently," on page 48

By definition, your NetBackup server is also a NetBackup client. When you installed the NetBackup server software, both the NetBackup *server* and NetBackup *client* software were installed on the server.

For more information on installing NetBackup client software, refer to "Installing NetBackup Client Software" on page 83.

NetBackup Server Installation Requirements

Installing the server software takes approximately 10 minutes (additional time may be required to set up the product for your environment). Before installing, note the following requirements:

Caution Before installing your NetBackup product, make sure you have the most current operating system patches and updates applied to your system. If you are not certain of your operating system level, contact your operating system vendor and request the latest patches and upgrades.

Note It is important that you ensure all NetBackup servers have a release level installed that is at least equal to the version level installed on the clients. (Older versions of server software can encounter problems with newer clients.)

Requirements for Local Installations

The following list identifies requirements and notes to ensure you are able to install NetBackup without error.

- Remove any other vendor's backup software currently configured on your system before installing NetBackup. The backup software of another vendor can negatively affect how NetBackup installs and functions.

- System configuration necessary to install NetBackup on a Windows-based server:
  - An Intel Pentium system running Microsoft Windows NT version 4.0 with service pack 6A installed, Windows 2000 with a minimum of 64 MB of memory and service pack 2 installed, or Windows 2003 server.
  - Requires a minimum browser level of Internet Explorer 5.0 for NetBackup and Internet Explorer 5.5 for NetBackup Global Data Manager (GDM).
  - The minimum screen resolution configuration is 1024X768 256 colors.
- An administrator account and password for the server.
- Adequate disk space: VERITAS recommends that you have a total of 575 MB of storage space to accommodate the NetBackup server software and NetBackup catalogs. The following items provide a basic itemization of the disk space requirements.
  - Intel server software requires approximately 250 MB.
  - On-line documentation, if you choose to install it, requires about 85 MB.
  - NetBackup catalogs contain information about your backups and will increase in size as you use the product. The amount of disk space the catalogs require depends primarily on the number of files backed up, the frequency of your backups, and the amount of time you chose to retain your backup data. VERITAS suggests that you allow a minimum of 250 MB.
  - An additional 500 MB of disk space is necessary on the drive where Windows is installed during the upgrade process. After the upgrade is complete, this additional space is no longer needed.
  - A NetBackup installation partition that supports long file names. VERITAS suggests an NTFS partition.
- Peripherals, such as robotic devices and stand-alone tape drives, installed according to the manufacturers' instructions and recognized by the Windows software.
- The network is configured so the computers recognize and communicate with one another. Generally, if you can reach the clients from the server by using the `ping` command, the setup will work with NetBackup.
- NetBackup Server Installation Notes
  - NetBackup Services and Port Numbers

    VERITAS suggests that you use the default port settings for NetBackup services and Internet service ports. If you modify the port numbers, they must be the same for all NetBackup systems that communicate with each other (that is, all master servers, media servers, and clients). The port entries are in the following file:

    ```
    %SYSTEMROOT%\system32\drivers\etc\services
    ```

To change the default settings, you must perform a Custom Installation of NetBackup.

- Client Software

  Installing NetBackup server software also installs client software on the server system. However, installing NetBackup on client systems is done separately. Refer to "Installing NetBackup Client Software".

- System Names

  If you install NetBackup Remote Administration Consoles, the master server must have the system names of the NetBackup Administration Consoles in its server list to allow them access.

- Additional Notes (*for NetBackup Enterprise only*)
  - For instructions on verifying and changing the server list, and installing media servers, refer to the *NetBackup System Administration Guide for Windows, Volume I*.
  - If you are not adding any NetBackup media servers, ignore all references to media servers throughout the installation process.

Additional Requirements for Remote and MSCS Cluster Installations

In addition to the local installation requirements, the following points apply to remote and cluster installations:

- The source PC (or primary node) must have Windows NT, Windows 2000, Windows XP, or Windows 2003 server installed. (Windows XP does not apply to clusters.)
- The destination PC (or clustered nodes) must have Windows NT, Windows 2000, Windows XP, or Windows 2003 server installed. (Windows XP does not apply to clusters.)
- The person performing the remote or clustered installation must have administrator privileges on all the remote PCs or nodes in the cluster. VERITAS recommends that the person performing the installation keeps a record of all nodes included in the cluster. This list may become important when remembering which nodes to upgrade or uninstall.
- All clustered nodes must be running the same operating system, service pack level, and version of NetBackup. Mixing server versions is not supported in a clustered environment.

Additional Requirements for Access Controlled Environments

The Authorization broker must reside on the master server.

NetBackup License Key Requirements

When installing a NetBackup master or media server, you must enter a NetBackup base product license key during installation. Check your order to make sure that you have license keys for all the NetBackup servers, clients, options, and agents that you requested. During the installation process you will also be given an opportunity to enter your remaining license keys. Because all product license keys must be entered on the master server, VERITAS recommends that you enter all of your product license keys at this time.

For more information about license keys, refer to chapter 8, "NetBackup License Keys," on page 105. For detailed information on how to administer NetBackup license keys, refer to the *NetBackup System Administration Guide for Windows, Volume I*.

Installing NetBackup Server Software

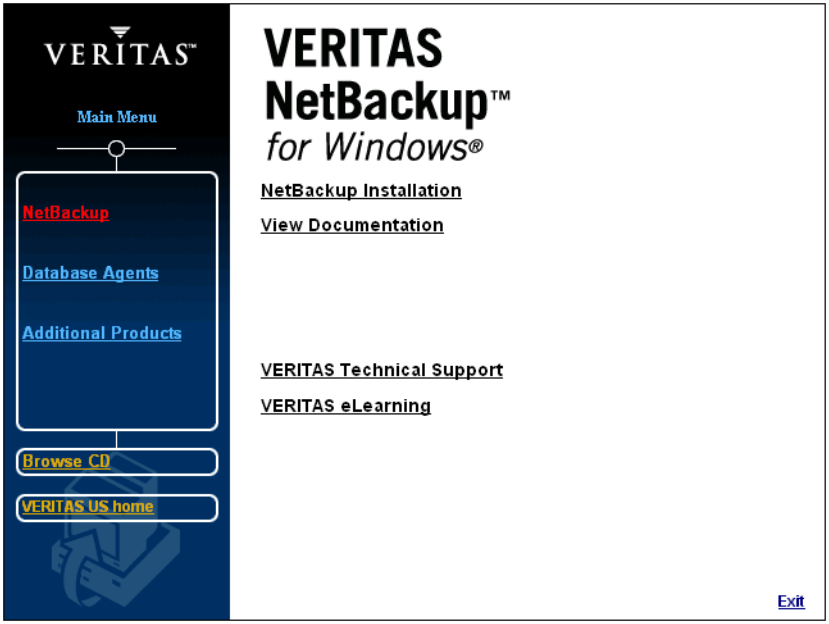
This section describes how to perform a basic installation of NetBackup server software. When installing NetBackup for the first time, VERITAS recommends that you install NetBackup in the following order:

1. Master servers
2. Media servers, if any (*NetBackup Enterprise Server only*)
3. NetBackup Remote Administration Console, if any
4. NetBackup clients
5. Any NetBackup Add-on products (such as GDM or NBAR)

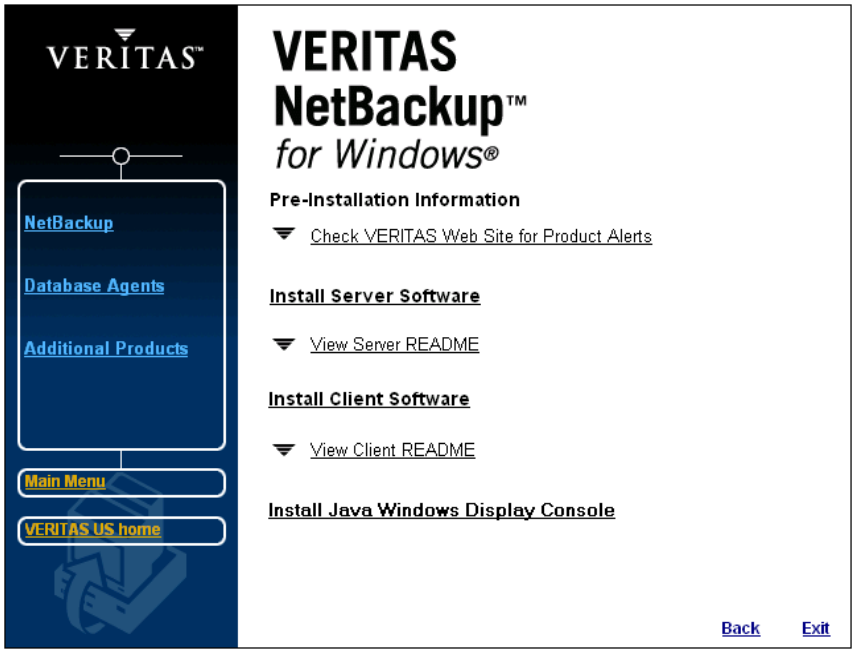
▼ **To install NetBackup server software**

1. Log on as Administrator on the server where you will be installing NetBackup.
2. Insert the NetBackup installation CD in the drive.
   - On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
   - On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.
3. The NetBackup browser displays the following information and options:
   - Links on the left side of the browser that display information relating to **NetBackup**, **Database Agents**, and **Additional Products**.

- Browse the CD
- The NetBackup link selected (by default) and these available options:
  - Begin NetBackup Installation
  - View available documentation
  - Link to VERITAS Technical Support
  - Link to VERITAS e-Learning



4. Click **NetBackup Installation**.The browser now displays pre-installation information.

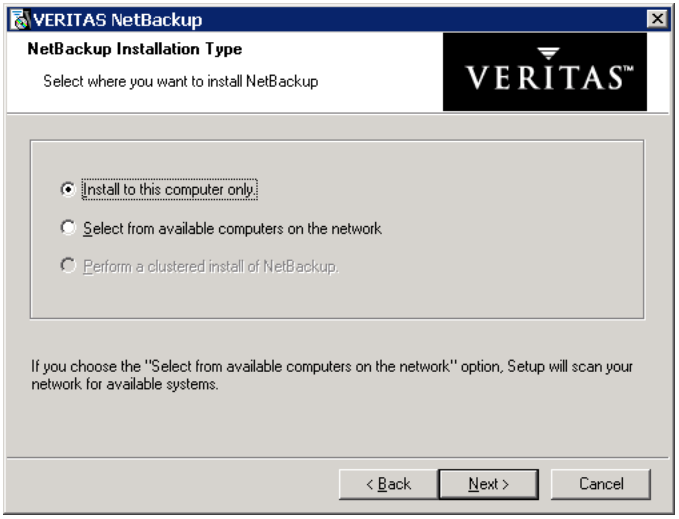


5. Click **Install Server Software**. A welcome window appears informing you that the NetBackup setup wizard is about to install the software on your system.

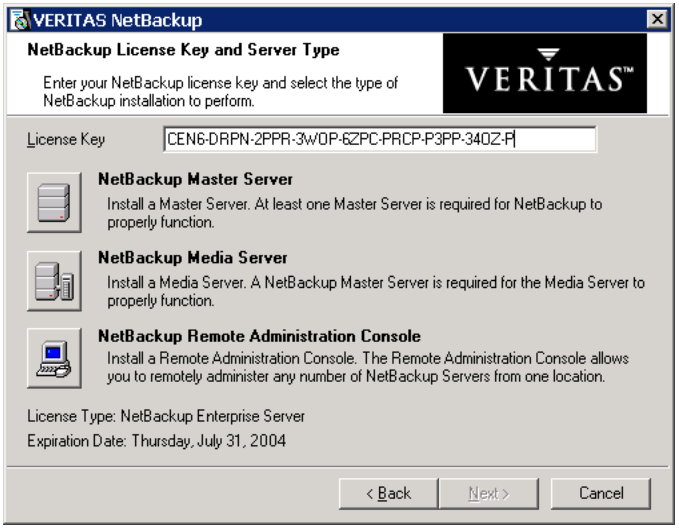
6. Click **Next**.

7. To proceed with the installation, you must check the **I accept the terms of the license agreement** option, then click **Next**.

8. Select **Install to this computer only** and click **Next** to perform a local installation.



9. On the NetBackup License Key and Server Type window, enter the base product license key that you received when you purchased your product. The license key determines which installations are available to install. For example, the NetBackup Media Server option is only available with NetBackup Enterprise Server.



10. Select the type of installation that you want to perform.

Note Installing the NetBackup Remote Administration Console does not require a license key.

11. Click **Next**. The Setup Type wizard appears. You can elect to perform a typical or a custom installation. Refer to "Customizing a NetBackup Installation" on page 25 to see the differences in the installation processes.

12. Select **Typical** and then click **Next**.

    In the NetBackup System Names window, enter the names of the other systems that are allowed to access this server.

Note *NetBackup Enterprise only*: If installing a media server, the NetBackup System Names window will have an additional line with the local media server filled in. You must enter the name of the master to which the media server is configured.

13. Enter the server names and click **Next**. The NetBackup Global Device Database Host window appears.

14. *This step applies only to NetBackup Enterprise.*

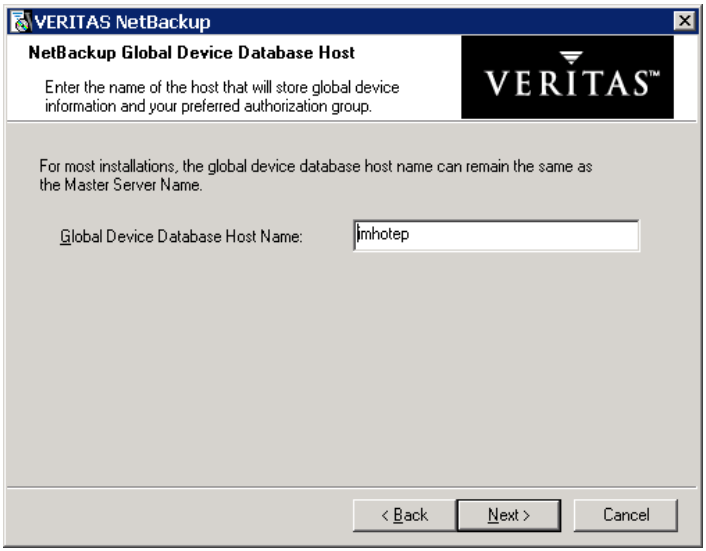
    Enter the name of the NetBackup Global Device Database Host, which serves as the repository for global device configuration information.

    By default, the Global Device Database host is the master server currently being installed. Under most circumstances, this can be left as the default. However, you may need to enter a different host name in the following situations:

    - If the system shares drives with the Shared Storage Option (SSO), all NetBackup servers must use the same host for storing device information.
    - If the system has multiple master servers, enter the name of the server that will store the global device configuration information. Conflicting host information may result in an error.

    For more information, refer to the *NetBackup Media Manager System Administrator's Guide for Windows.*

Note To make changes to the installation settings, click **Back** until you reach the page you want to change, or click **Cancel** and exit the wizard.



15. Click **Install**. The installation process begins. This process could take several minutes.

Note After the installation completes, a NetBackup installation log file is generated and placed in your default `TEMP` directory. The following procedures explain how to verify the location of your `TEMP` environment variable.

▼ To locate the NetBackup installation log file for Windows 2000, XP, and 2003 systems

a. Select **Start > Programs > Accessories > Command Prompt**. A Command Prompt window appears.

Note Make sure you can view all hidden files and folders. To set this option, select **Tools > Folder Options...**. in the Control Panel window; click the **View** tab; select the **Show hidden files and folders** option; and click **OK**.

b. Enter `echo` **`%TEMP%`** and press the **Return** key on your keyboard. The location of your TEMP directory will display.

▼ To locate the NetBackup installation log file for Windows NT systems

a. Select **Start > Settings > Control Panel**. The Control Panel window appears.

Note Make sure you can view all hidden files and folders. To set this option, select **View > Folder Options...** in the Control Panel window; click the **View** tab; select the **Show All Files** option; and click **OK**.

b. Double-click the **System** icon. The System Properties window appears.

c. Click the **Environment** tab. The Environment Variables, including the `TEMP` variable, appear along with the corresponding paths for each variable.

16. Prior to clicking **Finish**, the NetBackup installation prompts you to enter additional license keys or complete the installation and continue the setup process by configuring your NetBackup product. By default the **Launch NetBackup Administration Console now** check box is selected.

    a. To enter additional license keys, click **Add Keys**.

    b. To complete the installation and configure your product, click **Finish**. For more information on how to configure your product, see "Configuring NetBackup Server Software" on page 77.

    c. To complete the installation and wait to configure your product at another time, clear the **Launch NetBackup Administration Console now** option, then click **Finish**.

Note VERITAS recommends that you continue with the product setup and configuration by clicking the **Getting Started** link in the details pane of the NetBackup Administration Console and continuing through this wizard until you have completed the production configuration.

▼ To install NetBackup Access Control on your NetBackup system

1. Successfully install NetBackup. Perform Steps 1 - 16 in the previous procedure.

2. Install the VERITAS Security Services (VxSS) components on your system so that you are then able to use Access Control. (The VxSS components reside on another CD in the NetBackup package.)

   NetBackup Access Control can be turned on and run at any time after you have installed or upgraded to NetBackup 5.1. After you have installed or upgraded to NetBackup 5.1, you can run NetBackup Access Control by configuring VxSS and

using the NetBackup Access Control features in the host properties dialog. For more information about this, refer to *VERITAS Security Services™ Version 4.0 Administrators Guide for Windows and UNIX* and the *NetBackup System Administrator's Guide, Volume II*.

The VxSS components reside on a clearly marked CD in your NetBackup Product package. The following table contains the VxSS components that you must install as they apply to each NetBackup system, and after you have successfully installed NetBackup.

NetBackup System	Required VERITAS Security Services (VxSS) Components
NetBackup Master server	Authentication client and server components Authorization client and server components
NetBackup Media server	Authentication client components Authorization client components
NetBackup Client	Authentication client components

Note If you want to perform a cross-platform authentication with Windows platforms, you must install an authentication broker on a Windows system. For instructions on how to install an authentication broker, refer to the *VERITAS Security Services™ Version 4.0 Administrators Guide for Windows and UNIX*.

3. After you have finished installing NetBackup and the VxSS components applicable to the type of NetBackup system you are installing to, you will be ready to configure the access control features. For detailed information on how to configure Access Control, refer to the *NetBackup System Administrator's Guide, Vol II*.

Customizing a NetBackup Installation

While installing NetBackup, you can choose between performing a typical or a custom installation. The typical installation uses predefined values and parameters. The custom installation enables the user to make modifications to specific parameters. This section briefly explains the changes that can be made during a custom installation.

A custom installation is identical to a standard installation until Step 10 in the previous procedure. Then in the Setup Type window select the **Custom**.

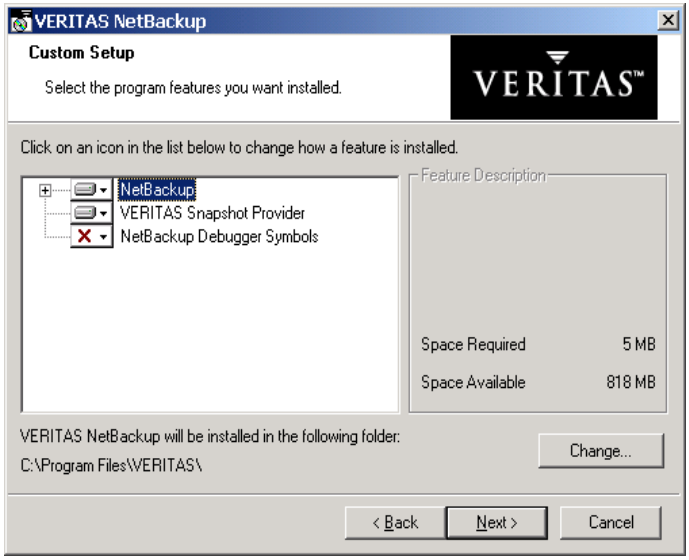
▼ To customize a NetBackup installation

1. From the Custom Setup window you can:
   - Select which features are installed, such as:
     - NetBackup (And NetBackup publications)
     - VERITAS SnapShot Provider
     - NetBackup Debugger Symbols
   - Change the installation location of the NetBackup product.

Note You cannot change the installation location on a remote install. NetBackup uses the existing location of a previous install (or the system default location if there was no previous install). In addition, you cannot change the installation location on an upgrade or a new installation when using the system default settings.

Note By default, the NetBackup Debugger Symbols features are marked *not available* on initial installation.

a. Select the drop-down icon next to the feature that you want to change. A pop-up window appears.



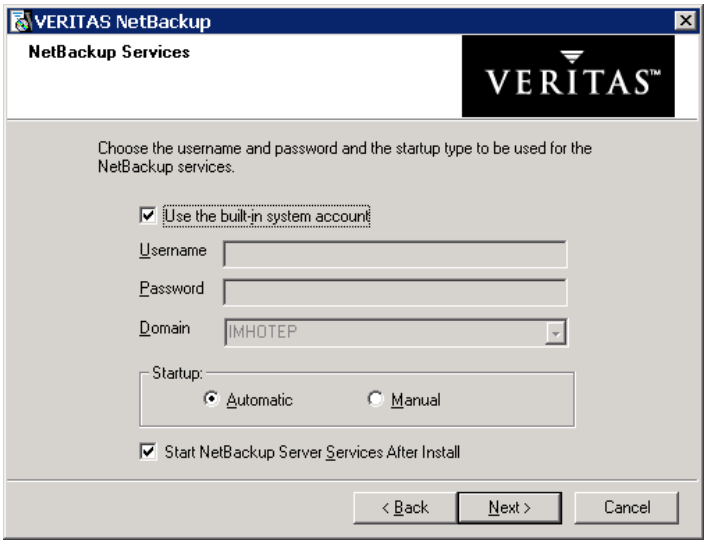
b. Click **This feature will not be available**. A red "X" appears in the icon signifying the feature will not be installed.

c. Click **Change** to select a new location to install NetBackup. The Change Current Destination Folder window appears. This window enables you to browse to a new location and designate a new folder where NetBackup will be installed.

2. Click **Next**.

From the NetBackup Services window you can:

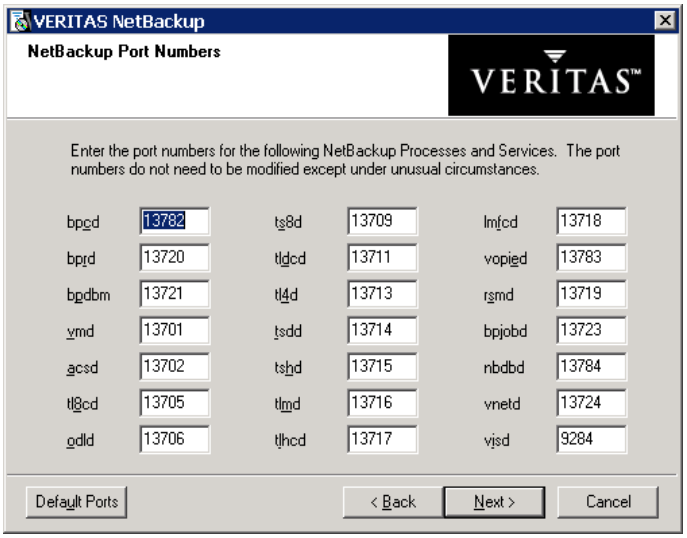
- Enter a **Username**, **Password**, and **Domain** or check the **Use the built-in system account** check box.
- Choose a startup type to use for the NetBackup services.
- Elect to start the services after installation by checking the **Start NetBackup Server Services After Install** check box.



3. Click **Next**. The NetBackup Port Numbers window appears.

   This window enables users to change port numbers if that is necessary. The following are reasons why a user may want to change a port number:

   - A conflict exists between NetBackup and another industry product sharing the same port.
   - A port conflict occurs with a company's firewall causing security issues.



4. Click **Next**. The NetBackup System Names window appears.

5. Enter the name of the current server and then enter the names of the other systems that are allowed to access this server. From the dialog, you can list each server on a separate line or in a comma-delimited list.

6. Click **Next**. The NetBackup Global Device Database Host window appears.

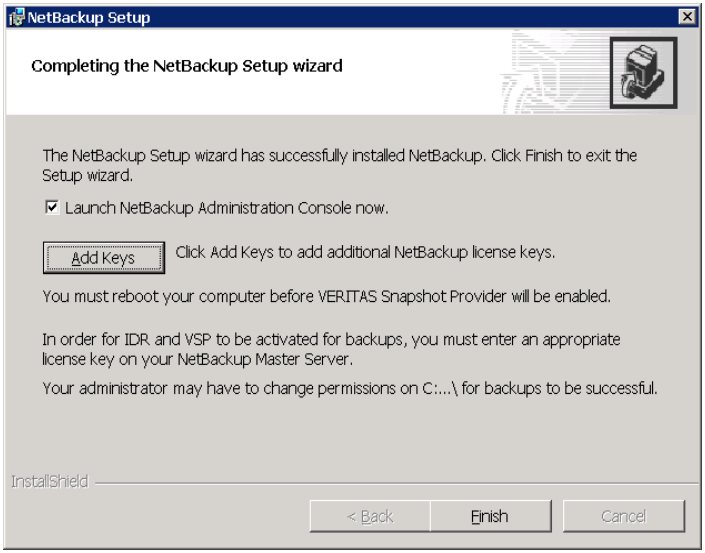
7. Enter the **Global Device Database Host Name** and click **Next**. The Ready to Install the Program window appears.

Note If you want to make changes to the installation settings, click **Back** until you reach the page you want to change, or click **Cancel** and exit the wizard.

8. Click **Install**. The installation process begins.

9. At the end of the installation, the Completing the NetBackup Setup wizard window appears and enables you to add additional NetBackup license keys.

   In addition, if you elected to start the NetBackup services during the install process, then the **Launch NetBackup Administration now** check box will be checked.



10. Click **Finish**.

The NetBackup Administration Console opens. For more information about NetBackup and its functionality, refer to the *NetBackup System Administrator's Guide for Windows, Volumes I and II* and the *NetBackup Media Manager System Administrator's Guide for UNIX and Windows.*

Remotely Installing NetBackup

This procedure enables you to install NetBackup master server software, media server software, or the Remote Administration Console to multiple Windows systems from a single Windows system.

Note Review the installation requirements for NetBackup on page 14 before starting this procedure.

Follow these instructions to install the NetBackup software on selected Windows NT, Windows 2000, Windows XP, or Windows 2003 servers in your network (one of these systems can be your local system). You may stop the installation process at any time by clicking **Cancel**.

Notes on Remote Installations

- You must have administrator privileges on the remote server for the NetBackup installation to complete successfully.
- The NetBackup server setup program cannot clean up an aborted install. Therefore, if you stop `Setup` while it is copying files to a client, the files that have been successfully installed are not uninstalled.

▼ **To install NetBackup on remote computers**

1. Log on as Administrator on the server where you will be installing NetBackup from.
2. Insert the NetBackup installation CD in the drive.
   - On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
   - On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.
3. The NetBackup browser displays the following information and options:
   - Links on the left side of the browser that display information pertaining to **NetBackup**, **Database Agents**, and **Additional Products**.
   - Browse the CD

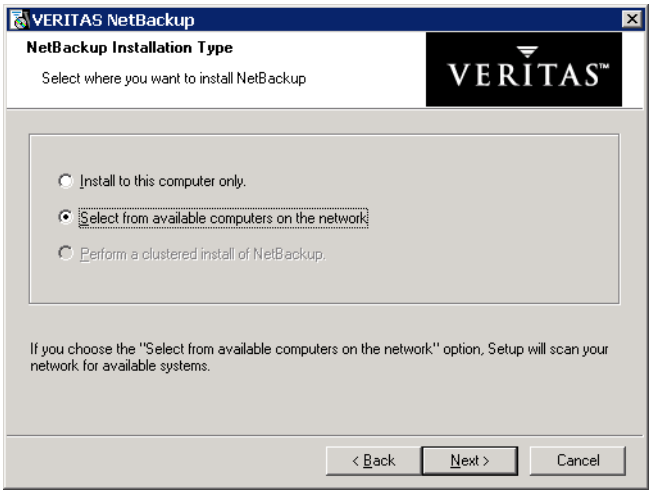
- The NetBackup link selected (by default) and these available options:
  - Begin NetBackup Installation
  - View available documentation
  - Link to VERITAS Technical Support
  - Link to VERITAS e-Learning

4. Click **NetBackup Installation**. The browser refreshes and displays pre-installation information.

5. Click **Start NetBackup Server Installation**.

6. To proceed with the installation, you must check the **I accept the terms of the license agreement** option, then click **Next**.

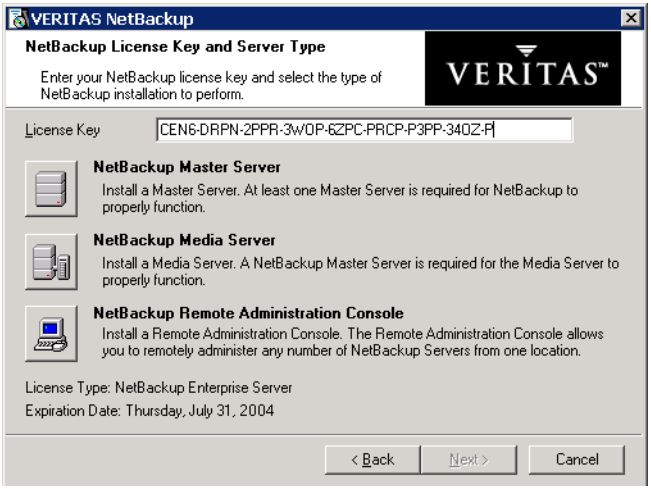
7. Select the **Select from available computers on the network** option and click **Next** to install NetBackup to remote systems.



8. Enter the base product license key that you received when you purchased your product. During this installation process, the following occurs to ensure you have proper credentials to perform remote installations:
   - If you are installing for the first time on the host system, you will need to enter a valid license key.
   - When performing an upgrade, no license key is required. Your current license key will be used.

- After you select a remote system to install to:
  - NetBackup determines if you have proper administration credentials on that system. If you do not have the proper credentials the system is not added to the list.
  - If you do have the proper credentials, NetBackup performs a second check and determines if a license key is needed. If a license is needed and one was not entered, the system cannot be added to the list. You must enter a valid license key to install to that remote system.
- If you enter an invalid license key, the NetBackup License Key and Server Type screen will remain visible until a valid key is entered.

The license key that you enter determines which of the three installations are available for you to install. For example, a NetBackup Enterprise Server key will enable all installation choices as shown in the following figure. Entering a NetBackup Server key means the **NetBackup Media Server** installation choice is not available.



9. Select the type of installation that you want to perform.

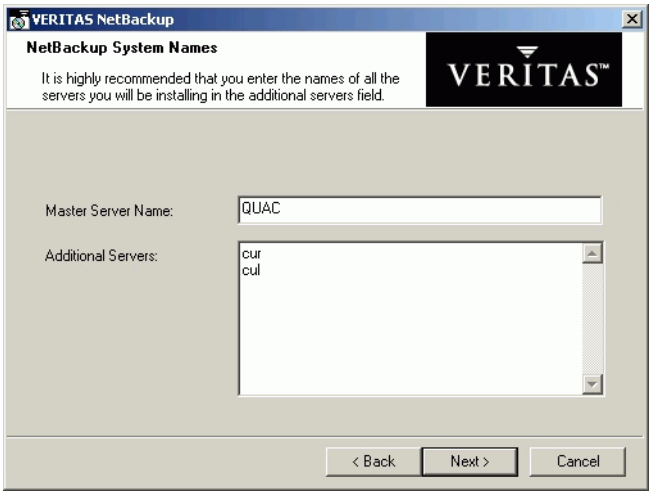
Note Installing NetBackup Remote Administration Console does not require a license key.

10. From the Setup Type window, you can elect to perform a typical or a custom installation. Refer to "Customizing a NetBackup Installation", on page 25" to see the differences in the installation processes.

11. Select **Typical** and click **Next**. The NetBackup System Names window appears.

    From this window you can enter the names of the systems that will have access to this current system. During a remote upgrade the following applies:

    - You cannot change the installation location on a remote install. NetBackup uses the existing location of a previous install (or the system default location if there was no previous install). In addition, you cannot change the installation location on an upgrade or a new installation when using the system default settings.
    - The master server name will not change even if you are pushing an upgrade to servers with other masters.
    - *NetBackup Enterprise only*: If installing a media server, the NetBackup System Names window will contain an additional line with the local media server filled in. You must enter a master server name for the NetBackup Administration Console and the Remote Administration Console that this media server is configured to.

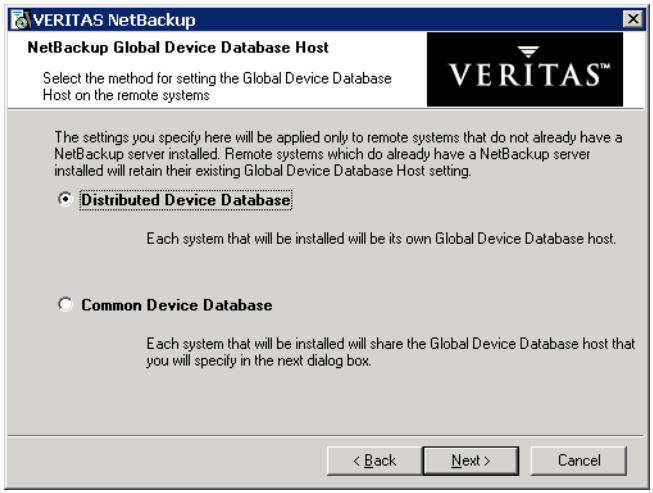


12. Enter additional server names and click **Next**. You can cut, copy, or delete a server from the list by selecting a server and using the right mouse button functionality.

Note All destination servers systems share the same server list.

13. From the NetBackup Global Device Database Host window, choose a device database setting and click **Next**. This window enables you to choose which device database settings you want to install on the destination servers that do not have NetBackup installed. Servers that already have NetBackup installed will retain their current Global Device Database Host setting.

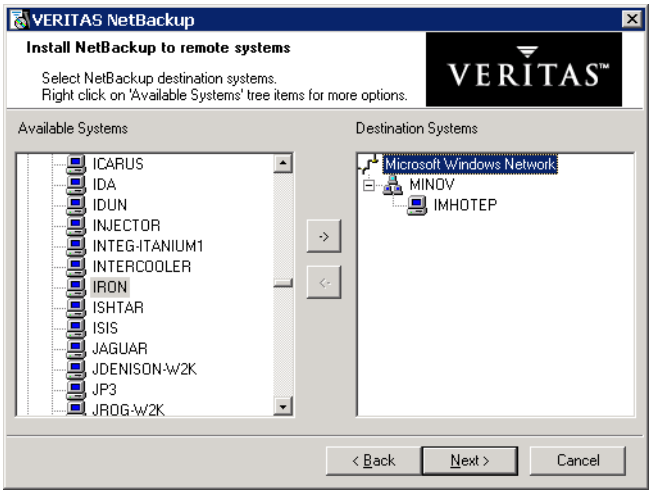
Note The NetBackup Global Device Database Host window only appears for master and media server installations.



14. In the Install NetBackup to remote systems window, select the servers from the list of Available Systems and add them to the Destination Systems list. You are choosing the systems that you want to remotely install NetBackup on. Each time you choose a system, NetBackup performs the following system and license checks:

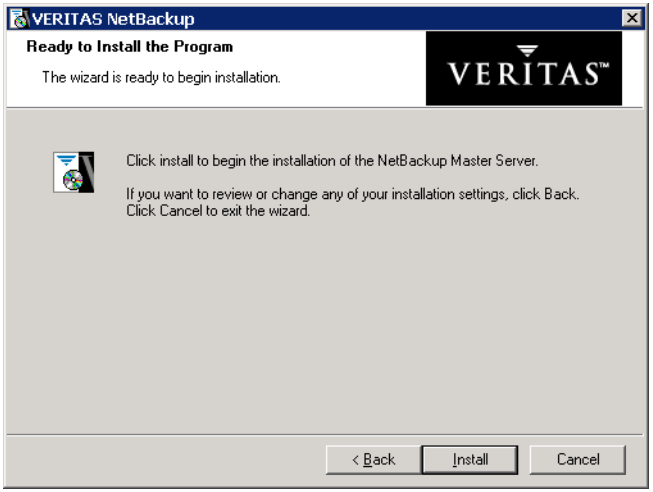
- Verifies the system for a server install that matches the type that you selected. If the system does not have NetBackup installed, it is considered verified. If the system already has NetBackup installed, the installation type on that system is compared to the installation type that you are requesting. If you are requesting an invalid combination (for example, trying to install a Remote Administration Console on a system that already contains master server software) you will be notified of this and the selection of that system is disallowed. In addition, if the remote system is at a platform level of Windows ME or less, or a 64-bit Windows system, the install is disallowed.
- Verifies that you have proper administration credentials on the remote system that you chose. If you do not have administration credentials, the Enter Network Password window appears and prompts you to enter the administrator's user name and password. Click **OK**, and continue selecting destination systems.

Note This process repeats for each server that you select. In addition, you can elect to remember the user name and password and only be prompted when the user name or password is not valid on a particular system.



15. Click **Next** when you have finished selecting remote systems.

16. On the Ready to Install the Program screen, click **Install**.



Note You may need to reboot the remote systems after the installation is complete.

A summary screen appears that displays the progress of the installation on each of the systems. You can right-click on a system listed in the screen to see a status of the install. This is useful, for example, to see if an install failed on a particular system. You

would then be able to obtain more information about the failure by viewing the remote install log. The remote install log is named `nbpinst.log` and is located in the Windows installation directory.

17. Click **Finish**. The remote install is complete and NetBackup is now running on your remote system.

Installing NetBackup in a Clustered Environment

This procedure explains how to install NetBackup master server software or media server software in a clustered environment to multiple Windows systems from a single Windows system. Review the installation requirements for NetBackup on page 14 before starting this procedure.

Follow these instructions to install the NetBackup software on selected Windows NT, Windows 2000, or Windows 2003 servers on the active node in your clustered environment. You may stop the installation process at any time by clicking **Cancel**.

Note The NetBackup server setup program cannot clean up an aborted install. Therefore, if you stop `Setup` while it is copying files to a client, the files that have been successfully installed are not uninstalled.

▼ To prepare to install NetBackup in a clustered environment

1. When installing NetBackup in a clustered environment you must first perform the following actions:
   - If installing NetBackup in a MSCS cluster:
     - The shared disk to be used by the NetBackup Group must already be configured in the cluster and online on the active node to install.
     - Install NetBackup from the active node.
     - Take all of the NetBackup group resources offline except for the disk. Refer to the Microsoft Administration documentation to determine how to take the NetBackup group resources offline using the Cluster Administrator interface.
   - If installing NetBackup in a VCS cluster, you must first freeze the active node so that migrations will not occur while the inactive nodes are being installed. If you have a VCS cluster configured, you can freeze the active node using the Cluster Manager interface, or the command line.
2. After you take the cluster offline bring the shared disk back online (for MSCS clusters) or freeze the active node (VCS clusters). You are now ready to begin the installation process. Perform the procedure, “Installing NetBackup in a Clustered Environment.”

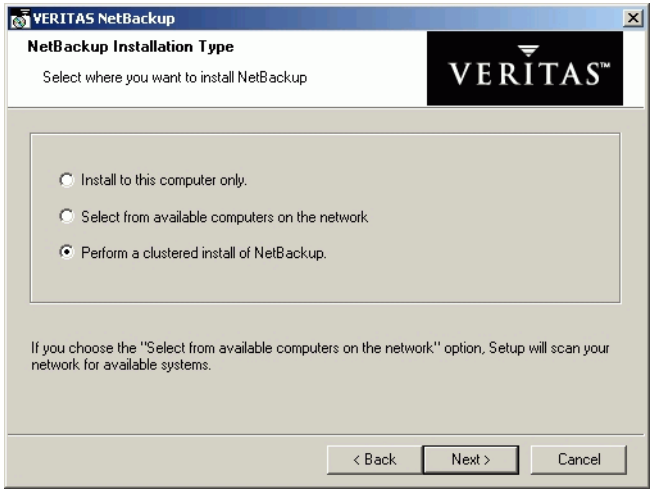
▼ To install NetBackup in a clustered environment

1. Log on as Administrator on the active node. The active node is the node that owns the disk that will be used as the NetBackup shared disk.
2. Insert the NetBackup installation CD in the drive.

- On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
- On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.

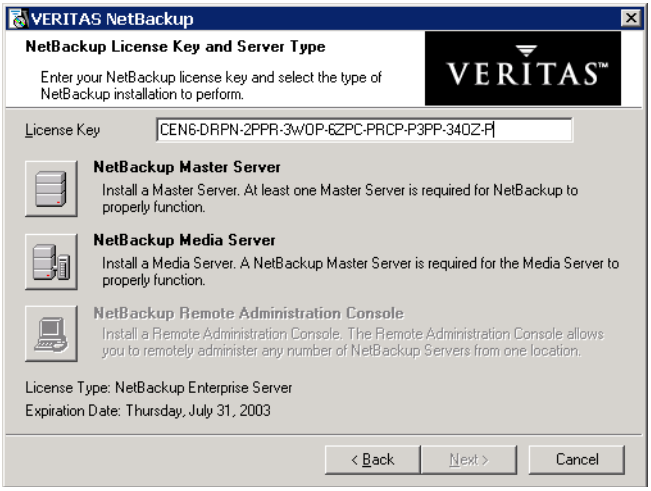
3. The NetBackup browser displays the following information and options:
   - Links on the left side of the browser that display information relating to **NetBackup**, **Database Agents**, and **Additional Products**.
   - Browse the CD
   - The NetBackup link selected (by default) and these available options:
     - Begin NetBackup Installation
     - View available documentation
     - Link to VERITAS Technical Support
     - Link to VERITAS e-Learning
4. Click **NetBackup Installation**. The browser refreshes and displays pre-installation information.
5. Click **Start NetBackup Server Installation**.
6. To proceed with the installation, you must check the **I accept the terms of the license agreement** option, then click **Next**.
7. *This step applies only to MSCS clusters:* Select **Perform a clustered install of NetBackup,** then click **Next**.

Note The installation process references the registry settings of your system to determine if your system is configured for a Windows MSCS clustered environment. If your system is configured for a MSCS clustered environment, the **Perform a clustered install of NetBackup** option will be available for selection.



8. Enter the base product license key that you received when you purchased your product. During this installation process, the following occurs to ensure you have proper credentials to perform remote installations:

- When you select a clustered system to install on, NetBackup determines if you have proper administration credentials on all nodes in the cluster. If you do not have the proper credentials the system is not added to the list.
- If you enter an invalid license key, the NetBackup License Key and Server Type screen will remain visible until a valid key is entered.
- The license key that you enter determines which of the installation options are available for you to install.



9. Select the type of installation that you want to perform.

From the Setup Type window, you can elect to perform a typical or a custom installation. Refer to "Customizing a NetBackup Installation" on page 25 to see the differences in the installation processes.

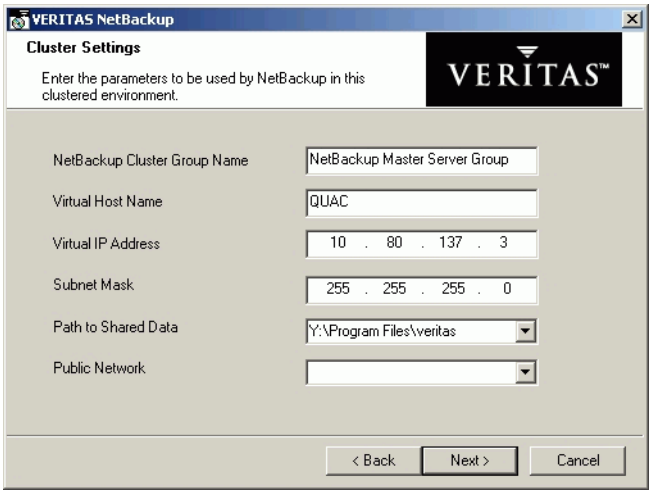
10. Select **Typical** and click **Next**.

11. In the Cluster Settings window, enter the appropriate data in each of the fields. These fields are listed below along with a brief description of each field.

- **NetBackup Cluster Group Name**: A name used to identify a NetBackup service group or resource group. A resource group is comprised of resources that are related and interdependent to each other.
- **Virtual Host Name:** The name of the cluster as known by the NetBackup environment. This is the name that will be entered in the client server list. It is also the name that the server uses when communicating to the client nodes.
- **Virtual IP Address**: This is the IP address of the cluster. The address to which the virtual server name should resolve.
- **Subnet Mask**: A mask used to identify a subnetwork so that IP addresses can be shared on a local area network. This number correlates directly to the virtual IP address of the cluster.
- **Path to Shared Data**: This path indicates a directory on one of the shared disks in the cluster where NetBackup stores configuration information.

- **Public Network** - When installing NetBackup on a clustered system, choose one of the public networks assigned to the node of the cluster.

Caution You must not select the private network assigned to this cluster.



12. Click **Next**. The NetBackup System Names window appears.

From this window you can enter the names of the hosts that have access to this current system.

If installing a media server, the NetBackup System Names window contains an additional line with the media server field containing the virtual server name. You must enter a master server name for the NetBackup Administration Console that this media server is configured to.

Note The NetBackup Administration Console is not a clusterable option.

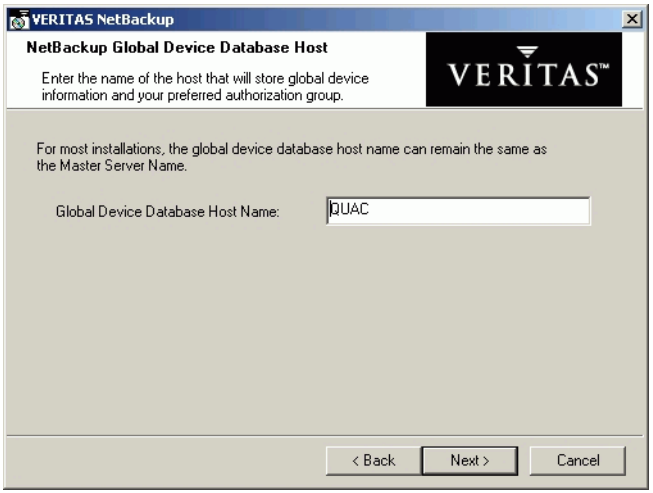
13. Enter additional server names and click **Next**. You can cut, copy, or delete a server from the list by selecting a server and using the right mouse button functionality. All of the nodes of the cluster should be added to the Additional Servers list in this window.

Note All of the nodes identified in the cluster receive the same server list.

14. Enter the name of the NetBackup Global Device Database Host and click **Next**. The Global Device Database Host serves as the repository for global device configuration information (refer to the *NetBackup Media Manager System Administrator's Guide for Windows*).

By default, the Global Device Database host is the master server name. Under most circumstances, this can be left as the default. However, you may need to enter a different host name in the following situations:

- If the system shares drives with the Shared Storage Option (SSO), all NetBackup servers must use the same host for storing device information.
- If the system has multiple master servers, enter the name of the server that will store the global device configuration information. Conflicting host information may result in an error.

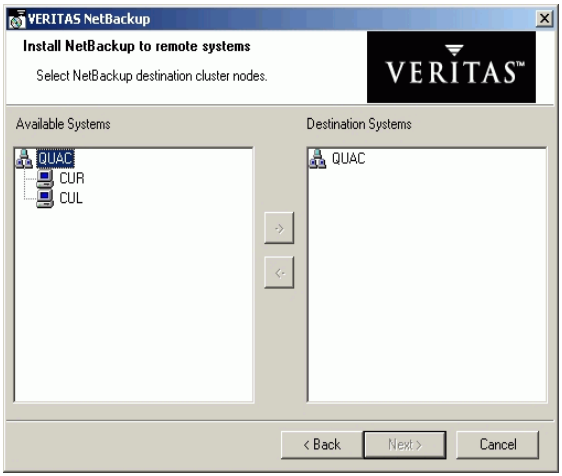


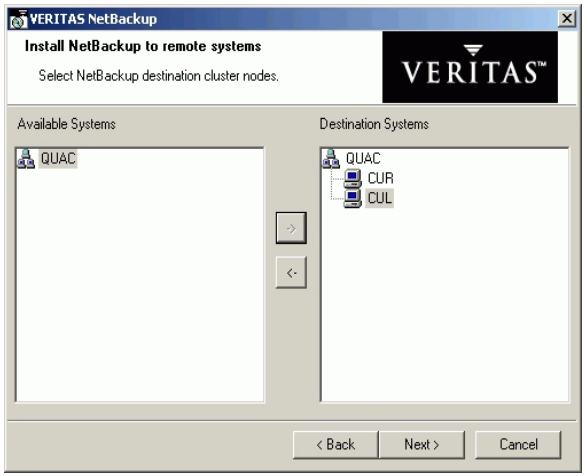
15. In the Install NetBackup to Clustered Nodes window, select the cluster nodes from the Available Systems list and add them to the Destination Systems list. Make sure you select your local machine when you are selecting systems to install.

Each time you choose a different node in the cluster group to install, NetBackup performs the following system and license checks:

- Verifies the system for a server install matches the type that you selected. The installation type on that system is compared to the installation type that you are requesting. If you are requesting an invalid combination, you will be notified of this and the selection of that system is disallowed.
- Verifies that you have proper administration credentials on the node that you chose. If you do not have administration credentials, the Enter Network Password window appears and prompts you to enter the administrator's user name and password. Click **OK**, and continue selecting destination systems.

Note This process repeats for each node that you select. In addition, you can elect to remember the user name and password and only be prompted when the user name or password is not valid on a particular system.

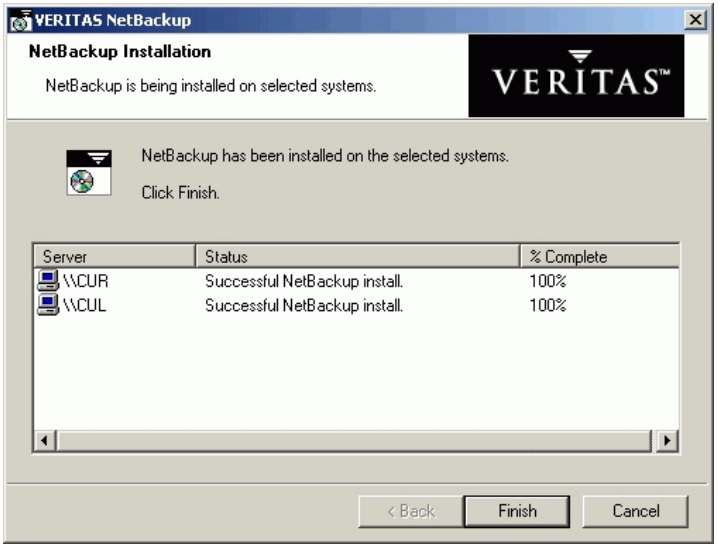




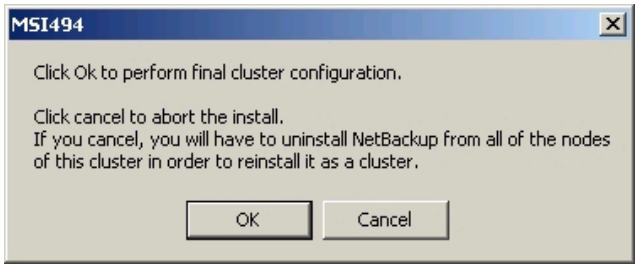
The following is a list of facts associated with the push-install process in a clustered environment:

- There is no limit to the number of nodes that you can install NetBackup on. The only limit to the number of nodes in a cluster is that set by the clustering service and not NetBackup.
- NetBackup add-on products such as Global Data Manager (GDM) and NetBackup Archive and Restore (NBAR) cannot push their installs. These add-on products must be installed on each individual node in the cluster group. For instructions on how to install these products, refer to NetBackup documentation for each product.
- Only the license key that was entered at the beginning of this procedure is pushed to the other nodes in this cluster. If the license key includes add-on products such as GDM and NBAR, and the nodes you are pushing NetBackup to already have GDM and NBAR installed, then this key will enable you to use these products.

16. Click **Next** when you have finished selecting cluster nodes. The installation process begins pushing the install to all of the selected nodes. The following NetBackup Installation window appears, providing a status of which nodes are being installed as well as a completion status.



17. On the Ready to Install the Program screen, click **Install**. The cluster install pushes NetBackup to all selected nodes.



Note You may need to reboot each of the cluster nodes after the installation is complete.

Note *For MSCS clusters*: Under normal circumstances, cluster configuration is one of the final steps in installing NetBackup in a cluster. If this step is not done or does not complete successfully, you can use the `bpclusterutil` command from the active node to perform this step. The `bpclusterconfig -c` command runs the cluster configuration step performed by installation. Using the `-a` option with the appropriate option name configures the NetBackup option in a cluster. This command can be run multiple times. See the *NetBackup High Availability System Administrator's Guide* for more information

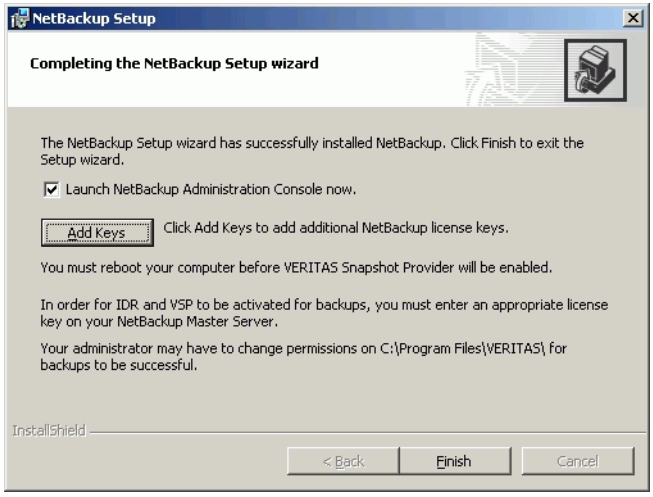
A summary screen appears that shows you the progress of the installation and each of the systems. You can right-click on a system listed in the screen to see a status of the install, for example, it can show if an install failed on a particular system. You would then be able to obtain more information about the failure by viewing the remote install log. The remote install log is named `nbpinst.log` and is located in the Windows installation directory.

18. Click **Next**. A screen appears that enables you to do two things before completing the install:

a. You can select a check box to display the NetBackup Administration Console.

b. You can select a button to enter more license keys on the system you are currently installing on.

Note If you enter a license key at this time, the key will not be pushed to the other nodes in the cluster group. You must go to each node in the group and add the key or keys that you want to add.



19. Click **Finish**.

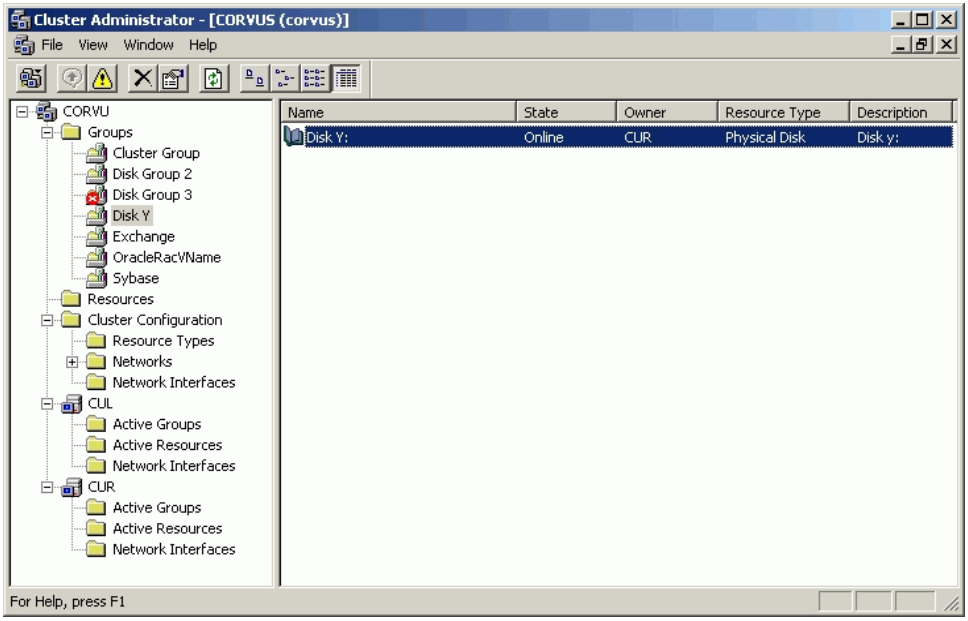
20. After the push-install completes:

- If you have an MSCS cluster, the NetBackup resources that you took offline in the beginning of this procedure will come back online automatically.
- If you have a VCS cluster, you are ready to unfreeze the active node.

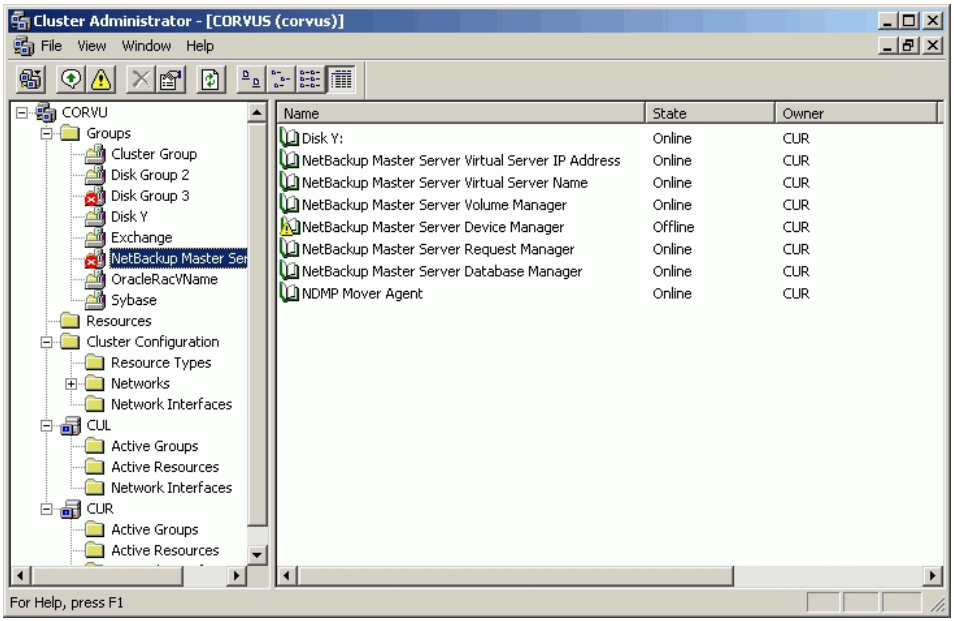
▼ To verify a successful cluster installation using the Cluster Administrator console

1. During a cluster installation you can open the Cluster Administrator console to see your current structure.

2. In the previous procedure a new cluster named NetBackup Master Server Group was created. In the following figure you can see Disk Y in the left pane and no other NetBackup Master Server Group exists.



3. After you have completed the installation and configuration process, the Cluster Administrator's interface updates with the new cluster group in the left pane.



Installing NetBackup Silently

Performing a silent installation avoids the need for interactive input in the same manner as performing a remote installation. Silent installations of NetBackup are not supported if you want to run the NetBackup services as a user rather than the local system. If you want to install NetBackup under these circumstances, you must go through the interactive installation or the standard installation described earlier in this document. The following procedure describes how to initiate a silent installation.

▼ To install NetBackup server software silently

1. Install the Windows Installer service by double-clicking on the following executable on the CD (except for Windows 2000 and newer systems):

   ```
   .\x86\instmsiw.exe
   ```

   Skip this step for Windows 2000 and newer systems. The Windows Installer service is already installed on these systems.

2. Copy the contents of the `.\Common` directory on the CD to a temporary directory on your hard drive.

Note The files contained on the NetBackup installation CD are read-only. Change the permissions for these files on the hard drive to allow the update.

3. In that temporary directory, modify the appropriate script. (The following list shows the available items and the corresponding commands.)
   - To install a master server, edit: `silentmaster.cmd`
   - To install a media server, edit: `silentmedia.cmd`
   - To install a NetBackup Remote Administration Console, edit: `silentadmin.cmd`

4. If only one server will be accessing the machine, remove the following line from the script:

   ```
   SET ADDITIONALSERVERS=media1,media2,media3
   ```

5. Save and run the script.

6. Check the log file (`NetBackup Install.log` in the default `TEMP` directory) to verify that the installation was successful.

Note After the installation completes, a NetBackup installation log file is generated. You can find this log file at the default temp directory. To determine where your `TEMP` directory is located, refer to "To locate the NetBackup installation log file for Windows 2000, XP, and 2003 systems" on page 22 or "To locate the NetBackup installation log file for Windows NT systems" on page 23.

Note By default, a silent install will not reboot your system.

VERITAS recommends that when you upgrade or patch a client or server, make sure no backup processes are currently running. However in rare circumstances a reboot may be required for the changes to take effect. To detect if a reboot is needed after you have run the silentcmd.cmd., locate the %TEMP%\NetBackup Install.log, search for the key words "in use". If files are in use, a reboot is required.

To force a reboot when required during a silent install, modify the script (silentcmd.cmd) and remove this option, REBOOT="ReallySuppress" WARNING: This will reboot the system you are installing to without warning.

Upgrading NetBackup 3

This chapter describes how to upgrade to NetBackup 5.1 from a previous version of NetBackup, or from NetBackup Server to NetBackup Enterprise Server. It also describes how this version can handle media servers with different versions of NetBackup running.

Handling Mixed Media Server Revisions

This release of NetBackup supports mixed versions between master and media servers, enabling you to upgrade NetBackup one server at a time and with minimal impact on the overall system performance.

This capability, being transparent to the end user, enables servers to *pull* and *push* their version information between master and media servers. The version of NetBackup you have installed on your server determines if the version information can be pushed. A media server that is upgraded to NetBackup 5.1 utilizes the `vmd` service to push its version information to all servers in its master server list after start-up is initiated. In addition, every 24 hours an automatic update occurs at which time servers with this revision push their version information out to the servers again.

Servers running a version of NetBackup that is earlier than NetBackup 4.5 FP3 (NetBackup 4.5GA or 4.5MPx) cannot push their version information to other servers. You must use the `vnetd` daemon on the master server to query the media servers and determine relative version information. (This information is then stored in the file `install_directory/NetBackup/Remote_Version)`. If the query of a particular server times out, then it is classified as a "pre-4.5" version of NetBackup in which case, this version of NetBackup continues to support the interoperability of the earlier version of NetBackup.

The following sections describe how to upgrade NetBackup.

Caution Before you upgrade the NetBackup software on the master server:
– Back up your NetBackup catalogs.
– Verify that the catalog backup was successful.

Upgrading to NetBackup 5.1

Upgrading to this version of NetBackup is as easy as following the normal installation process. In fact, that is exactly what you do. The installation process detects an earlier version of NetBackup, if one exists, and determines if it is possible to upgrade to NetBackup 5.1 from the version detected. Read through the following notes and requirements before you begin upgrading NetBackup.

The following sections describe how to upgrade to this version of NetBackup. Also included in this section is a procedure on how to perform upgrades in a clustered environment.

Notes and Requirements About Upgrading to this Release

- If you are concerned that your current installation of NetBackup is corrupt, then you should uninstall that product first, and then perform a clean install.
- You can upgrade to this version of NetBackup only if the NetBackup software that you currently have installed is NetBackup 4.5GA or greater.

  Note VERITAS supports an upgrade from NetBackup 4.5GA, 4.5 FPx, 4.5 MPx, or 5.0 to this version of NetBackup. However, VERITAS does not support an upgrade directly from NetBackup 3.4 and 3.4.1 to NetBackup 5.0 or NetBackup 5.1. If you currently have either NetBackup 3.4 and 3.4.1 installed, you must upgrade to NetBackup 4.5GA, 4.5 FPx, or 4.5 MPx first and then you can upgrade to NetBackup 5.0 or NetBackup 5.1.

- An upgrade to this version of NetBackup requires a minimum of 500MB of disk space.
- VERITAS recommends that you upgrade in the following order:

  a. Master server

  b. Media servers, if any (*NetBackup Enterprise only*)

  c. NetBackup Remote Administration Console, if any

  d. NetBackup clients

  e. Any NetBackup Add-on products

- Changing a master server into a media server is not an allowable upgrade. This is considered a downgrade. If an upgrade is not allowed, the install wizard will not permit it, requiring that you first uninstall the current version of NetBackup and perform a new install.

- Make certain that the NetBackup release level on the server is at least equal to that on the clients. Older versions of server software can encounter problems with newer clients.
- Add-ons, with the exception of NetBackup Advanced Reporter, must be at the same level as the NetBackup client or server on which the add-on is installed.
- *Enterprise only*: You can upgrade to this version on systems that support a clustered configuration. For instruction on how to upgrade NetBackup in a clustered environment, see "Upgrading NetBackup in a Clustered Environment" on page 54.

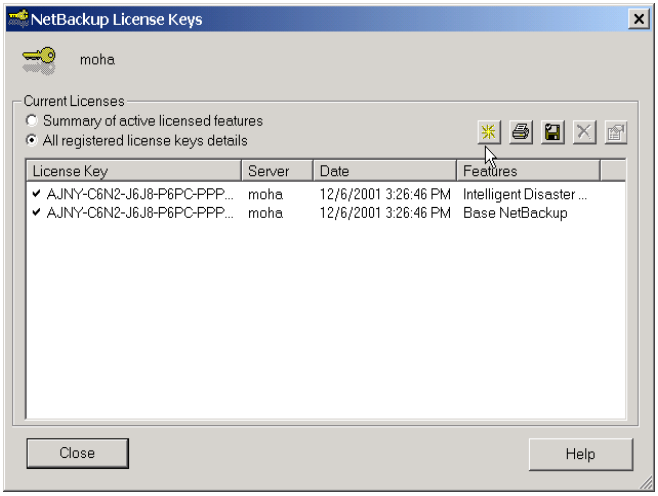
Upgrading NetBackup Server to NetBackup Enterprise Server

Upgrading from NetBackup Server to NetBackup Enterprise Server requires you to enter the appropriate license key(s) in your current NetBackup Administration Console.

▼ To upgrade NetBackup Server to NetBackup Enterprise Server

1. Locate your NetBackup Enterprise Server license key.
2. Open the NetBackup Administration Console window. Click **Help > License Keys**. The NetBackup License Key window appears.
3. Click on the **New** icon.
4. Type your license key in the **New license key** field and click **Add**.

   The new license key appears in the field in the lower part of the dialog.



Note When you upgrade from a NetBackup server evaluation license key to a permanent NetBackup Enterprise Server-based product license key on Windows, restart the NetBackup services. Restarting the services ensures that the proper licensing information is displayed after selecting **Help** > **About NetBackup Administration Console**.

Note If you make and save any license key updates (including adding and deleting license keys), you must restart the NetBackup Administration Console.

5. The system may require a reboot to complete the upgrade. When prompted to reboot, click **OK**.

Upgrading NetBackup in a Clustered Environment

This procedure explains how to upgrade NetBackup master server software or media server software in a clustered environment to multiple Windows systems from a single Windows system. Review the installation requirements for NetBackup on page 14 before starting this procedure.

Follow these instructions to upgrade the NetBackup software on selected Windows NT, Windows 2000, or Windows 2003 servers on the active node in your clustered environment. You may stop the installation process at any time by clicking **Cancel**.

Note The NetBackup server setup program cannot clean up an aborted install. Therefore, if you stop `Setup` while it is copying files to a client, the files that have been successfully installed are not uninstalled.

▼ To prepare to upgrade NetBackup in a clustered environment

1. When upgrading NetBackup in a clustered environment you must first do the following:
   - When upgrading NetBackup in a MSCS cluster you must take all of the NetBackup group resources offline except for the disk. Refer to the Microsoft Cluster Administration documentation to determine how to take the NetBackup group resources offline using the Cluster Administrator interface.
   - When upgrading NetBackup in a VCS cluster, you must freeze the active node so that migrations will not occur while the inactive nodes are upgraded. If you have a VCS cluster configured, then you can freeze the active node using the Cluster Manager interface, or the command line.
2. After you take the cluster offline (for MSCS clusters) or freeze the active node (VCS clusters), you are ready to begin the upgrade process. Perform the procedure as described in, "To upgrade NetBackup in a clustered environment." (Upgrading NetBackup in a VCS cluster installs each node as non-clustered. When the installation is complete, run the VCS configuration wizard for NetBackup.)

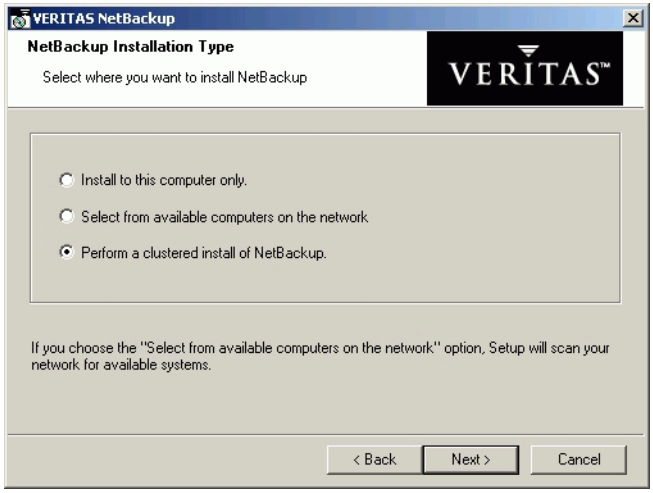
▼ To upgrade NetBackup in a clustered environment

1. Log in as Administrator on the active node.
2. Insert the NetBackup installation CD in the drive.

- On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
- On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.

3. The NetBackup browser displays the following information and options:
   - Links on the left side of the browser that display information relating to **NetBackup**, **Database Agents**, and **Additional Products**.
   - Browse the installation CD
   - The NetBackup link selected (by default) and these available options:
     - Begin NetBackup installation
     - View available documentation
     - Link to VERITAS Technical Support
     - Link to VERITAS e-Learning
4. Click **NetBackup Installation**. The browser refreshes and displays pre-installation information.
5. Click **Start NetBackup Server Installation**.
6. To proceed with the installation, you must check the **I accept the terms of the license agreement** option, then click **Next**.
7. *This step applies only to MSCS clusters.* Select **Perform a clustered install of NetBackup,** then click **Next**.

Note The installation process references the registry settings of your system to determine if your system is configured for a Windows MSCS clustered environment. If your system is configured for a MSCS clustered environment, the **Perform a clustered install of NetBackup** option is available for selection.

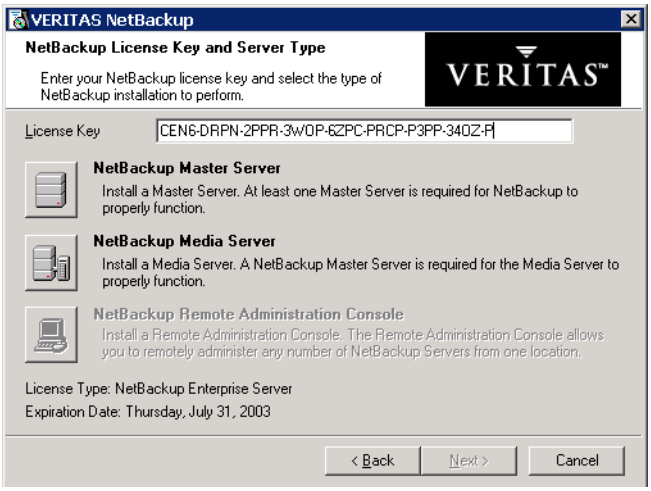


Note The first two options may be disabled depending on your system configuration.

8. Enter the base product license key that you received when you purchased your product. During this installation process, the following events occur to ensure you have proper credentials to perform remote installations:

- When performing an upgrade a new license key is not required. Your current license key will be used.
- When you choose to install on a clustered system:
  - NetBackup determines if you have proper administration credentials on all nodes in the cluster. If you do not have the proper credentials, the system is not added to the list.
  - If you have the proper credentials, NetBackup performs a second check and determines if a license key is needed. If a license is needed and one was not entered, the system cannot be added to the list. You must enter a valid license key to install to that node.
- If you enter an invalid license key, the NetBackup License Key and Server Type screen remains visible until a valid key is entered.

The license key that you enter determines which of the installation options are available for you to install.



9. Select the type of installation that you want to perform.

From the Setup Type window, you can elect to perform a typical or a custom installation. Refer to "Customizing a NetBackup Installation" on page 25 to see the differences in the installation processes.

10. Select **Typical** and click **Next**.

11. In the Cluster Settings window, enter the appropriate data in each of the fields. These fields are listed below along with a brief description of each field.

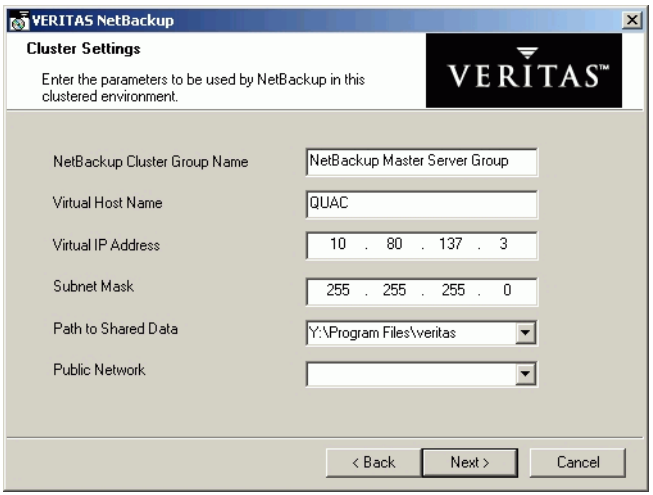
Note During an upgrade, these parameters must match the existing parameters to successfully complete the upgrade.

- **NetBackup Cluster Group Name**: A name used to identify a NetBackup service group or resource group. A resource group is comprised of resources that are related and interdependent to each other.
- **Virtual Host Name:** The name of the cluster as known by the NetBackup environment. This is the name that will be entered in the client server list. It is also the name that the server uses when communicating to the client nodes.
- **Virtual IP Address**: This is the IP address of the cluster. The address to which the virtual server name should resolve.
- **Subnet Mask**: A mask used to identify a subnetwork so that IP addresses can be shared on a local area network. This number correlates directly to the virtual IP address of the cluster.

- **Path to Shared Data**: This path indicates a directory on one of the shared disks in the cluster where NetBackup stores configuration information.
- **Public Network** - When installing NetBackup on a clustered system, choose one of the public networks assigned to the node of the cluster.

Caution You must not select the private network assigned to this cluster.

Note The cluster configuration settings that you enter in the Cluster Settings dialog must be identical to the settings on the existing NetBackup configuration for the cluster group.



12. Click **Next**. The NetBackup System Names window appears.

From this window you can enter the names of the hosts that have access to this current system.

If installing a media server, the NetBackup System Names window contains an additional line with the media server field containing the virtual server name. You must enter a master server name for the NetBackup Administration Console that this media server is configured to.

Note The NetBackup Administration Console is not a clusterable option.

13. Enter additional server names and click **Next**. You can cut, copy, or delete a server from the list by selecting a server and using the right mouse button functionality. All of the nodes of the cluster should be added to the Additional Servers list in this window.

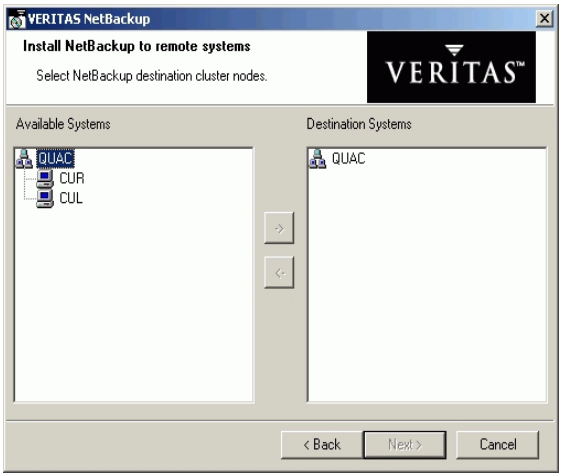
Note All of the nodes identified in the cluster receive the same server list.

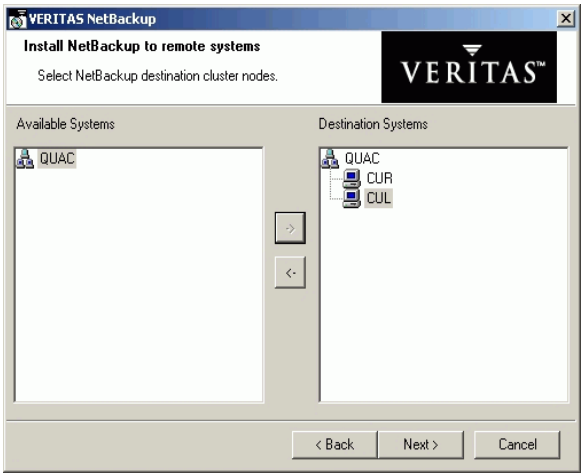
14. In the Install NetBackup to Clustered Nodes window, select the cluster nodes from the Available Systems list and add them to the Destination Systems list. Make sure you select your local machine when you are selecting systems to install.

    Each time you choose a different node in the cluster group to install, NetBackup performs the following system and license checks:

    - Verifies the system for a server install matches the type that you selected. The installation type on that system is compared to the installation type that you are requesting. If you are requesting an invalid combination, you will be notified of this and the selection of that system is disallowed.
    - Verifies that you have proper administration credentials on the node that you chose. If you do not have administration credentials, the Enter Network Password window appears and prompts you to enter the administrator's user name and password. Click **OK**, and continue selecting destination systems.

    Note This process repeats for each node that you select. In addition, you can elect to remember the user name and password and only be prompted when the user name or password is not valid on a particular system.

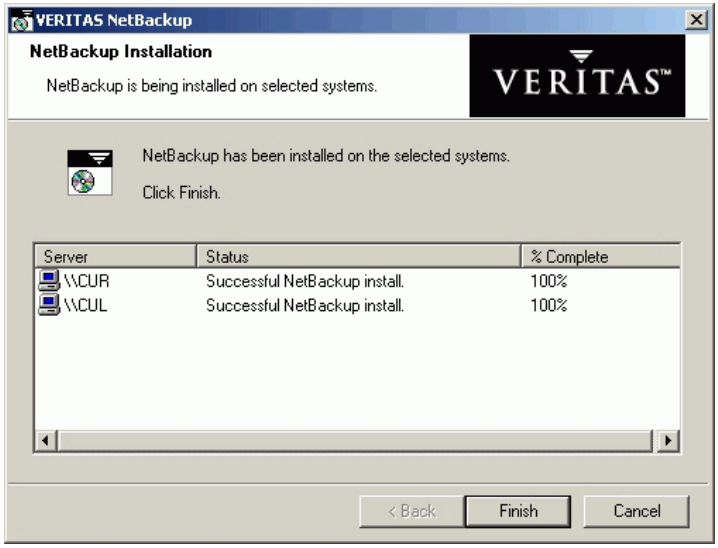




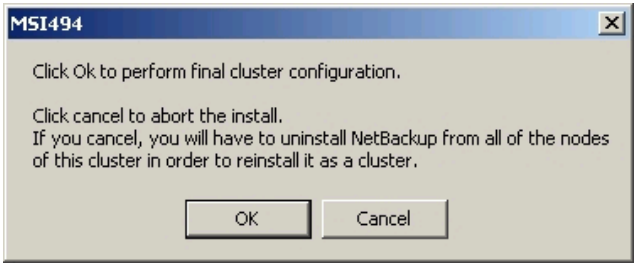
The following is a list of facts associated with the push-install process in a clustered environment:

- There is no limit to the number of nodes that you can install NetBackup on. The only limit to the number of nodes in a cluster is that set by the clustering service and not NetBackup.
- NetBackup add-on products such as Global Data Manager (GDM) and NetBackup Archive and Restore (NBAR) cannot push their installs. These add-on products must be installed on each individual node in the cluster group. For instructions on how to install these products, refer to NetBackup documentation for each product.
- Only the license key that was entered at the beginning of this procedure is pushed to the other nodes in this cluster. If the license key includes add-on products such as GDM and NBAR, and the nodes you are pushing NetBackup to already have GDM and NBAR installed, then this key will enable you to use these products.

15. Click **Next** when you have finished selecting cluster nodes. The installation process begins pushing the install to all of the selected nodes. The following NetBackup Installation window appears and provides a status of which node is being installed along with the completion status. You can right-click on a system listed in the screen to see a status of the install, for example, it can show if an install failed on a particular system. You would then be able to obtain more information about the failure by viewing the remote install log. The remote install log is named `nbpinst.log` and is located in the Windows installation directory.



16. On the Ready to Install the Program screen, click **Install**. The cluster install pushes NetBackup to all selected nodes.



Note Reboot any of the inactive cluster nodes that the summary screen displayed as a required reboot. After you have rebooted all inactive nodes that required rebooting, proceed to reboot the active node (the node where you ran the install) if the summary screen says it requires a reboot. It is imperative that you reboot the inactive nodes before you reboot the active node.

Note *For MSCS clusters*: Under normal circumstances, cluster configuration is one of the final steps in installing NetBackup in a cluster. If this step is not done or does not complete successfully, you can use the `bpclusterutil` command from the active node to perform this step. The `bpclusterconfig -c` command runs the cluster configuration step performed by installation. Using the -a option with the

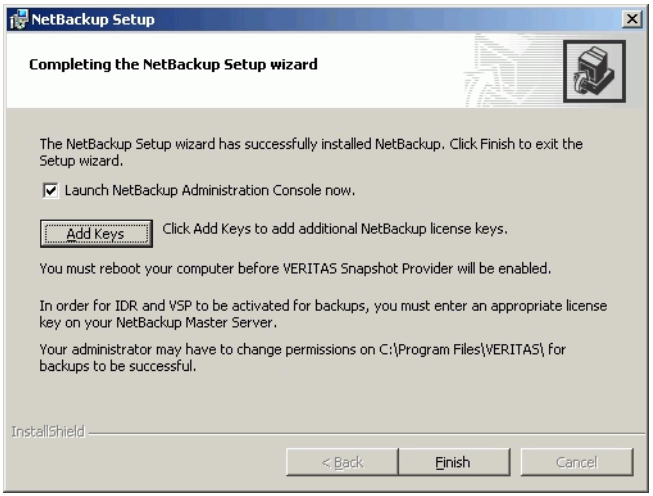
appropriate option name configures the NetBackup option in a cluster. This command can be run multiple times. See the NetBackup High Availability System Administrator's Guide for more information

17. Click **Next**. A screen appears that enables you to do two things before completing the install:

    a. You can select a check box to display the NetBackup Administration Console.

    b. You can select a button to enter more license keys on the system you are currently installing on.

Note If you enter a license key at this time, the key will not be pushed to the other nodes in the cluster group. You must go to each node in the group and add the key or keys that you want to add.



18. Click **Finish**.

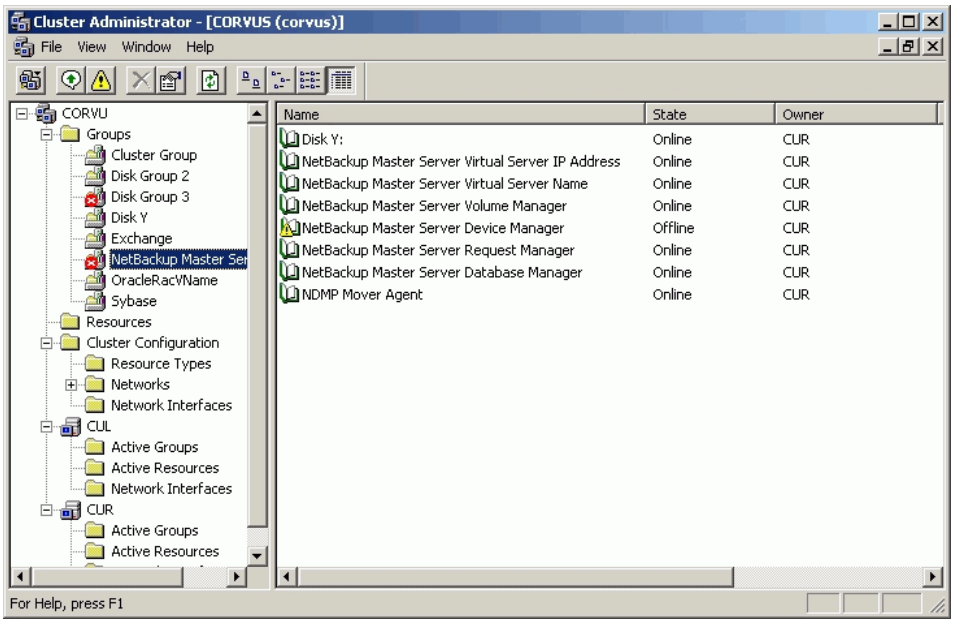
19. After the push-install completes:

    - If you have an MSCS cluster, the NetBackup resources that you took offline in the beginning of this procedure will come back online automatically.
    - If you have a VCS cluster, you are ready to unfreeze the active node. You must then run the VCS configuration wizard for NetBackup and update the NetBackup group.

▼ To verify a successful cluster installation using the Cluster Administrator Console

1. During a cluster installation you can open the Cluster Administrator console to see your current structure.

2. After you have completed the installation and configuration process, the Cluster Administrator interface updates the cluster group in the left pane.



Installing Alternative Administration Interfaces 4

This chapter provides instructions on installing a NetBackup user interface on a different computer. (This is necessary if your server has no graphics display capabilities.)The following table identifies the interface you can install for a given system:

System	Install this user interface
Windows	NetBackup Remote Administration Console
UNIX	UNIX (NetBackup-Java capable) host
Windows	NetBackup-Java Windows Display Console

The subsections in this chapter provide the installation procedures for each system/interface combination shown in the table.

NetBackup Remote Administration Console for Windows

You can skip this section if you do not want to remotely administer a NetBackup server from a Windows NetBackup client.

The NetBackup Remote Administration Console for Windows servers is a version of NetBackup for Windows that can be used to remotely administer one or more UNIX or Windows NetBackup servers. It provides all of the standard NetBackup Server for Windows interfaces and can be used to create backup policies, manage volumes, view status, monitor tape drives, etc., on a remote NetBackup server. It cannot be used alone as a NetBackup master or media server—only for the remote administration of other NetBackup 4.5 (and greater) UNIX or Windows servers.

Note The Windows NetBackup servers that support the NetBackup Remote Administration Console are Windows NT, Windows 2000, Windows XP, and Windows 2003. For information about the supported platforms for the NetBackup 5.1 release, refer to the Supported Platforms and Peripherals chapter in *NetBackup Release Notes for UNIX and Windows*.

Although the NetBackup Remote Administration Console cannot be used alone as a master or media server, in order for it to remotely administer a NetBackup server, it must be added to the server list on that server in the same way that other NetBackup servers are added to the server list to give them access to that server.

The NetBackup manuals and online help do not, in most cases, specifically refer to the NetBackup Remote Administration Console since, for all practical purposes, using the NetBackup Server for Windows interfaces on the NetBackup Remote Administration Console is identical to using them locally on the server that is being administered. Of course, the master server or device host shown in the interface will be the server name that is being administered instead of the local server name.

▼ To install the remote server

1. Go to the computer on which you want to install the NetBackup Remote Administration Console and insert the installation CD.
   - On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
   - On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.
2. In the NetBackup wizard, click **NetBackup Installation**.
3. Click **Start NetBackup Server Installation**.
4. Click **OK**.
5. Click **Next**.
6. Click **I Accept**.
7. Click **Next**.
8. Select the Installation Type.
9. Click **Next**.
10. Select **NetBackup Remote Administration Console**.
11. Follow the prompts to complete the installation.

Note On the NetBackup System Names screen, the name of the NetBackup Remote Administration Console should be in the first entry field. You must enter the name of the remote NetBackup computer in the master server field.

When the software is installed, a set of NetBackup documents are also installed in the following directory:

`<install_path>\Help`

The variable, `<install_path>`, is a default location that is typically defined by your system. For some systems this path is, `C:\Program Files\VERITAS`.

By default, the NetBackup Remote Administration Console will automatically begin as soon as you click **Finish** in the installation program. (If you did not choose that default, go to the Windows **Start** menu on the NetBackup Remote Administration Console computer and select **Start > Programs > VERITAS NetBackup > NetBackup Administration Console**.)

▼ To add the NetBackup Remote Administration Console host to the server list of the remote Enterprise Server

Note On a UNIX system, there are two methods for adding the host to the server list: the NetBackup-Java Administration Console (if your system is NetBackup-Java Console compatible) or the `bp.conf` file. Step 1 describes this process using the NetBackup-Java Administration Console and Step 2 describes how to edit the `bp.conf` file.

1. Use the NetBackup-Java Administration Console to specify and add the remote UNIX Enterprise server to the server list.

   a. In the left pane of the NetBackup-Java Administration Console, expand **Host Properties > Master Servers**. The master servers appear in the Details pane.

   b. Right-click on the name of the master server in the Details pane.

   c. Select **Properties**. The Master Server Properties window appears.

   d. In the Master Server Properties window, select **Servers**.

   e. In the Servers window, next to the Additional Servers list, click the **Add**.

   f. Type the name of the host that is to run the NetBackup Remote Administration Console.

   g. Click **OK**. The name of the host appears in the **Additional Servers** list.

   h. Click **OK**. (If you perform this step you can proceed to step 3.)

2. Edit the `bp.conf` file to add the remote UNIX Enterprise server to the server list.

a. Go to the remote NetBackup UNIX server.
In the `/usr/openv/netbackup/bp.conf` file, at the end of the SERVER = lines, add the following line:

SERVER = *name-of-Administration-Console-machine*

Where *name-of-Administration-Console-machine* is the name of the machine where the NetBackup Remote Administration Console will be installed.

3. If you have an existing NetBackup Remote Administration Console installed and you want to add a remote master server, perform the following steps.

   a. Go to the remote NetBackup Windows server and start the NetBackup Administration Console.

Note If this is a clean installation, you can add the master servers that you want to administer as additional servers during the install.

   b. In the left pane of the NetBackup-Java Administration Console, expand **Host Properties > Master Servers**. The master servers appear in the Details pane.

   c. Right-click on the name of the master server in the Details pane.

   d. Select **Properties**. The Master Server Properties window appears.

   e. In the Master Server Properties window, select **Servers**.

   f. In the **Global Operations** box, in the field labeled **Add to all lists**, type the name of the host that is to run the NetBackup Remote Administration Console. Then click the "**+**" button. (The name of the host appears in the Additional Servers list.)

   g. Click **OK**.

NetBackup Remote Administration Console for UNIX

You can skip this section if you do not want to remotely administer a NetBackup server from a UNIX NetBackup host.

The NetBackup Remote Administration Console for UNIX can be used to remotely administer one or more UNIX or Windows NetBackup servers. It provides all of the standard NetBackup Server for Windows interfaces and can be used to create backup policies, manage volumes, view status, monitor tape drives, and other activities, on a remote NetBackup server.

On UNIX NetBackup-Java capable servers and clients, the administration console is installed when you install NetBackup on the host. For remote administration of any Windows or UNIX NetBackup servers, simply specify the server name in the Login dialog of the administration console. Refer to the *NetBackup Installation Guide for UNIX* if you are installing on a new NetBackup-Java capable UNIX host. In addition, you can refer to the *NetBackup Administrator's Guide for UNIX and Windows, Volume I*.

Installing NetBackup-Java Windows Display Console

The NetBackup-Java Windows Display Console enables you to run the NetBackup Java (UNIX) interfaces on any supported Windows server platforms. This interface provides the same capabilities as the NetBackup Administration Console for Windows or UNIX.

Skip this section if you do not want to remotely administer your UNIX NetBackup servers using the NetBackup-Java Windows Display Console on a Windows server.

Note You can install the NetBackup-Java Windows Display Console from the NetBackup installation CD.

Requirements

For the computer on which you want to run the NetBackup-Java Windows Display Console, VERITAS recommends 512 MB of physical memory.

▼ **To install the NetBackup Java Windows Display Console**

1. On the system where you are performing the installation, insert the CD that contains the NetBackup server software.
   - On Windows systems with AutoPlay enabled for CD-ROM drives, the NetBackup install program starts automatically.
   - On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.
2. On the NetBackup Install browser, click the appropriate Install Java Windows Display Console link. You can elect to install a 32-bit or a 64-bit Java Windows Display Console.
3. Continue the installation by following the prompts to install the NetBackup-Java Windows Display Console.
4. When the software is installed, see the following document for information on using the display console (this document is installed with the software):

   install_path`\Java\Readme.txt`

   Where, by default, *install_path* is `C:\Program Files\VERITAS`.

Uninstalling and Reinstalling NetBackup 5

This chapter provides instructions for uninstalling and reinstalling NetBackup software.

Uninstalling NetBackup Server Software

Caution The uninstall process deletes the VERITAS/NetBackup directory from the server. In a typical installation, NetBackup add-ons products and catalogs are installed and contained under this same directory and would also be deleted. If you intend to reinstall NetBackup, save the configuration, catalog, and log file information before proceeding. (See "To uninstall NetBackup server software and save catalog data for Windows 2000 (and greater) users" on page 71.)

▼ To uninstall NetBackup server software

1. Select **Start > Settings >Control Panel**. The Control Panel window appears.
2. From the Control Panel window, double click the **Add/Remove Programs** icon. The Add/Remove Programs window appears.
3. Select **VERITAS NetBackup** from the **Currently Installed Programs** list.
4. Click **Remove**.

Note On Windows NT systems, this button is named **Change/Remove**. This document refers to terminology that is used on the latest product releases.

▼ To uninstall NetBackup server software and save catalog data for Windows 2000 (and greater) users

Note For Windows 2000 (and greater) users, clicking **Remove** during a product uninstall, by default, removes all NetBackup configuration and catalog information. The following procedure explains the necessary steps to retain this information for future reinstalls.

1. Select **Start > Settings >Control Panel**. The Control Panel window appears.
2. From the Control Panel window, double click **Add/Remove Programs**. The Add/Remove Programs window appears.
3. Select **VERITAS NetBackup** from the **Currently Installed Programs** list.
4. Click **Change**. This action enables you to modify, repair, or remove NetBackup.
5. Select **Remove** on the Program Maintenance Dialog.
6. Clear the **Remove all NetBackup Configuration, Catalog, and Log files** check box to disable this function. (This check box contains a check mark by default.)
7. Click **Remove**.
8. If NetBackup Access Control is enabled, NetBackup creates several new files on clients and servers. For more information on NetBackup Access Control, please see the *NetBackup System Administrator's Guide Volume II*. For more information on the VERITAS Security Services, including how to properly uninstall, please see the *VERITAS Security Subsystem Administrators Guide*.

   These files can be divided into two separate categories: individual user files, and NetBackup application temporary files. NetBackup application temporary files were removed with NetBackup in a previous step. Users' cache files exist in their home directories, for example:
   `<user_dir>\Local Settings\Applications Data\VERITAS\NetBackup`.

   Note Files are generated in the \NetBackup directory only by the single sign-on operation of the NetBackup Administration Console on the host upon which the console is run. NetBackup Administration Console cleans these files when an exit function is performed. (It is common to have no temporary files in this directory.) If a system crash were to occur, these files may be left behind. With the console shutdown, you can delete these files safely with no data loss.

   NetBackup also creates cached certificates for client and server NetBackup applications. These files reside within the `\NetBackup` directory. These files typically have a name that is consistent with a DNS entry for a network interface that is readable by a human, for example, `machine.company.com`.

   Example directory entries for Windows;

   ```
   <user_dir>\Local Settings\Applications Data\VERITAS\
   NetBackup\machine.company.com
   ```

   ```
   user_dir>\Local Settings\Applications Data\VERITAS\
   NetBackup\dhcp
   ```

These files are created with the command `bpnbat -LoginMachine`. If considering a reinstallation of NetBackup at a later date on the machine in question, you should preserver the certificates in the `\NetBackup` directory or be prepared to provide the machine identity password as originally set on the Root+AB broker. As an alternative, one may reset the password on the Root+AB broker at reinstall time. For more information on Root+AB brokers please see the *VERITAS Security Subsystem Administrators Guide*.

Uninstalling NetBackup from a Clustered Environment

Follow the instructions in your cluster documentation for removing a group. Then uninstall NetBackup from each node on which it was installed in the cluster, following the previous instructions for a basic NetBackup uninstall. There is no shortcut for uninstalling NetBackup from multiple nodes at the same time.

Reinstalling NetBackup Server Software

This procedure describes how to install NetBackup after you have uninstalled the product, but saved your configuration, catalog, and log files.

▼ **To reinstall NetBackup server software with saved configuration and catalog information**

1. When reinstalling a NetBackup product, you should have your license key(s) available throughout the installation process.

Caution You must reinstall this product in the exact location as the previous installation to ensure that your saved configuration, catalog, and log files will function properly with the new product.

2. Log in as Administrator on the server where you are installing NetBackup.

3. Insert the NetBackup installation CD in the drive.

   - On Windows systems with AutoPlay enabled for CD-ROM drives, the VERITAS NetBackup installation browser starts automatically.
   - On Windows systems that have AutoPlay disabled, run `Launch.exe` in the top-level directory on the CD.

   The NetBackup browser window appears.

4. Select **NetBackup Installation**.The browser refreshes and displays pre-installation information.

5. Click the appropriate installation link (client or server) that you want to start. The NetBackup Setup wizard begins.

6. Click **Next** to continue the reinstall/upgrade.

7. Check the **I accept the terms of the license agreement** option, then click **Next**.

8. Select where you want to install NetBackup (locally, or to another computer) and click **Next**. The NetBackup License Key and Server Type window appears.

9. Enter the base product license key that you received when you purchased your product. The license key determines which installations are available for you to install.

10. Select the type of installation that you want to perform.

Note Installing the NetBackup Remote Administration Console does not require a license key.

11. Click **Next**. The Setup Type window appears. You can elect to perform a typical or a custom installation. Refer to "Customizing a NetBackup Installation" to see the differences in the installation processes.

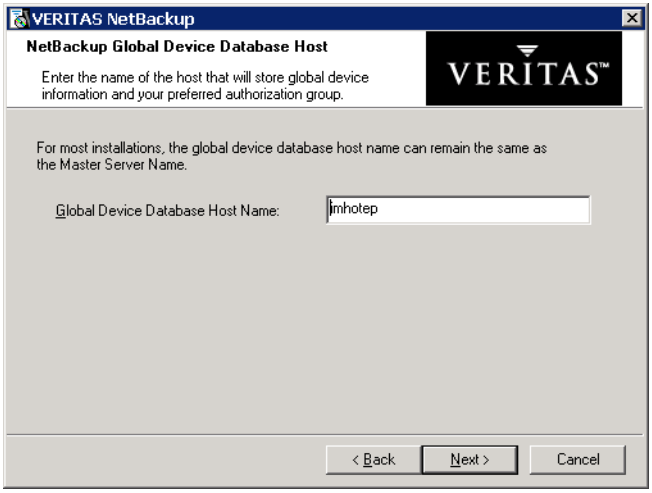
12. Select **Typical** and then click **Next**. The NetBackup System Names window appears.

13. In the NetBackup System Names window, enter the names of other systems that are allowed access to this server.

Note If installing a NetBackup media server or the NetBackup Remote Administration Console, the NetBackup System Names window will have an additional line with the local media server filled in. You must enter the name of a master server to which the media server is configured.

14. Enter the server names and click **Next**. The NetBackup Global Device Database Host window appears.

15. Enter the name of the NetBackup Global Device Database Host, which serves as the repository for global device configuration information. For more information about the Global Device Database Host, see the *Media Manager System Administrations Guide for Windows*.



By default, the Global Device Database Host is the master server currently being installed. Under most circumstances, this can be left as the default. However, you may need to enter a different host name in the following situations:

- If the system shares drives with the Shared Storage Option (SSO), all NetBackup servers must use the same host for storing device information.
- If the system has multiple master servers, enter the name of the server that will store the global device configuration information. Conflicting host information may result in an error.

Note If you want to make changes to the installation settings, click **Back** until you reach the page where you can make the change, or click **Cancel** and exit the wizard.

16. Click **Install**. The installation process begins. This process could take several minutes.

Note After the installation completes, a NetBackup installation log file is generated and placed in your default `TEMP` directory. The following procedures explain how to verify the location of your `TEMP` environment variable.

▼ To locate the NetBackup Installation log file for Windows 2000 systems

a. Select **Start > Programs > Accessories > Command Prompt**. A command prompt window appears.

b. Enter **`echo %TEMP%`** and press the **Return** key on your keyboard. The location of your `TEMP` directory will display.

▼ To locate the NetBackup Installation log file for Windows NT systems

a. Select **Start > Settings > Control Panel**. The Control Panel window appears.

Note Make sure you can view all hidden files and folders. To set this option, select **Tools > Folder Options...** in the Control Panel window. Then click the **View** tab; set the **Show hidden files and folders** option, and click **OK**.

b. Double-click the **System** icon. The System Properties window appears.

c. Click the **Environment** tab. The Environment Variables including the `TEMP` variable appears along with the corresponding paths for each variable.

Configuring NetBackup Server Software 6

By default, the NetBackup Administration Console launches automatically following the installation. From this console you are able to configure NetBackup by using the Getting Started wizard. For detailed information about the NetBackup Administration Console, refer to the *NetBackup Administrator's Guide, Volumes I and II*. For help while running a wizard, click **Help** in the wizard screen.

Recommendations for Configuring NetBackup

The following list outlines some basic tips to follow before you begin the process of configuring NetBackup on your system.

- Before configuring NetBackup, make sure you have physically attached the storage devices to the server and performed all configuration steps specified by the device and operating system vendor (including installation of any required device drivers and software patches).
- Once the server software and storage devices have been installed, select the **Getting Started** wizard in the right pane of the NetBackup Administration Console. Then follow the steps of each wizard until you have finished configuring your product.

  Note If you elected to not have the console start after the installation by default, you can open the console by selecting, **Start Programs > VERITAS NetBackup > NetBackup Administration Console**.

  - If you are configuring NetBackup for the first time, we recommend that you click on the **Getting Started** icon and use this set of wizards to guide you through the process.
  - If you have already configured NetBackup and you want to change a particular area, you can click on the any of the wizards.
- Configuring master and media servers

  This bulleted item applies only to NetBackup Enterprise Server.

The process of configuring a master or media server is very similar, and the versatility of NetBackup enables you to install either server first. However, VERITAS recommends that you install and configure the master server before you install and configure a media server. You can then configure the media server information (such as storage devices and volumes) on the master to ensure the master server will properly administer the media server. The following list offers some tips when configuring a media server.

- The NetBackup Administration Console appears after you install the media server. The name of the master server will appear as the host server name in the left window pane of the NetBackup Administration Console if the master server was installed before the media server.
- The name of the media server appears as the host server name in the left window pane of the NetBackup Administration Console if any of the following conditions exist:
  - The master server has not been installed.
  - The media server does not have permissions set on the master server.
  - A network problem exists blocking the media server from communicating with the master server.

Caution If any of these situations exist, you will still be presented with the opportunity to run three of the configuration wizards (Storage Device, Volumes, and Configure a Shared Drive). *Do not run these wizards*. If you run these wizards, the information that you enter will not be recognized by the master server. VERITAS recommends that you correct the problem (such as installing the master server, correcting the permission settings, or solving the network problem) and run the configuration wizards from the master server.

Configuring NetBackup

To begin configuring your product, click on the **Getting Started** icon in the main window of the NetBackup Administration Console. The Getting Started - Welcome to NetBackup window appears. This will lead you through a series of wizards designed to make it easy for you to configure the following:

- Configure Storage Devices
- Configure Volumes
- Configure the Catalog Backup
- Create a Backup Policy

The following subsections contain helpful tips as you step through the wizard. For detailed information about the NetBackup Administration Console, refer to the *NetBackup Administrator's Guide, Volumes I and II*. For help while running a wizard, click **Help** in the wizard screen.

Configuring Storage Devices for NetBackup

Before you can run any backups, you must define your storage devices for NetBackup. You should take the following into consideration while you complete the Device Configuration Wizard:

- Make sure that you have correctly configured your storage devices for Windows. NetBackup cannot function reliably unless devices are correctly installed and configured.
- As part of the Device Configuration Wizard, in the Device Hosts window, you must specify the hosts on which to auto-discover and configure devices. *This step applies to NetBackup Enterprise only.*
- From the Backup Devices window, confirm the list of devices displayed. If a known backup device does not appear in this list, do the following:

  a. Click the **Cancel** button and close out of this wizard.

  b. Verify that the backup device is physically attached to the host.

  c. Verify all installation procedures specified by the device and operating system vendor have been performed successfully.

  Note The VERITAS Tape Device Driver Install wizard (preloaded on your CD) will step you through the process of installing the latest device drivers. If you do not have a CD, you can download the NetBackup Tape Installer software from the VERITAS support web site.

  d. Return to the NetBackup Administration Console and click the **Configure Storage Devices** link and begin this process again.

- After the device configuration update completes, the Configure Storage Units window appears. Use this window to define storage units. When entering a path for a storage unit, the following rules apply:
  - Use the correct path separators (/ and \).
  - Use a colon (:) to specify a drive separation on Windows platforms.
  - Use the following characters only:

- Alphabetic characters (ASCII A-X, a-z)
- Numeric characters (0-9)
- Miscellaneous characters: Plus (+), minus (-), underscore (_), or period (.)

Note When configuring devices for NetBackup in a cluster, ensure that you perform a storage device configuration on each node. First perform a storage device configuration on the active node. Then move the NetBackup active node to another node and perform the storage device configuration on that node. Perform this same procedure on each node of the cluster that NetBackup will run on.

Configuring Volumes

The Volume Configuration Wizard enables you to initiate an inventory of each configured robot. NetBackup automatically updates the volume database if it finds new robotic media during the inventory. In addition, you can define new volumes for use in standalone drives. For more detailed information about volumes or configuring volumes for standalone drives, refer the to *Media Manager System Administrator's Guide*.

- Select a robot to inventory or the drive type that you want to configure.
- If you specify a standalone media, you will determine the number of volumes for your device, and complete this process.
- If you specify multiple drive types the following is true:
  - A robot is considered to have more than one type of drive if the media written in any one drive cannot be read or written in any other drive.
  - If the robot has more than one type of drive, then the wizard cannot inventory the robot.
- After the inventory process of your device completes, the software prompts you to identify which slots within your device contain cleaning media.

  If you have just upgraded NetBackup and have pre-existing barcode rules, then the barcode reader will automatically detect slots designated for cleaning media. Otherwise, if you do not designate a cleaning slot(s), then NetBackup will consider all media (including cleaning media) as typical media and try to overwrite it.
- This wizard does not enable you to configure cleaning tapes for standalone drives.

Configure the Catalog Backup

After you have configured your storage devices and volumes, the Catalog Backup Wizard leads you into configuration of the catalog backup. The NetBackup Catalog contains information about your configuration and about the files and folders that have been backed up. If a disk fails and your catalog is lost, a backup of your catalog makes it much easier to restore your backed-up data and resume your backup schedule. Therefore, *you must* configure a catalog backup before backing up any other data.

Be aware of the following tips as you complete this wizard.

- Specify the media server that will perform the backup.
- From the NetBackup Catalog Files window, you will need to verify that the master server's and each media server's catalogs are included in the list. Verify that the absolute path names are correct and are in the correct format.

  The path names of the catalogs on the master server are automatically added during installation and generally require no action on your part other than to ensure they are listed. However, if you have moved the location of your catalog on your master server, the new location must be specified. Pathnames to the NetBackup Catalog on the media servers are not automatically added during installation and require that you add them to the file list. For more information on specifying the pathnames, see *NetBackup System Administrator's Guide for Windows, Volume I*.

Caution Make sure there are no invalid paths in the list of catalog files to be backed up, especially after moving catalog files, deleting old paths, or adding new paths to the catalog backup configuration as explained in this chapter. If NetBackup cannot find or follow a path, the entire catalog backup fails. If you have installed NetBackup in a MSCS or VCS 1.2.1 for NT cluster environment, verify that the NetBackup Catalog Backup entries are correct. See the *NetBackup System Administrator's Guide for Windows, Volume I* for more information.

- The Alternating Destinations window enables you to specify a second location for backing up the Catalog.

Create a Backup Policy

After you have configured your catalog backup, the Backup Policy Configuration Wizard leads you into the configuration of a backup policy. In this process you define a backup policy for a group of one or more clients. This means specifying when the backups will take place, the files you want to back up, the clients you want to back up, and other general attributes that define how the backup is performed. For additional information about creating and administering policies, refer to the *NetBackup System Administrator's Guide for Windows*.

- From the Client List window you can add, change, or delete clients to this policy. NetBackup will back up all clients in this list. In addition, If the **Detect operating system when adding or changing a client** check box is selected and the operating system of the system named cannot be determined, a drop-down box will appear to help you select the correct operating system.
- After you have successfully created a policy, you can elect to create additional policies by checking the **Create another NetBackup Policy** check box and clicking **Next**.

Testing the NetBackup Installation

After you have finished configuring NetBackup, you have the opportunity to test your NetBackup configuration by initiating an immediate backup based on the configuration process you just completed.

1. Click the **Start an immediate backup of NetBackup server to verify the installation** check box.

2. Click **Next**. The Getting Started - Setup is Complete window appears. You have completed a basic installation and configuration of NetBackup.

3. After you click **Finish**, NetBackup will begin the backup process according to your installation configuration.

   In addition, a help window appears and the Activity Monitor in the NetBackup Administration Console updates and monitors the status of this backup. You can view this status by selecting the Activity Monitor in the NetBackup Administration Console.

   You can then right-click on the server icon in the Topology window pane and select **Job Details**. The Job Details window appears and provides a status of the current job.

Installing NetBackup Client Software 7

This chapter discusses how to install NetBackup client software for the following NetBackup clients:

- Microsoft Windows clients
- UNIX clients (including MacOS X 10.2.x)

NetBackup's Novell NetWare Client - For information on how to install, configure, and use NetBackup's Novell NetWare Client to back up and restore data that resides on a NetWare file server, refer to the *NetBackup Novell NetWare Client System Administrator's Guide*.

Installing NetBackup on Microsoft Windows Clients

By definition, your NetBackup server is also a NetBackup client. When you installed the NetBackup server software, both the NetBackup *server* and NetBackup *client* software were installed on the server.

This chapter contains the following topics on installing this version of the NetBackup client software for Microsoft Windows clients:

- "Installation Overview" on page 84
- "System Requirements" on page 86
- "Local Installation Instructions" on page 87
- "Remote Installation Instructions" on page 88
- "Silent Installation Instructions" on page 90
- "NetBackup Client Configuration" on page 92
- "Uninstalling NetBackup Client Software" on page 92

Installation Overview

The NetBackup client setup program for Microsoft Windows allows you to select appropriate setup and installation options from a series of windows. Once the options have been selected, the NetBackup client setup program displays a window that enables you to verify your selections before continuing with the actual install.

While the installation is in progress, a dialog provides details of the installation and setup progress. When complete, a final window indicates the results of the installation.

Note You cannot install NetBackup client software on PCs that currently have NetBackup server software installed. In these cases, you must first uninstall the NetBackup server software, refer to the *NetBackup Installation Guide for Windows*.

VERITAS Volume Snapshot Provider

If installing on a Windows client, during the installation process you have the option of installing VERITAS Volume Snapshot Provider (VSP). VSP establishes a point-in-time view, or snapshot, of the data that is selected for backup on the volumes (that is, drives). NetBackup then backs up the selected files as they existed at the time of the snapshot, regardless of file system activity. VSP uses a file system cache to store changes that occur during the backup. Each volume for which a snapshot is created will have a corresponding VSP cache file.

For information on the VSP parameters, please refer to the *NetBackup Backup, Archive, and Restore Getting Started Guide*. In addition, refer to the *NetBackup System Administrator's Guide for UNIX and Windows, Volume I*.

User-Directed Operations for Windows Systems

On Windows 2000, Windows XP, or Windows 2003 Server systems, the `Program Files` folder, by default, is not writable by users other than the administrator. NetBackup writes log files and progress files to the `Program Files\VERITAS\NetBackup\Logs` folder, by default. Users without write permission to the `Logs` folder receive an error message when attempting a backup or restore and the operation is aborted. If users other than the administrator will be using the Backup, Archive, and Restore interface to perform backups and restores, make sure they have write permission to the `Logs` directory.

Local and Remote Installations

The NetBackup client setup program can be used in either of the following ways:

- Local installations: The setup program installs the client software only on the PC where the installation is started.

- Remote installations: The setup program scans your network for available clients where you can install the client software. The source PC (or primary node) must have Windows NT, Windows 2000, Windows XP, or Windows 2003 server installed. In addition, a remote installation requires system administrator privileges and is only available for Windows NT, Windows 2000, 32-bit Windows XP, and32-bit Windows 2003 machines.

Note You cannot remotely install from a UNIX system to Windows NT, Windows 2000, Windows XP, or Windows 2003 machines.

Local and remote installations can be either new or upgrade installations, depending on whether there is any existing NetBackup client software installed on the client PCs.

Silent Installations

A silent installation is one in which the installation process does not require interactive input. It does, however, require that the `silentclient.cmd` file be edited before executing the file.

New and Upgrade Installations

The NetBackup client setup program recognizes two types of installations:

- New installations: The setup program does not detect an existing version of NetBackup client software on the client PC.
- Upgrade installations: Using Windows registry information, the setup program detects an existing version of NetBackup client software.

New Installations

NetBackup setup enables you to specify one set of configuration options to be used for all new installations. These options include:

- For typical and custom installations, specifying master and media server names
- For custom installations only:
  - Specifying an installation directory (local install only)
  - Entering `bpcd` and `bprd` port numbers
  - Starting the NetBackup Client Service automatically or manually
  - Starting the NetBackup Client Service on the client after installation is complete
  - Starting the NetBackup Client Job Tracker automatically
  - Installing VSP

- Installing debug symbols
- Installing the NetBackup documentation

Upgrade Existing Installations of NetBackup

The setup program enables you to specify the same options previously defined for new installations, except that you cannot change the location of the installation. These options can be applied to the upgrade installations as well as to new installations.

System Requirements

This section describes the hardware and software that is required for successful installation of NetBackup software.

Client Installation Requirements

To install NetBackup client software on a PC, the system must meet the following configuration requirements.

- Microsoft Windows (NT, 2000, XP (32- and 64-bit), and 2003 Server (32- and 64-bit))
  - Windows NT 4.0 (service pack 6A) or Windows 2000 (service pack 2) installed.
- An Intel Pentium or Itanium processor
- Internet Explorer 5.5 or greater
- Any TCP/IP transport that is Windows Sockets Compliant. (Use of the TCP/IP transport that comes with the server or operating system is recommended.)
- A network adapter supported by your TCP/IP transport.

Remote Installation Requirements

In addition to the previous requirements:

- The source PC must have Windows NT, Windows 2000, Windows XP, or Windows 2003 Server installed.
- The destination PC must have Windows NT, Windows 2000, 32-bit Windows XP, or 32-bit Windows 2003 client installed.
- The person performing the remote installation must have administrator privileges on all of the client PCs.

NetBackup Server Requirements

The version of the NetBackup server software must be the same or newer than the version you install on the client.

Local Installation Instructions

Follow these instructions to install the NetBackup client software on your Windows system. You can stop the installation process at any time by clicking **Cancel** or clicking **Back** to return to the previous window.

▼ **To install the NetBackup client software on your Windows system**

1. Log in as Administrator on the server where you will be installing NetBackup.
2. Insert the NetBackup installation CD (for Windows) into the drive.
   - On systems with AutoPlay enabled for CD-ROM drives, the NetBackup install program starts automatically.
   - On systems that have AutoPlay disabled, run the `Launch.exe` program in the root directory on the CD.
3. The NetBackup browser displays the following information and options:
   - Links on the left side of the browser that display information relating to **NetBackup**, **Database Agents**, and **Additional Products**.
   - Browse the CD
   - The NetBackup link selected (by default) and these available options:
     - Begin NetBackup Installation
     - View available documentation
     - Link to VERITAS Technical Support
     - Link to VERITAS e-Learning
4. Click **Begin NetBackup Installation**.
5. Click **Start NetBackup Client Installation.**
6. When prompted to choose where you want to install the NetBackup client software, select **Install to this computer only**.
7. Select either a typical or custom installation.

If you choose a typical installation, the default port numbers and default service startup settings are used.

If you choose a custom installation, you can choose the desired service startup settings, change the port numbers, select the installation location, and choose whether or not to install NetBackup documentation, debug symbols, and VSP.

8. Click **Next**.

9. Follow the instructions provided with the program wizard.

10. Click **Install** to initiate the installation and **Finish** when the install is complete.

Note You may need to reboot your PC for the changes to take effect.

Remote Installation Instructions

Note Review the installation "System Requirements" on page 86 for remote installations before starting this procedure.

Follow these instructions to install the NetBackup client software on selected Windows NT, Windows 2000, 32-bit Windows XP, or 32-bit Windows 2003 Server clients on your network (one of these clients can be your local PC). You may stop the installation process at any time by clicking **Cancel**.

Notes on Remote Installations

- During installation, the client name is written to the registry in lower case. If the policies on the NetBackup server do not specify the client names in lower case, backups will fail because the names do not match.
- You must have administrator privileges on the remote client for the NetBackup install to complete successfully.
- The NetBackup client setup program cannot clean an aborted install. Therefore, if you stop `Setup` while it is copying files to a client, the files that have been successfully installed are not uninstalled.

▼ **To install NetBackup client software on remote computers**

1. Insert the NetBackup installation CD (for Windows) into the drive.
   - On systems with AutoPlay enabled for CD-ROM drives, the NetBackup install program starts automatically.

- On systems that have AutoPlay disabled, run the `Launch.exe` program in the root directory on the CD.

2. Click **NetBackup Installation**.

3. Click **Start NetBackup Client Installation**.

Note You cannot do a remote install to or from any 64-bit system.

4. When prompted to select where you want to install the NetBackup client software, choose **Select from available computers on the network**.

Note If you choose **Select from available computers on the network**, the client will not be installed on the local machine unless it is added to the list of systems to which you are going to install.

5. Select either a typical or custom installation.

   If you choose a typical installation, the default port numbers and default service startup settings are used.

   If you choose a custom installation, you can choose not to install debug symbols, VSP, and can change the port numbers.

6. Click **Next**.

7. Follow the instructions provided with the program wizard.

8. Click **Install** to initiate the installation and **Finish** when the install is complete.

Note Clicking the **Cancel** button anytime after you have clicked the **Install** button and started the remote install process will not cancel the install on the remote system that is in progress at the time **Cancel** is clicked. The installation continues until it is finished. Any remote installs that remain are not performed, and any remote installs that were successful to that point will continue to be successful.

Note You may need to reboot your PC or the remote systems for the changes to take effect.

Silent Installation Instructions

Note Silent installations of NetBackup client software are not supported if you want to run the NetBackup services as a user rather than local administrator. If you want to install NetBackup under this circumstance, you must go through the interactive installation described earlier in this document.

A silent installation is one in which the installation process does not require interactive input. It does, however, require that the `silentclient.cmd` file be edited before executing the file.

Follow these instructions to perform a silent installation of the NetBackup client software on selected Windows clients on your network (one of these clients can be your local PC).

▼ To perform a silent installation

1. Start the Windows Installer from the following locations:
   - Windows NT systems

     `PC_Clnt\X86\instmsiw.exe`
   - Windows 2000, Windows XP, or Windows 2003 Server

     Insert the NetBackup installation CD (for Windows) into the drive.

     On systems with AutoPlay enabled for CD-ROM drives, the NetBackup install program starts automatically. Exit out of the NetBackup install program.

   Note Do not run `instmsiw.exe` on Windows 2000, Windows XP, or Windows 2003 Server systems.

2. Using Microsoft Windows Explorer, navigate to the CD drive.
3. Copy the contents of the `PC_Clnt\` directory to a temp folder on your hard drive (for example, `C:\temp`).
4. The files contained on the CD-ROM are read-only. Change the permissions for these files on the hard drive to allow the update.
5. In the temporary directory, use a text editor to edit the `silentclient.cmd` file so the script installs the client software as you wish.

Note Be sure to update the client, master server, and additional servers to the minimum required version level of NetBackup.

6. Run the script (`silentclient.cmd`).

7. Check the `NetBackup Install.log` log file to verify that the install was successful. The following procedures will help you locate the proper log file.

▼ **To locate the NetBackup installation log file for Windows 2000 and newer systems**

a. Select **Start > Programs > Accessories > Command Prompt**. A Command Prompt window appears.

b. Enter `echo %TEMP%` and press the **Return** key on your keyboard. The location of your TEMP directory will display.

▼ **To locate the NetBackup installation log file for Windows NT systems**

a. Select **Start > Settings > Control Panel**. The Control Panel window appears.

Note Make sure you can view all hidden files and folders. To set this option, select **Tools > Folder Options...** in the Control Panel window. Then click the **View** tab; set the **Show hidden files and folders** option, and click the **OK** button.

b. Double-click the **System** icon. The System Properties window appears.

c. Click the **Environment** tab. The Environment Variables including the `TEMP` variable will appear along with the corresponding paths for each variable.

Note By default, a silent install will not reboot your system.

VERITAS recommends that when you upgrade or patch a client or server, make sure no backup processes are currently running. However in rare circumstances a reboot may be required for the changes to take effect. To detect if a reboot is needed after you have run the silentcmd.cmd., locate the %TEMP%\NetBackup Install.log , search for the key words “in use”. If files are in use, a reboot is required.

To force a reboot when required during a silent install, modify the script (silentcmd.cmd) and remove this option, REBOOT="ReallySuppress" WARNING: This will reboot the system you are installing to without warning.

NetBackup Client Configuration

You can further configure the NetBackup client after installation by performing one of the following actions:

- To add servers or media servers, start the Backup, Archive, and Restore interface and from the **File** menu choose **Specify NetBackup Machines**.
- To display and change the client properties, start the Backup, Archive, and Restore interface and from the **File** menu, choose **NetBackup Client Properties**.
- To display and change the server properties, start the NetBackup Administration Console. Expand **Host Properties** and click on **Clients**. In the right pane, right-click on the client, and choose **Properties**.

All NetBackup servers that require access to your Windows client must be listed on the **Servers** tab in the above dialog.

For more information, refer to the *NetBackup User's Guide for Windows*.

Uninstalling NetBackup Client Software

▼ **To uninstall the NetBackup client software on Microsoft Windows clients**

1. Open the Windows Control Panel (select **Start**, **Settings**, and then **Control Panel**).
2. Select **Add/Remove Programs**.
3. Select **VERITAS NetBackup Client**.
4. Click the **Remove** button.

Installing UNIX NetBackup Client Software

You can install UNIX NetBackup client software either locally at the client computer or remotely from your UNIX NetBackup server. To have the ability to include a client in a policy, the software for the client type must first be loaded on the UNIX server.

Note If you are running NetBackup on a Windows NT, Windows 2000, Windows 2003 server computer, or if there is a firewall that prevents remote installation, you cannot push an install to a UNIX client. You must install UNIX clients locally.

Note The Macintosh OS X10.2.x clients are UNIX-based clients and as such, you should follow the UNIX client installation procedures that follow.

- Locally: you must install the client software locally if remote installation is not possible. Remote installation is not possible if your NetBackup server is a Windows NT, Windows 2000, or Windows 2003 computer or if there is a firewall that prevents remote installation.

  To install NetBackup locally on IBM zSeries Linux clients, you must transfer the contents of the NetBackup CD image to a location that is readable by the virtual Linux environment. This can be done by using FTP or NFS mounting commands.

- Remotely: you can *push* the client software from your UNIX NetBackup server to your UNIX client computers. This is the preferred method of installing. To push a UNIX client, the software for that type of UNIX computer must first be loaded onto your UNIX server and the UNIX client must be a true client and not a media or master server. If you did not choose to do this during the installation of your UNIX server, do so now by following the instructions provided in in the *NetBackup Installation Guide for UNIX*. Clients such as the IBM zSeries Linux may not have a locally mounted CD-ROM device, making it impossible to perform a standard local install. To install NetBackup to clients with no local CD-ROM drive, you must push the NetBackup installation from a UNIX master server. For instructions on how to install NetBackup on a secure client, refer to "To install NetBackup software on secure UNIX clients" on page 98. For instructions on how to install NetBackup on an unsecure client, refer to "To install NetBackup software on trusting UNIX clients" on page 95.

Note In a clustered environment, the capability to push client software is only available from the active node.

To initiate a backup or a restore from a UNIX client computer, the following graphical interfaces are available:

- Clients that are compatible with NetBackup-Java may use the NetBackup-Java interface (`jbpSA`). Refer to the *NetBackup Release Notes for UNIX and Windows* for a list of NetBackup-Java capable hosts.
- Clients that are not compatible with NetBackup-Java may use the `xbp` interface (except the Macintosh OS X 10.2.x). Refer to the *NetBackup Release Notes for UNIX and Windows* for a list of clients with `xbp` installed. In addition, for instructions on how to use the `xbp` interface, see the *NetBackup Backup, Archive, and Restore Getting Started Guide*.

Note For this release, the IBM zSeries Linux clients (Linux SuSe and Linux RedHat) do not support the NetBackup-Java Console or the xbp interface.

Note Macintosh OS X 10.2.x and FreeBSD are available through the `bp` interface or from a Solaris, HP-UX, AIX, Tru64, or Linux NetBackup client console using the `jbpSA` command.

Installing Client Software Locally

▼ To install client software locally

1. Insert the NetBackup CD-ROM into the drive on the client computer.

   a. HP-UX systems only: Because the NetBackup CD-ROM is Rockridge-formatted, the mounting instructions are slightly different. Refer to in the *NetBackup Installation Guide for UNIX* for specific instructions.

   b. Macintosh OS X 10.2.x systems only: you can access the CD-ROM from:

   ```
   /volumes/cd name
   ```

2. Change your working directory to the CD-ROM directory:

   ```
   cd cd_rom_directory
   ```

   Where *`cd_rom_directory`* is the path to the directory where you can access the CD-ROM. On some platforms, it may be necessary to mount the directory.

3. Start the install program.

   ```
   ./install
   ```

4. Choose option 2, **NetBackup Client Software**.

Note The binaries provided for the client OS levels represent the OS levels on which the binaries were compiled. Often the binaries will function perfectly on newer versions of the operating system. For example, Solaris 7 binaries also are used on the Solaris 8 level of the operating system.

The install script attempts to load the appropriate binaries for your system. If the script does not recognize the local OS, it will present choices to the user.

5. Follow the prompts to complete the installation.

6. *On HP-UX systems only*: to unmount the CD-ROM:
   - Run the `pfs_umount` command
   - Use the `kill` command to kill the following processes:

```
pfs_mountd
pfsd
pfs_mountd.rpc
pfsd.rpc
```

Installing Client Software Remotely

The following sections describe how to *push* the client software from your UNIX NetBackup server to your UNIX NetBackup clients. You can push the client software to either a trusting client or a secure client.

▼ To install NetBackup software on trusting UNIX clients

Note In a clustered environment, the capability to push client software is only available from the active node.

A *trusting* UNIX client is one that has an entry for the server in its `/.rhosts` file. The `/.rhosts` entries enable software installation, but are not necessary for correct operation of NetBackup software.

Note Add the trusting clients to a backup policy, if this has not already been done.

Note *For Macintosh OS X 10.2.x users*: By default, Macintosh OS X 10.2.x does not enable the remote shell daemon (`rshd`). You must enable this daemon to perform the following procedure successfully. You can enable `rshd` by removing the commenting in the "shell" line in the `/etc/inetd.conf` file and sending an `HUP` signal to the `inetd` process.

1. Start the NetBackup Administration Console.

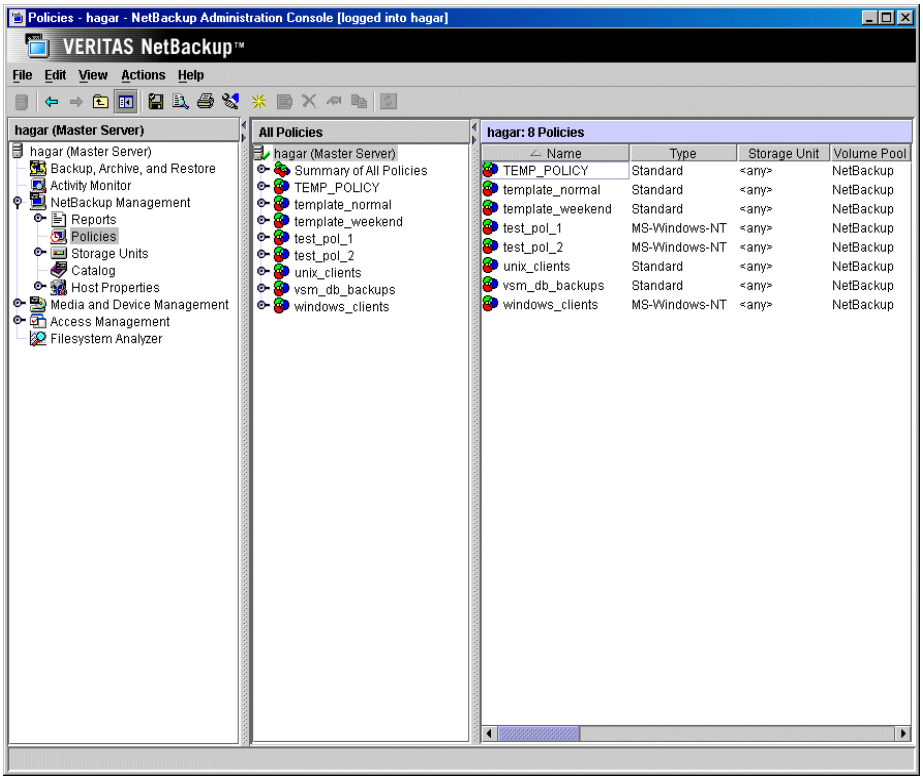
   In the Login dialog, type the name of the NetBackup server that contains the policy configuration with the clients.

   You can install the client software only from the NetBackup server that you specify in the Login dialog when starting the interface. The clients must be defined in a policy on this NetBackup server.

2. In the NetBackup Administration Console window, click on the **NetBackup Management** icon to show the available options.

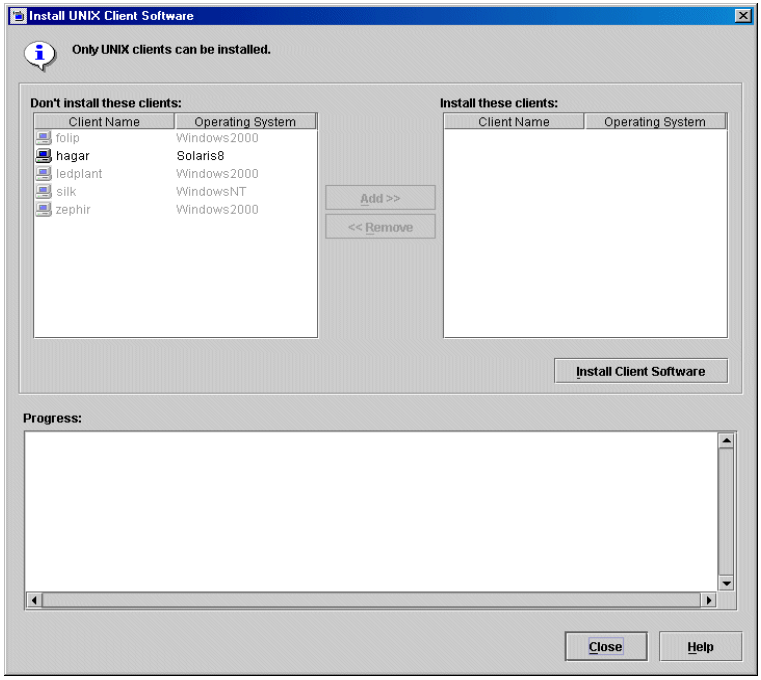
3. Click **Policies** in the left pane. The **All Policies** pane populates with a list of available policies.

4. Select the master server in the **All Policies** pane.



5. Select **Install UNIX Client Software** from the **Actions** menu.

   The Install UNIX Client Software dialog appears.



6. In the **Don't install these clients** list, select the clients you want to install and click **Add >>**.

   The clients are moved to the **Install these clients** list.

7. Click **Install Client Software** to start the installation.

   Client software installation can take a minute or more per client. NetBackup writes messages in the **Progress** box as the installation proceeds. If the installation fails on a client, NetBackup notifies you but keeps the client in the policy. You cannot stop the installation once it has started.

   During installation, NetBackup does the following:

   - Copies the client software from the `/usr/openv/netbackup/client` directory on the server to the `/usr/openv/netbackup` directory on the client, as long as the client is not a media or master server.
   - Adds the required entries to the client's `/etc/services` and `inetd.conf` files or `xinetd.d` directory as appropriate.

The only way to install client software to a different location on the client is to create the directory where you want the software to reside and then create `/usr/openv` as a link to that directory prior to installing software.

8. When the install is complete, click **Close**.

▼ To install NetBackup software on secure UNIX clients

As defined here, a *secure* UNIX client is one that does not have an entry for the NetBackup server in its `/.rhosts` file.

Note Add the secure clients to a backup policy, if this has not already been done.

Note *For Macintosh OS X 10.2.x users*: By default, Macintosh OS X 10.2.x does not enable the FTP daemon (`ftpd`). You must enable this daemon to perform the following procedure successfully. You can enable `ftpd` by checking **Allow FTP access** in the sharing pane of the **System Preferences** application.

1. Move software from the server to temporary space in the `/tmp` directory on the client by running the `install_client_files` script from the NetBackup server. To run this script, you must have a login ID and password that you can use to access the clients through ftp.

   To move software to only one client at a time, run:

   ```
   /usr/openv/netbackup/bin/install_client_files ftp client user
   ```

   To move software to all clients at once, run:

   ```
   /usr/openv/netbackup/bin/install_client_files ftp ALL user
   ```

   Where the options are defined as follows:

   - *client* is the hostname of the client.
   - *user* is the login id required by ftp on the client.
   - `ALL` specifies that you want to install all clients which are configured in any backup policy on the server.

   The `install_client_files` script prompts you for a password for each client if you do not have a `.netrc` file set up.

Note In a clustered environment, the capability to push client software is only available from the active node.

2. After the `install_client_files` script is done, the root user on each of the clients must run the `client_config` script to complete the installation:

```
sh /tmp/bp/bin/client_config
```

The `client_config` script installs the binaries and updates the `/etc/services` and `inetd.conf` files on the client or `xinetd.d` directory as appropriate.

Adding a UNIX Client Type After Initial Server Installation

If you add a new UNIX client type to your backup environment or forgot to select a UNIX client platform during your NetBackup installation, you must first load the NetBackup client software onto the NetBackup server as described below.

▼ To add a UNIX client type after initial server installation

Note In a clustered environment, the following steps should be performed on the active node.

1. Insert the NetBackup CD-ROM into the drive on the server.

   On HP-UX systems only: Because the NetBackup CD-ROM is Rockridge-formatted, the mounting instructions are slightly different. Refer to in the NetBackup Installation Guide for UNIXfor specific instructions.

2. Change your working directory to the CD-ROM directory:

   ```
   cd cd_rom_directory
   ```

   Where *`cd_rom_directory`* is the path to the directory where you can access the CD-ROM. On some platforms, it may be necessary to mount the directory.

3. Use the install program to load the client software onto the NetBackup server.

   ```
   ./install
   ```

4. Choose option 2, **NetBackup Client Software**.

5. Follow the prompts, selecting the additional client platforms that you want.

Note The binaries provided for the client OS levels represent the OS levels on which the binaries were compiled. Often the binaries will function perfectly on newer versions of the operating system. For example, Solaris 7 binaries also are used on the Solaris 8 level of the operating system.

6. Follow the prompts to complete the installation.

7. *On HP-UX systems only*: to unmount the CD-ROM:

- Run the `pfs_umount` command
- Use the `kill` command to kill the following processes:

```
pfs_mountd
pfsd
pfs_mountd.rpc
pfsd.rpc
```

8. You must now install the NetBackup client software on these additional client computers, as described earlier in this chapter. Refer to "Installing Client Software Remotely" on page 95.

Uninstalling UNIX NetBackup Client Software

If you are uninstalling NetBackup from a machine on which you have installed the NetBackup-Java Display Console, the Console will be also be removed when uninstalling NetBackup. You will need to reinstall the Console in order to continue using it on the machine.

▼ To uninstall UNIX NetBackup client software

1. Log on to the client system as the root user.

2. Remove the `/usr/openv` directory.

   - If `/usr/openv` is a physical directory, execute:

   ```
   rm -rf /usr/openv
   ```

   - If `/usr/openv` is a link, execute:

   a. `cd /usr/openv`

   Note Make sure you are at the proper location and verify that the subdirectories are what you would expect them to be before continuing to Step b. You do not want to remove the wrong directories. To verify your current location and the contents of that location, perform the following two steps before proceeding to Step b.

   ```
   pwd
   ls
   ```

   b. `rm -rf *`

   c. `cd /`

   d. `rm -f /usr/openv`

   Caution The `rm -f /usr/openv` command will also uninstall any add-on products installed on this machine.

3. Remove NetBackup entries in the `/etc/services` file, as follows:

   a. Edit the client's `/etc/services` file.

   b. Locate the lines marked by the following and remove them:

   ```
   # NetBackup services#
   ```

```
.....
# End NetBackup services #
# Media Manager services #
....
# End Media Manager services #
```

Note For Macintosh OS X 10.2.x systems, the NetBackup installer updates the `/services` directory of the Netinfo database with these entries. To uninstall NetBackup and its services from one of these clients, you must use the NetManager utility to remove `bpcd`, `bpjava-msvc`, `bprd`, `vnetd`, and `vopied` from the `/services` directory in the Netinfo database.

4. Remove the NetBackup entries in the `/etc/inetd.conf` file.

   a. Edit the client's `/etc/inetd.conf` file.

   b. Delete the lines for `bpcd`, `vnetd`, `vopied`, and `bpjava-msvc`.

5. Run the following two shell commands to cause `inetd` to read the updated `inetd.conf` (or `inetd.local`) file.

   a. Enter the following.

      For most UNIX clients:

      ```
      ps -ea | grep inetd
      ```

      For MacOS X 10.2.x and FreeBSD:

      ```
      ps -ax | grep inetd
      ```

   b. Run the `kill` command as follows. The process ID is the first number displayed in the output from the `ps` command.

      ```
      kill -1 process_ID
      ```

      The `ps` command options may vary from one client platform to another.

6. For NetBackup-Java capable clients running the NetBackup Administration Console for UNIX, remove the NetBackup-Java state data by executing the following:

   ```
   /bin/rm -rf /.nbjava
   /bin/rm -rf /.java/.userPrefs/vrts
   ```

Caution There should be no space between the slash "/" and the period "." of "/.nbjava". Adding a space between these characters removes all of your files starting from the root level.

7. Inform users of this machine that they can remove their `$HOME/.nbjava` and portions of `$HOME/.java` directories.

   The `$HOME/.nbjava` and `$HOME/.java` directories contain application state information (for example, table column order and size) that is saved when the user exits NetBackup-Java applications.

   The `common` subdirectory in `$HOME/.java/.userPrefs/vrts` can be removed.

8. If NetBackup Access Control is enabled, NetBackup creates several new files on clients and servers. For more information on NetBackup Access Control, please see the *NetBackup System Administrator's Guide, Volume II*. For more information on the VERITAS Security Services, including how to properly uninstall, please see the *VERITAS Security Subsystem Administrator's Guide*.

   These files can be divided into two separate categories: individual user files, and NetBackup application temporary files. NetBackup application temporary files were removed with NetBackup in a previous step. Users' cache files exist in their home directories, for example: `$HOME/.vxss`

   Inform those users that they can remove their `$HOME/.vxss` directory.

Installing Mac OS X 10.2.x Clients

The Macintosh OS X 10.2.x clients are UNIX-based clients that have the same installation requirements. To install these clients, you should follow the UNIX client installation procedures. Refer to "Installing UNIX NetBackup Client Software" on page 93.

NetBackup License Keys 8

This chapter contains basic information on entering license keys and also provides some questions and answers regarding license keys. For detailed information and procedures on how to administer license keys refer to the *NetBackup System Administration Guide for Windows, Volume I*.

NetBackup 5.1 Licenses

In previous versions of NetBackup there were separate licenses for both NetBackup DataCenter and NetBackup BusinesServer, for the server licenses, and the database agents and options. NetBackup 5.1 enables all existing permanent license keys being used by customers today, to remain valid for use with this release of NetBackup. However, it is important to understand how the previous NetBackup products, specifically NetBackup BusinesServer and NetBackup DataCenter, map to both of the server licenses as well as the database agents and options of NetBackup 5.1.

NetBackup 5.1 offers a NetBackup Enterprise Server and a NetBackup Server product. The NetBackup Enterprise Server is the next generation of the DataCenter product and the NetBackup Server is the evolution of the BusinesServer product. Therefore, the DataCenter and BusinesServer keys will, for the server licenses, turn on their respective next generation product. DataCenter server licenses, when used with NetBackup 5.1 media provides a NetBackup Enterprise Server product. The BusinesServer server licenses will update the customer into the Server product, when used with NetBackup 5.1 media.

As for the database agents and options license keys, the compatibly between NetBackup 3.4, 4.5, 5.0, and now 5.1 is a little different. The NetBackup 5.0 and 5.1 product line changes include a single database agent and options offering for both the NetBackup Enterprise Server and NetBackup Server offerings. In other words, there will not be separate license keys or separate pricing for each database agent or option in NetBackup 5.0 and 5.1. For example, there is just one Oracle Agent available for purchase to use with either the NetBackup Enterprise Server or NetBackup Server product.

Therefore, the NetBackup 3.4 and NetBackup 4.5 license keys for each database agent or option will turn on the same database agent or option when used with NetBackup 5.0 and 5.1 media. Using the Oracle Agent as an example, the NetBackup 4.5 DataCenter Oracle

Agent license key will turn on the NetBackup 5.0 Oracle Agent in a NetBackup 5.0 and 5.1 Enterprise Server environment. And a NetBackup 4.5 BusinesServer Oracle agent will turn on the NetBackup 5.0 Oracle agent in the NetBackup 5.0 and 5.1 Server environment.

Entering License Keys

During the installation of NetBackup on a master server, you are prompted to enter your product license key. During the installation procedure, you are directed to enter all of the license keys that you have. VERITAS recommends that you enter all of your license keys when you are prompted by the install script. However, if you did not enter all of your license keys, you can open the NetBackup Administration Console and select **Help > License Keys...** and then enter your keys at a later time, or use `get_license_key` on UNIX systems.

One of the most frequently asked questions that a users asks is, “which server should I enter my license keys if I did not enter all of my keys during the installation?” All product license keys must be entered on the master server. However, some features and products require the keys to also be installed on the media server. The following list identifies features of NetBackup that require keys to be installed on the media servers in addition to the master servers.

- NetBackup SAN Shared Storage Option (SSO)
- Library-based Tape Drives
- NetBackup Offhost Data Mover

Finally, customers can view, enter, and administer licenses from almost any server within a system. Because of this, if you are attempting to administer license keys remotely, you must be sure you are viewing the licenses of the system you intend to change to avoid adding or changing a license on the wrong server.

The following section contains some common questions that may help you understand how to manage your license keys.

Frequently Asked Questions

The following list contains questions that VERITAS customers have asked about managing license keys. If you are viewing this list using an online media format, you can click on a question and jump directly to that question and answer.

- "Is NetBackup's licensing the same as the licensing in other VERITAS products?"
- "Can I use NetBackup if all I have is a media/doc kit?"
- "What does the license key look like? What information does it contain?"
- "Is the license key serialized?"
- "Can I see reports on what keys I have?"
- "How do I enable options and agents?"
- "Should I save keys after they have been entered?"
- "What should I do if I have lost my license key(s)?"
- "How will large volume orders be handled?"
- "What about license keys for customers with site licenses?"
- "Will I need a license key to enable remote administrative consoles?"
- "Can a key be used multiple times?"
- "How will existing customers get keys?"
- "What if I do not get the right keys?"
- "What does an evaluation key enable?"
- "Will I be notified when an evaluation is about to expire?"
- "What happens when an evaluation key expires?"
- "Will backup configuration and catalog information be saved?"
- "How do I upgrade from an evaluation license to a permanent license?"

Is NetBackup's licensing the same as the licensing in other VERITAS products?

NetBackup is implementing the common licensing system that will eventually be used by all VERITAS products. This licensing system was developed in-house; it is not from a third party. However, please note that different VERITAS products have different requirements and our common licensing system provides considerable flexibility in what licensing features will be implemented in each product. For example, NetBackup will not have a node-locked licensing system, but other VERITAS products will.

Can I use NetBackup if all I have is a media/doc kit?

No. The media/doc kit by itself does not allow any access to NetBackup. You will always need a license key (either permanent or evaluation) to get up and running. License keys should always be delivered with the media/doc kit, so you should never find yourself with a media/doc kit and no key.

What does the license key look like? What information does it contain?

The key is a multi-digit alphanumeric string (for example:, 8EPP-ABCD-9XYZ-XYZ9-8881-VCF4-OIUF-AJDC). It contains information on whether the key is for NetBackup Server or NetBackup Enterprise Server, whether it is for a server, client, agent, or option (and which one), whether it is a permanent or evaluation key, and information about how and where the key was generated.

Is the license key serialized?

Yes, there is serialization information embedded in the key.

Can I see reports on what keys I have?

Yes, information about the keys is stored at the master server and can be accessed using a command line program (UNIX) or the NetBackup Administration Consoles (Windows and UNIX).

How do I enable options and agents?

You will be prompted to enter all keys for options and agents at the time you install NetBackup. If you purchase an agent or option at a later date, you can enter new license keys using the command line and NetBackup Administration Consoles referenced above.

Many options and agents will require you to have your original NetBackup distribution CDs because additional binaries will need to be installed. You should always keep your NetBackup CDs in a safe or accessible place.

Should I save keys after they have been entered?

Yes, copies of the keys should always be stored in a secure place.

What should I do if I have lost my license key(s)?

VERITAS retains a record of all keys issued to VERITAS customers. Customers who lose their license key(s) can call Order Management to get copies of their keys.

For Americas, Japan, PacRim, Australia:
Tel: 650.318.4265 FAX: 650.335.8428
For Europe, Middle East and Africa:
Tel: 00.353.61.365232 FAX: 00.353.61.365223

If you have purchased NetBackup from a VERITAS partner, contact that partner for information on your key.

How will large volume orders be handled?

We recognize that many NetBackup installations are very large, and entering long license keys multiple times can be tedious and time-consuming. Therefore we have provided the option for customers who are placing volume orders to request a single key for each type of NetBackup component purchased. For example, a customer who is ordering 50 Lotus Notes agents can get a single key, with a certificate stating that the key may be used for 50 Lotus Notes licenses. Even site licenses, with unrestricted use for specific NetBackup agents or options, can be handled in this manner.

Note You will still need a unique key for each type of NetBackup component purchased—NetBackup server, Lotus Notes agent, NDMP option, UNIX client, and so forth.

What about license keys for customers with site licenses?

Site licenses are handled the same way that large volume orders are, however, instead of the certificate stating that the license key is good for X number of copies of, for example, the Lotus Notes agent, the certificate states that the license key is good for unlimited copies of the Lotus Notes agent.

Will I need a license key to enable remote administrative consoles?

NetBackup enables customers to install remote administrative consoles. There is no special license key required.

Can a key be used multiple times?

Yes, the keys may be used multiple times. However, you are still legally bound to only install and use the number of NetBackup servers, clients, agents, and options for which you have purchased licenses.

How will existing customers get keys?

All NetBackup customers who have current maintenance contracts with VERITAS automatically receive the latest version NetBackup. You receive the NetBackup Enterprise Server or NetBackup Server media/doc kit, and license keys for every NetBackup component that our records indicate you have purchased licenses for.

If your maintenance is through a VERITAS partner, upgrade through the partner. Contact the partner for more details.

What if I do not get the right keys?

If you believe you are entitled to a key that you did not receive, you should contact the Order Management number provided on your license key certificate.

Note VERITAS Technical Support will *not* issue permanent keys. This can only be done through VERITAS Order Management. However, Technical Support is prepared to provide temporary one-month keys to you to keep you up and running while any issue regarding permanent license keys is resolved.

What does an evaluation key enable?

The evaluation key enables unrestricted use of NetBackup Server or NetBackup Enterprise Server, as well as any of their options and agents, for a predetermined period of time.

Will I be notified when an evaluation is about to expire?

You can find information concerning the expiration date of a key in the NetBackup Administration Console by clicking **Help > About NetBackup Administration Console**, by using the `get_license_key` command, or looking in your system logs.

What happens when an evaluation key expires?

The daemons are shut down, and when you attempt to use the product you are informed that the evaluation period has expired.

Will backup configuration and catalog information be saved?

Yes. Customers who add a permanent license key to an evaluation version of NetBackup have immediate access to their catalog and configuration information.

How do I upgrade from an evaluation license to a permanent license?

It is easy. When you purchase a permanent license, add the license to NetBackup and you are ready to go. All the configuration information and catalog data from your evaluation version is retained.

Related Documents A

This appendix lists and describes the technical manuals that relate to NetBackup.

The CD-ROM for each NetBackup product has a copy of the related manuals in Adobe Portable Document Format (PDF). The PDF files are either in the root directory or the `Doc` directory on the CD-ROM.

To view the PDF copies of the manuals, you need an Adobe Acrobat reader, which you can download from the Adobe web site at `http://www.adobe.com`. VERITAS assumes no responsibility for the correct installation or use of the reader.

Release Notes

- *VERITAS NetBackup Release Notes for UNIX and Windows*

  NetBackup_Release_Notes.pdf

  Provides important information about NetBackup on UNIX- and Windows-based servers, such as the platforms and operating systems that are supported and operating notes that may not be in the NetBackup manuals or the online help.

- *VERITAS NetBackup Storage Migrator Release Notes for UNIX*

  StoMigrator_ReleaseNotes_UNIX.pdf

  Provides information such as the platforms and operating systems that are supported and operating notes that may not be in the Storage Migrator manuals.

Installation Guides

- *VERITAS NetBackup Installation Guide for Windows*

  NetBackup_Install_Win.pdf

  Explains how to install NetBackup software on Windows-based platforms.

- *VERITAS Security Services Installation Guide*

  VxSS_InstallGuide.pdf on the VERITAS Security Services CD-ROM.

Explains how to install and configure the VERITAS Security Services.

System Administrator's Guides - Basic Product

- *VERITAS NetBackup System Administrator's Guide for Windows, Volume I*

  NetBackup_AdminGuideI_WinServer.pdf

  Explains how to configure and manage NetBackup on a Windows server, including managing storage units, backup policies, catalogs, and host properties.

- *VERITAS NetBackup System Administrator's Guide for Windows, Volume II*

  NetBackup_AdminGuideII_WinServer.pdf

  Explains additional NetBackup features such as access control and enhanced authorization and authentication. The guide also discusses using NetBackup with AFS and Intelligent Disaster Recovery (IDR).

- *VERITAS NetBackup Media Manager System Administrator's Guide for Windows*

  MediaMgr_AdminGuide_Win.pdf

  Explains how to configure and manage the storage devices and media on Windows servers running NetBackup. Media Manager is part of NetBackup.

- *VERITAS Security Services Administrator's Guide*

  VxSS_AdminGuide.pdf on the VERITAS Security Services CD-ROM.

  Explains how to configure and manage core security mechanisms, including authentication, protected communications, and authorization.

System Administrator's Guides - Agents and Options

- *VERITAS NetBackup Advanced Client System Administrator's Guide*

  NetBackup_AdminGuide_AdvancedClient.pdf

  Explains how to install, configure, and use NetBackup Advanced Client. Advanced Client combines the features of snapshot backup, FlashBackup, BLI Agent, offhost backup, and Instant Recovery.

- *VERITAS NetBackup Advanced Client Quick Start Guide*

  NetBackup_QuickStart_AdvancedClient.pdf

  Provides first-time instructions for installing and configuring Advanced Client.

- *VERITAS NetBackup for DB2 System Administrator's Guide for Windows*

NetBackup_AdminGuide_DB2_Win.pdf

Explains how to install, configure, and use NetBackup for DB2.

- *VERITAS NetBackup Encryption System Administrator's Guide*

  Explains how to install, configure, and use NetBackup encryption software to provide file-level encryption of backups and archives.

- *VERITAS NetBackup for Informix System Administrator's Guide*

  NetBackup_AdminGuide_Informix.pdf

  Explains how to install, configure, and use NetBackup for Informix to back up and restore Informix databases that are on a UNIX NetBackup client.

- *VERITAS NetBackup for Lotus Notes System Administrator's Guide for Windows*

  NetBackup_AdminGuide_LotusNotes_Win.pdf

  Explains how to install, configure, and use NetBackup for Lotus Notes to back up and restore Lotus Notes databases and transaction logs on a Windows client.

- VERITAS *NetBackup for Microsoft Exchange Server System Administrator's Guide*

  NetBackup_AdminGuide_MSExchg_Win.pdf

  Explains how to configure and use NetBackup for Microsoft Exchange Server to perform online backups and restores of Microsoft Exchange Server.

- *VERITAS NetBackup for Microsoft SQL Server System Administrator's Guide for Windows*

  NetBackup_AdminGuide_MSSQL_Win.pdf

  Explains how to install, configure, and use NetBackup for Microsoft SQL Server to back up and restore Microsoft SQL Server databases and transaction logs.

- *VERITAS NetBackup for NDMP System Administrator's Guide*

  NetBackup_AdminGuide_NDMP.pdf

  Explains how to install, configure, and use NetBackup for NDMP to control backups on an NDMP host.

- *VERITAS NetBackup for Oracle System Administrator's Guide for Windows*

  NetBackup_AdminGuide_Oracle_Win.pdf

  Explains how to install, configure, and use NetBackup for Microsoft Oracle to back up and restore Oracle databases that are on a Windows NetBackup Client.

- *VERITAS NetBackup for SAP System Administrator's Guide for Windows*

  NetBackup_AdminGuide_SAP_Win.pdf

  Explains how to install, configure, and use NetBackup for SAP on Windows-based servers.

- *VERITAS NetBackup for SYBASE System Administrator's Guide on Windows*

  NetBackup_AdminGuide_Sybase_Win.pdf

  Explains how to install, configure, and use NetBackup for SYBASE to back up and restore Sybase databases that are on a Windows NetBackup client.

- *VERITAS NetBackup Global Data Manager System Administrator's Guide for UNIX and Windows*

  NetBackup_AdminGuide_GDM.pdf

  Explains how to install, configure, and use Global Data Manager (GDM) for NetBackup on UNIX and Windows-based operating systems.

- *VERITAS NetBackup High Availability System Administrator's Guide*

  NetBackup_AdminGuide_HighAvailability.pdf

  This guide provides information on how to install and configure NetBackup to work with different clustering solutions.

- *VERITAS NetBackup Vault System Administrator's Guide for UNIX and Windows*

  NetBackup_AdminGuide_Vault.pdf

  Describes how to configure and use logical vaults and profiles to duplicate backups, perform catalog backups, eject media, and generate reports.

- *VERITAS NetBackup Advanced Reporter System Administrator's Guide for UNIX and Windows*

  NetBackup_AdminGuide_AdvancedReporter.pdf

  Explains how to install, configure, and use NetBackup Advanced Reporter to monitor and report on NetBackup activities.

- *VERITAS NetBackup Storage Migrator System Administrator's Guide for UNIX*

  StoMigrator_AdminGuide_UNIX.pdf

  Explains how to configure and manage Storage Migrator on a UNIX system.

- *VERITAS NetBackup NetWare Media Server Option System Administrator's Guide for UNIX and Windows*

  NetBackup_AdminGuide_NetWareServer.pdf

  This comprehensive manual provides detailed information and procedures for installing, configuring, and using the VERITAS NetBackup NetWare Media Server Option.

User's Guides

- *VERITAS NetBackup Backup, Archive, and Restore Getting Started Guide*

  NetBackup_BAR_GS_Guide.pdf

  Explains how to use the NetBackup Backup, Archive, and Restore interface to perform basic backup and restore operations for UNIX and Windows systems.

- *VERITAS NetBackup Vault Operator's Guide for UNIX and Windows*

  NetBackup_OperGuide_Vault.pdf

  Describes procedures for sending tapes offsite, receiving tapes on site, and running reports on offsite media and vault jobs.

- *VERITAS NetBackup Administrator's Guide for Novell NetWare Client*

  NetBackup_AdminGuide_NetWare_Client.pdf

  Explains how to install and use the NetBackup's NetWare Client software. With the NetWare Client, full and incremental backups can be scheduled to occur automatically and unattended under the control of the NetBackup master server. The NetWare Client also provides two methods for performing user-directed backups and restores: Target, which uses a character-based, menu-driven interface running on the NetWare server, and NonTarget, which uses the NetBackup for NetWare NonTarget Browser that is installed and run from a Windows computer.

Troubleshooting Guide

- *VERITAS NetBackup Troubleshooting Guide for UNIX and Windows*

  NetBackup_Troubleshoot_Guide.pdf

  Provides troubleshooting information for UNIX- and Windows-based NetBackup products, including Media Manager.

NetBackup Commands

- *VERITAS NetBackup Commands for Windows*

  NetBackup_Commands_Win.pdf

  Describes NetBackup and Media Managercommands and processes that can be run from a Windows command prompt.

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