Veritas NetBackup™ Getting Started Guide

Release 8.1

VERITAS™

Veritas NetBackup™ Getting Started Guide

Last updated: 2018-02-16

Document version:NetBackup 8.1

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Veritas Services and Operations Readiness Tools (SORT)

Veritas Services and Operations Readiness Tools (SORT) is a website that provides information and tools to automate and simplify certain time-consuming administrative tasks. Depending on the product, SORT helps you prepare for installations and upgrades, identify risks in your datacenters, and improve operational efficiency. To see what services and tools SORT provides for your product, see the data sheet:

https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

Contents

NetBackup Getting Started Guide

About NetBackup

NetBackup provides a complete, flexible data protection solution for a variety of platforms. The platforms include Microsoft Windows, UNIX, and Linux systems.

NetBackup lets you back up, archive, and restore files, folders or directories, and volumes or partitions that reside on your computer.

NetBackup includes the server and the client software as follows:

- Server software resides on the computer that manages the storage devices.

  - The master server manages backups, archives, and restores. You configure backup policies on the master server to determine the computers (clients) and the files that you want to back up. The master server is also responsible for media and device selection for NetBackup. The master server contains the NetBackup catalog. The catalog contains the internal databases that contain information about NetBackup backups and configuration.

  - Media servers provide additional storage by allowing NetBackup to use the storage devices that are attached to them. Media servers can also increase performance by distributing the network load. Media servers can also be referred to as device hosts.

- Client software resides on the computers that contain data to back up. (Servers also contain client software and can be backed up.)

NetBackup also accommodates multiple servers that work together under the administrative control of one NetBackup master server (see Figure 1).

Figure 1   Example of a NetBackup environment

NetBackup master server

NetBackup media servers
Disk and tape storage by multiple vendors
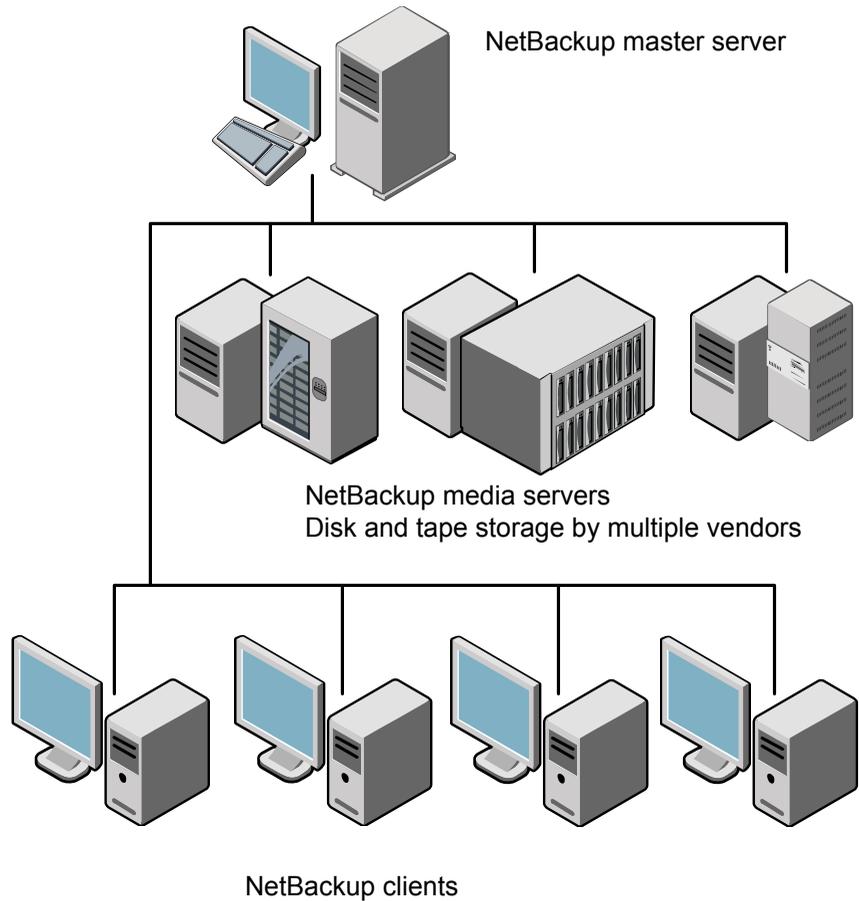
NetBackup clients

See "About Veritas Services and Operations Readiness Tools" on page 10.

How a NetBackup system works

During a backup or an archive, the client sends backup data across the network to a NetBackup server. The NetBackup server manages the type of storage that is specified in the backup policy.

During a restore, users can browse, then select the files and directories to recover. NetBackup finds the selected files and directories and restores them to the disk on the client. Refer to the *NetBackup Backup, Archive, and Restore Getting Started Guide* for more information about restores.

How to make a NetBackup system work for you

Policies determine when backups occur. Policies include schedules for automatic, unattended backups of the NetBackup clients (server-directed backups). Policies also define when you can back up and restore files manually (user-directed operations). Refer to the *NetBackup Administrator's Guide for UNIX, Windows, and Linux, Volume I* for more information on policies.

NetBackup administrators can set up periodic or calendar-based schedules to perform automatic, unattended backups for clients across a network. An administrator can carefully schedule backups to achieve systematic and complete backups over a period of time, and optimize network traffic during off-peak hours.

The backups can be full or incremental. Full backups back up all client files. Incremental backups back up only the files that have changed since the last backup.

The NetBackup administrator can allow users to back up, restore, or archive the files from their computer. (An archive operation backs up a file, then deletes the original file from the source disk if the backup is successful.)

About NetBackup software availability

NetBackup 8.1 is available in the following formats:

- DVD media kit
  All necessary software and documentation files are provided on several DVDs.
  See "About the NetBackup media kit" on page 7.

- Electronic Software Distribution (ESD) images
  The DVD image files are posted and available for download on the **MyVeritas** website.
  See "About the NetBackup Electronic Software Distribution (ESD) images" on page 9.

About the NetBackup media kit

The media kit includes a DVD for each supported UNIX platform or operating system and one DVD for Windows. The label on each DVD provides a brief description of its contents. Printed materials in the kit include a copy of the *NetBackup Getting Started Guide*.

Table 1 describes the contents of each DVD.

Table 1   NetBackup 8.1 DVD contents

Platform OS	Contents
AIX 64-bit	Server and supported options
HP-UX IA64	Server and supported options
Linux RedHat x86_64	Server and supported options
Linux SUSE x86_64	Server and supported options
Solaris SPARC64	Server and supported options
Solaris x86-64	Server and supported options
Windows	■ Server and supported options ■ All x64 clients
Linux zSeries RedHat x64	Media server and supported options
Linux zSeries SUSE x64	Media server and supported options
UNIX clients 1	■ AIX ■ HP PA-RISC and IA64 ■ Solaris SPARC and X86
UNIX clients 2	All Linux platforms
Clients in LiveUpdate format 1	■ AIX ■ HP IA64 ■ All Linux platforms ■ Solaris SPARC and X86
Clients in LiveUpdate format 2	■ HP PA-RISC ■ All Windows platforms
OpsCenter for Windows	All Windows platforms
OpsCenter for UNIX/Linux	All UNIX/Linux platforms
OpenVMS (CD format)	NetBackup Client for OpenVMS

Note: The NetBackup vCenter plug-in for ESX is available electronically from the **MyVeritas** download site. It is free to customers under maintenance contract. An e-mail with access information to the **MyVeritas** download site was sent when NetBackup 7.6.1 became generally available. More information is available.

See "About the NetBackup Electronic Software Distribution (ESD) images" on page 9.

About the NetBackup Electronic Software Distribution (ESD) images

The ESD images for NetBackup 8.1 are available for download from the **MyVeritas** webpage. The images adhere to a 1.8G size limitation.

To ensure the accuracy of the ESD download, some of the product images have been split into smaller, more manageable files. Before you uncompress any file, you must first join the split image files that you can identify as `1 of 2` and `2 of 2`. A `Download Readme.txt` file on **MyVeritas** describes how to join the files together.

See "About NetBackup software availability" on page 7.

See "About the NetBackup media kit" on page 7.

About the NetBackup documentation

The NetBackup documentation is not included on the DVDs or in the ESD images. You can access and download NetBackup documentation from the following website:

http://www.veritas.com/docs/DOC5332

To view the PDF copies of the manuals, you need Adobe Acrobat reader. You can download a copy of this product from the Adobe website at the following URL:

http://www.adobe.com

Veritas assumes no responsibility for the correct installation or use of the reader.

About NetBackup license requirements

To install NetBackup master server or media server software, you must enter a NetBackup product license.

To obtain licenses, you must order a license SKU when you order your NetBackup products.

After you place your order, Veritas sends you an email with a license certificate that includes the following information:

List of NetBackup licenses purchased	This list includes all of the licenses for the products that you ordered.
	Keep this list in a secure location. You may be asked for a product license if you ever need to contact technical support for assistance.
Serial number for access to download NetBackup products	Instead of a DVD media kit, you can use this serial number to download the Electronic Software Distribution (ESD) images for NetBackup product installation.
	Go to the following website and enter this serial number to download the ESD images to your system:
	http://my.veritas.com

When you install NetBackup, Veritas recommends that you enter all other product licenses on the master server when you are prompted. Although you can add these licenses later, it is easier to enter them when you install the master server software.

For detailed information on how to administer NetBackup licenses, refer to the *NetBackup Administrator's Guide, Volume I*.

http://www.veritas.com/docs/DOC5332

About Veritas Services and Operations Readiness Tools

Veritas Services and Operations Readiness Tools (SORT) is a robust set of standalone and web-based tools that support Veritas enterprise products. For NetBackup, SORT provides the ability to collect, analyze, and report on host configurations across UNIX/Linux or Windows environments. This data is invaluable when you want to assess if your systems are ready for an initial NetBackup installation or for an upgrade.

Access SORT from the following webpage:

https://sort.veritas.com/netbackup

Once you get to the SORT page, more information is available as follows:

- **Installation and Upgrade Checklist**
  Use this tool to create a checklist to see if your system is ready for a NetBackup installation or an upgrade. This report contains all the software and the hardware compatibility information specific to the information provided. The report also includes product installation or upgrade instructions, as well as links to other references.

- **Hot fix and EEB Release Auditor**

  Use this tool to find out whether a release that you plan to install contains the hot fixes that you need.

- **Custom Reports**

  Use this tool to get recommendations for your system and Veritas enterprise products.

- **NetBackup Future Platform and Feature Plans**

  Use this tool to get information about what items Veritas intends to replace with newer and improved functionality. The tool also provides insight about what items Veritas intends to discontinue without replacement. Some of these items include certain NetBackup features, functionality, 3rd-party product integration, Veritas product integration, applications, databases, and the OS platforms.

Help for the SORT tools is available. Click **Help** in the upper right corner of the SORT home page. You have the option to:

- Page through the contents of the help similar to a book

- Look for topics in the index

- Search the help with the search option

Recommended SORT procedures for new installations

Veritas recommends new NetBackup users perform the three procedures that are listed for an initial introduction to SORT. The tool has many other features and functions, but these serve as a good introduction to SORT. In addition, the procedures provide a helpful base of knowledge for other SORT functionality.

Table 2

Procedure	Details
Create a Veritas Account on the SORT webpage	See "To create a Veritas Account on the SORT page" on page 12.
Create generic installation reports	See "To create a generic installation checklist" on page 12.
Create system-specific installation reports	See "To create a system-specific installation report for Windows" on page 13.
	See "To create a system-specific installation report for UNIX or Linux" on page 14.

To create a Veritas Account on the SORT page

1   In your web browser, navigate to:

https://sort.veritas.com/netbackup

2   In the upper right corner, click **Login**, then click **Register now**.

3   Enter the requested login and contact information:

Email address	Enter and verify your email address
Password	Enter and verify your password
First name	Enter your first name
Last name	Enter your last name
Company name	Enter your company name
Country	Enter your country
Preferred language	Select your preferred language
CAPTCHA text	Enter the displayed CAPTCHA text. If necessary, refresh the image.

4   Click **Submit**.

5   When you receive your login information, you can log into SORT and begin uploading your customized information.

To create a generic installation checklist

1   In your web browser, navigate to:

https://sort.veritas.com/netbackup

2   Find and select the **Installation and Upgrade Checklist** widget.

3 Specify the requested information

Product	Select the appropriate product from the drop-down menu. For NetBackup select **NetBackup Enterprise Server** or **NetBackup Server**.
Product version you are installing or upgraded to	Select the correct version of NetBackup. The most current version is always shown at the top of the list.
Platform	Select the operating system that corresponds to the checklist you want generated.
Processor	Select the correct processor type for your checklist.
Product version you are upgrading from (optional)	For new installations, do not make any selections. For upgrades, you can select the currently installed version of NetBackup.

4 Click **Generate Checklist**.

5 A checklist corresponding to your choices is created. You can modify your selections from this screen, and click **Generate Checklist** to create a new checklist.

You can save the resulting information as a PDF. Numerous options are available for NetBackup and many of them are covered in the generated checklist. Please spend time reviewing each section to determine if it applies to your environment.

To create a system-specific installation report for Windows

1 Go to the SORT website:

https://sort.veritas.com/netbackup

2 In the **Installation and Upgrade** section, select **Installation and Upgrade custom reports by SORT data collectors**.

3 Select the **Data Collectors** tab

4 Select the radio button for **Graphical user interface** and download the correct data collector for your platform.

The data collector is OS-specific. To collect information about Windows computers, you need the Windows data collector. To collect information about UNIX computers, you need the UNIX data collector.

5 Launch the data collector after it finishes downloading.

6 On the **Welcome** screen, select **NetBackup** from the product family section and click **Next**.

7 On the **System Selection** screen, add all computers you want analyzed. Click **Browse** to see a list of computers you can add to the analysis. Veritas recommends starting the tool with an administrator or a root account.

8 When all systems are selected, review the **System names** section and click **Next**.

9 In the **Validation Options** screen, under **Validation options**, select the version to which you plan to upgrade.

10 Click **Next** to continue

11 The utility performs the requested checks and displays the results. You can upload the report to My SORT, print the results, or save them. Veritas recommends that you upload the results to the My SORT website for ease of centralized analysis. Click **Upload** and enter your My SORT login information to upload the data to My SORT.

12 When you are finished, click **Finish** to close the utility.

To create a system-specific installation report for UNIX or Linux

1 Go to the SORT website:

https://sort.veritas.com/netbackup

2 In the **Installation and Upgrade** section, select **Installation and Upgrade custom reports by SORT data collectors**.

3 Select the **Data Collector** tab.

4 Download the appropriate data collector for your platform.

The data collector is OS-specific. To collect information about Windows computers, you need the Windows data collector. To collect information about UNIX computers, you need the UNIX data collector.

5 Change to directory that contains downloaded utility.

6 Run `./sortdc`

The utility performs checks to confirm the latest version of the utility is installed. In addition, the utility checks to see it has the latest data. The utility then lists the location of the log file for this session.

7 If requested, press **Enter** to continue.

8 Select the **NetBackup Family** at the **Main Menu**.

9 Select **Installation/Upgrade report** when prompted **What task do you want to accomplish?**

You can select multiple options by separating your response with commas.

10 Specify the system or systems you want included in the report.

If you previously ran a report on the specified system, you may be prompted to run the report again. Select **Yes** to re-run the report.

The utility again lists the location of the log files for the session.

The progress of the utility is displayed to the screen.

11 Specify **NetBackup** when prompted for the product you want installation or upgrade reports.

12 Enter the number that corresponds to the version of NetBackup you want to install.

The utility again lists the location of the log files for the session.

The progress of the utility is displayed to the screen.

13 The utility prompts you to upload the report to the SORT website if you want to review the report online. The online report provides more detailed information than the text-based on-system report.

14 When your tasks are finished, you can exit the utility. You have the option to provide feedback on the tool, which Veritas uses to make improvements to the tool.

Recommended SORT procedures for upgrades

Veritas recommends current NetBackup users perform the three procedures that are listed for an initial introduction to SORT. The tool has many other features and functions, but these serve as a good introduction to SORT for users who already use NetBackup. In addition, the procedures provide a helpful base of knowledge for other SORT functionality.

Table 3

Procedure	Details
Create a Veritas Account on the SORT webpage	See "To create a Veritas Account on the SORT page" on page 12.

Table 3   *(continued)*

Procedure	Details
Create a system-specific upgrade report	See "To create a system-specific installation report for Windows" on page 13. See "To create a system-specific installation report for UNIX or Linux" on page 14.
Review the future platform and feature plans. Review the hot fix and emergency engineering binary release auditor information.	See "To review future platform changes and feature plans" on page 16. See "To review hot fix and emergency engineering binary information" on page 16.

To review future platform changes and feature plans

1   In your web browser, navigate to:

https://sort.veritas.com/netbackup

2   Find and select the **NetBackup Future Platform and Feature Plans** widget.

3   Select **Display Information**.

4   Review the information provided

5   Optional - sign in to create notification - Click **Sign in and create notification**.

To review hot fix and emergency engineering binary information

1   In your web browser, navigate to:

https://sort.veritas.com/netbackup

2   Find and select the **NetBackup Hot Fix and EEB Release Auditor** widget.

3   Enter the hot fix or emergency engineering binary (EEB) information.

4   Click **Search**.

5   The new page shows a table with the following columns:

Hot fix of EEB Identifier	Shows the hot fix or EEB number that was entered on the previous screen.
Description	Displays a description of the problem that is associated with the hot fix or EEB.
Resolved in Versions	Provides the version of NetBackup where this issue is resolved.

Installation and upgrade requirements for UNIX and Linux

Table 4 describes the requirements to prepare your UNIX and Linux systems for NetBackup installation. Use this table as a checklist to address each item.

For the most up-to-date information about installation requirements, Veritas recommends use of the SORT website. More information about SORT is available.

See "About Veritas Services and Operations Readiness Tools" on page 10.

Table 4   NetBackup installation and upgrade requirements for UNIX and Linux

Check	Requirement	Details
	Operating System	■ For a complete list of compatible UNIX and Linux operating systems, refer to the *Software Compatibility List (SCL)* at the following website: http://www.netbackup.com/compatibility https://sort.veritas.com/netbackup
	Memory	■ Master servers in a production environment with several database agents enabled should have a minimum of 16 GB of memory and four cores each. ■ Media servers in a production environment with several database agents enabled should have a minimum of 4 GB of memory each. ■ Any client in a production environment should have a minimum of 512 MB of memory. ■ For reasonable performance of the NetBackup interfaces, you need 512 MB of RAM. Of that space, 256 MB must be available to the interface program (jnbSA or jbpSA). For additional information about memory requirements, refer to the *NetBackup Backup Planning and Performance Tuning Guide*. http://www.veritas.com/docs/DOC5332

| | **Table 4** | NetBackup installation and upgrade requirements for UNIX and Linux *(continued)* |

Check	Requirement	Details
	Disk space	■ The exact amount of space that is required depends on the hardware platform. More information about this topic is available. *NetBackup Release Notes for 8.1* http://www.veritas.com/docs/DOC5332 ■ NetBackup catalogs contain information about your backups that become larger as you use the product. The disk space that the catalogs require depends primarily on the following aspects of your backup configuration: 　■ The number of files that are backed up. 　■ The frequency of your backups. 　■ The amount of time that you set to retain your backup data. If space is an issue, you can install NetBackup on an alternate file system. The installation lets you select an alternate install location, and creates the appropriate link from `/usr/openv`. **Note:** The value for disk space is for initial installation only. The NetBackup catalog requires considerably more space once the master server is placed in a production environment. For additional information on sizing requirements for the NetBackup catalog, refer to the *NetBackup Backup Planning and Performance Tuning Guide*. http://www.veritas.com/docs/DOC5332
	General requirements	■ Ensure that the `gzip` and the `gunzip` commands are installed on the local system. The directories where these commands are installed must be part of the root user's path environment variable setting. ■ All NetBackup installation DVDs or ESD images, appropriate licenses, and the root password for all servers. ■ A server of a supported hardware type that runs a supported version of its operating system (with applicable patches), adequate disk space, and supported peripherals. For details on these requirements, refer to the *NetBackup Release Notes*. http://www.veritas.com/docs/DOC5332 ■ All NetBackup servers must recognize and be recognizable by their client systems. In some environments, this means that each must be defined in the other's `/etc/hosts` file. Other environments may use the Network Information Service (NIS) or Domain Name Service (DNS). ■ The minimum screen resolution configuration is 1024x768, 256 colors.

Table 4 NetBackup installation and upgrade requirements for UNIX and Linux *(continued)*

Check	Requirement	Details
	Clustered systems	■ Ensure that each node in the NetBackup cluster can run the `ssh` command or its equivalent. The root user must be able to perform a remote logon to each node in the cluster without entering a password. This remote logon is necessary for installation and configuration of the NetBackup server and any NetBackup agents and options. After installation and configuration are complete, it is no longer required. ■ You must install, configure, and start the cluster framework before you install NetBackup. ■ You must have defined a virtual name using DNS, NIS, or the `/etc/hosts` file. The IP address is defined at the same time. (The virtual name is a label for the IP address.) ■ Begin the upgrade from the active node, and then upgrade the inactive nodes. More information about cluster requirements is available. *Veritas NetBackup Clustered Master Server Administrator's Guide* http://www.veritas.com/docs/DOC5332
	NFS compatibility	Veritas does not support installation of NetBackup in an NFS-mounted directory. File locking in NFS-mounted file systems can be unreliable.
	Kernel reconfiguration	For some peripherals and platforms, kernel reconfiguration is required. For more details, see the *NetBackup Device Configuration Guide*. http://www.veritas.com/docs/DOC5332
	Red Hat Linux	For Red Hat Linux, NetBackup requires server networking.
	Other backup software	Veritas recommends that you remove any other vendor backup software currently configured on your system before you install this product. Other vendor backup software can negatively affect how NetBackup installs and functions.

	Table 4	NetBackup installation and upgrade requirements for UNIX and Linux *(continued)*

Check	Requirement	Details
	Web Services	Beginning with NetBackup 8.0, the NetBackup master server includes a configured Tomcat web server to support critical backup operations. This web server operates under user account elements with limited privileges. These user account elements must be available on each master server (or each node of a clustered master server). You must create these required account elements before installation. More information is available:
		See "NetBackup master server web server user and group creation" on page 29.
		Note: Veritas recommends that you save the details of the user account that you use for the NetBackup Web Services. A master server recovery requires the same NetBackup Web Services user account and credentials that were used when the NetBackup catalog was backed up.
		Note: If the NetBackup PBX is running in secure mode, please add the web service user as authorized user in PBX. More information about determining PBX mode and how to correctly add users is available.
		http://www.veritas.com/docs/000115774
		By default, the UNIX installation script attempts to associate the web server with user account `nbwebsvc` and group account `nbwebgrp`. You can override these default values with the NetBackup installation answer file. You must populate the NetBackup installation answer file on the target host before you start the UNIX installation script. Populate the NetBackup installation answer file with custom web server account names as shown.
		1 Log in to the server as root.
		2 Open the file /tmp/NBInstallAnswer.conf with your preferred text editor. Create the file if it does not exist.
		3 Override the default web server user account name by adding the line shown:
		`WEBSVC_USER=custom_user_account_name`
		4 Override the default web server group account name by adding the line shown:
		`WEBSVC_GROUP=custom_group_account_name`
		5 Save and close the file.

Installation and upgrade requirements for Windows and Windows clusters

Table 5 describes the requirements to prepare your Windows systems for NetBackup installation. Use this table as a checklist to address each item.

For the most up-to-date information about installation requirements, Veritas recommends use of the SORT website. More information about SORT is available.

See "About Veritas Services and Operations Readiness Tools" on page 10.

Caution: Veritas supports moving the NetBackup catalog to a non-default location on a Windows cluster after installation or upgrade. Before any upgrades, however, you must move the NetBackup catalog back to the default location for the upgrade to succeed. Do not attempt a NetBackup upgrade if the catalog is not in the default location. You master server is rendered unusable if you fail to move the database back to the default location before upgrade. More information is available.

https://www.veritas.com/support/en_US/article.000118358

Table 5   NetBackup installation and upgrade requirements for Windows and Windows clusters

Check	Requirement	Details
	Operating system	■ Make sure that you have applied the most current operating system patches and updates. If you are not certain that your operating system is current, contact your operating system vendor and request the latest patches and upgrades. ■ For a complete list of compatible Windows operating systems, refer to the *Software Compatibility List (SCL)* at the following website: http://www.netbackup.com/compatibility
	Memory	■ Master servers in a production environment with several database agents enabled should have a minimum of 16 GB of memory and four cores each. ■ Media servers in a production environment with several database agents enabled should have a minimum of 4 GB of memory each. For additional information about memory requirements, refer to the *NetBackup Backup Planning and Performance Tuning Guide*. http://www.veritas.com/docs/DOC5332

Table 5	NetBackup installation and upgrade requirements for Windows and Windows clusters *(continued)*

Check	Requirement	Details

	Disk space	■ An NTFS partition.
		■ The exact amount of space that is required to accommodate the server software and the NetBackup catalogs depends on the hardware platform. More information about this topic is available.
		NetBackup Release Notes for 8.1
		http://www.veritas.com/docs/DOC5332
		■ For upgrades, you must have an additional 500 MB of disk space on the drive where Windows is installed. After the upgrade is complete, this additional space is not needed.
		■ NetBackup catalogs contain information about your backups that become larger as you use the product. The disk space that the catalogs require depends primarily on the following aspects of your backup configuration:
		  ■ The number of files that are backed up.
		  ■ The frequency of your backups.
		  ■ The amount of time that you set to retain your backup data.
		■ Veritas recommends that you have a minimum available disk space of 5% in any Disk Storage Unit volume or file system.
		
		Note: The value for disk space is for initial installation only. The NetBackup catalog requires considerably more space once the master server is placed in a production environment. For additional information on sizing requirements for the NetBackup catalog, refer to the *NetBackup Backup Planning and Performance Tuning Guide*.
		
		http://www.veritas.com/docs/DOC5332

	General requirements	Make sure that you have all of the following items: ■ NetBackup installation DVDs or ESD images ■ Appropriate license keys ■ Administrator account and password for all servers ■ Screen resolution configured for at least 1024x768, 256 colors. **Note:** To install NetBackup on Windows 2008 Server, Windows 2008 R2 Server, Windows 2012 R2, Windows 2012 UAC-enabled, and Windows Server 2016 environments, you must log on as the official administrator. Users that are assigned to the Administrators Group and are not the official administrator cannot install NetBackup in UAC-enabled environments. To allow users in the Administrators Group to install NetBackup, disable UAC.

	Table 5	NetBackup installation and upgrade requirements for Windows and Windows clusters *(continued)*
Check	**Requirement**	**Details**
	Remote and cluster installations	

Table 5		NetBackup installation and upgrade requirements for Windows and Windows clusters *(continued)*

Check	Requirement	Details

		In addition to all previously stated installation requirements, the following guidelines apply to remote installations and cluster installations:
		
		■ All nodes in the cluster must run the same operating system version, service pack level, and NetBackup version. You cannot mix versions of server operating systems.
		■ The installation account must have administrator privileges on all remote systems or on all nodes in the cluster.
		■ The source system (or primary node) must run Windows 2008/2008 R2 Server/Windows 2012/2012 R2/Windows 2016.
		For Windows 2008 R2, clusters are only supported on Enterprise and Data Center editions and not Standard edition.
		■ The destination PC (or clustered nodes) must have Windows 2008/2008 R2/Windows 2012/2012 R2/Windows 2016.
		■ The Remote Registry service must be started on the remote system.
		The NetBackup installer can enable and start the Remote Registry service on the remote system. If the Remote Registry service is not started, the installation receives the following error message:
		
		`Attempting to connect to server server_name failed with the`
		`following error: Unable to connect to the remote system. One`
		`possible cause for this is the absence of the Remote Registry`
		`service. Please ensure this service is started on the remote`
		`host and try again.`
		
		■ NetBackup virtual name and IP address
		Have the virtual name and IP address for NetBackup available. You must provide this information during installation.
		■ Cluster support changes for media servers
		You cannot perform a new installation of a clustered media server.
		■ Windows Server Failover Clusters (WSFC)
		　■ The shared disk that the NetBackup Group uses must already be configured in the cluster and online on the active node.
		　■ Install NetBackup from the node with the shared disk (that is, the active node).
		　■ Computer or host names cannot be longer than 15 characters.
		■ Cluster server (VCS) clusters:
		All NetBackup disk resources must be configured in Veritas Enterprise Administrator (VEA) before you install NetBackup.
		■ Cluster node device configuration and upgrades
		When you upgrade clusters, the `ltid` and the robotic daemons retrieve the device configuration for a particular cluster node from the EMM database. The cluster node name (provided by `gethostname`) stores or retrieves the device configuration in the EMM database. The cluster node name is used when any updates are made to the

Table 5   NetBackup installation and upgrade requirements for Windows
and Windows clusters *(continued)*

Check	Requirement	Details
		device configuration, including when `ltid` updates the drive status. The cluster node name is only used to indicate where a device is connected. The NetBackup virtual name is employed for other uses, such as the robot control host.
		More information about cluster requirements is available.
		Veritas NetBackup Clustered Master Server Administrator's Guide
		http://www.veritas.com/docs/DOC5332
	Remote Administration Console host names	You must provide the names of the Remote Administration Console hosts during master server installation.
	NetBackup communication	Make sure that your network configuration allows all servers and clients to recognize and communicate with one another.
		Generally, if you can reach the clients from a server by using the ping command, the setup works with NetBackup.
		■ NetBackup services and port numbers must be the same across the network.
		■ 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 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 or manually edit the `services` file.
	CIFS-mounted file systems	Veritas does not support installation of NetBackup in a CIFS-mounted directory. File locking in CIFS-mounted file systems can be unreliable.
	Storage devices	Devices such as robots and standalone tape drives must be installed according to the manufacturers' instructions and recognized by the Windows software.
	Server names	When you are prompted for server names, always enter the appropriate host names. Do not enter IP addresses.
	Mixed versions	Make sure to install NetBackup servers with a release level that is at least equal to the latest client version that you plan to use. Earlier versions of server software can encounter problems with later versions of client software.

Table 5   NetBackup installation and upgrade requirements for Windows and Windows clusters *(continued)*

Check	Requirement	Details
	Installations on Windows 2008/2008 R2 Server Core, 2012/2012 R2 Server Core/Windows 2016	You can only install NetBackup on these computers with the silent installation method.
	Other backup software	Remove any other vendor's backup software currently configured on your system. The backup software of another vendor can negatively affect how NetBackup installs and functions.
	Web Services	Beginning with NetBackup 8.0, the NetBackup master server includes a configured Tomcat web server to support critical backup operations. This web server operates under user account elements with limited privileges. These user account elements must be available on each master server (or each node of a clustered master server). More information is available: See "NetBackup master server web server user and group creation" on page 29. **Note:** Veritas recommends that you save the details of the user account that you use for the NetBackup Web Services. A master server recovery requires the same NetBackup Web Services user account and credentials that were used when the NetBackup catalog was backed up. **Note:** If the NetBackup PBX is running in secure mode, please add the web service user as authorized user in PBX. More information about determining PBX mode and how to correctly add users is available. http://www.veritas.com/docs/000115774
	CA Certificate fingerprint	(Conditional) For media servers and clients only: You must know the CA Certificate fingerprint of the master server at time of installation. More information is available about the details on the CA Certificate fingerprint and its role in generation of security certificates. https://www.veritas.com/support/en_US/article.000127129
	Authorization Token	(Conditional) For media servers and clients only: In some cases, the installer requires an authorization token to successfully deploy security certificates. More information is available about the details on authorization tokens and their role in generation of security certificates. https://www.veritas.com/support/en_US/article.000127129

NetBackup 8.1 binary size requirements

The information about the amount of space the NetBackup binaries requires is dynamic and changes in each release. To insure you have the most up-to-date information, Veritas recommends reviewing the binary size information in the *NetBackup 8.1 Release Notes*.

For the current information on operating system version support, consult the SORT *Installation and Upgrade Checklist* or the *Software Compatibility List (SCL)*.

- SORT
  https://sort.veritas.com/netbackup
- *Software Compatibility List (SCL)*
  http://www.netbackup.com/compatibility

How to prepare for NetBackup installation

The following tables describe the key points that should be addressed before NetBackup installation. Use these tables as a checklist to address each item.

Table 6 describes the tasks that you should perform on your backup environment before you install NetBackup.

Table 6   Preinstallation tasks

Check	Preinstallation task
	Remove any backup software from other vendors.
	Install the latest operating system (OS) updates for all computers in your backup environment.
	Install and configure the latest updates for all storage devices and make sure that they work with your OS.
	Set your screen resolution to a minimum of 1024x768, 256 colors.

Table 7 describes the information you should have available when you install NetBackup.

Table 7   NetBackup installation information

Check	Required information
	■ NetBackup Media Kit or the ESD images ■ License keys for NetBackup and all other NetBackup products that you purchased ■ NetBackup Installation Guide http://www.veritas.com/docs/DOC5332 ■ NetBackup Release Notes http://www.veritas.com/docs/DOC5332
	Master server names (fully qualified domain names and short names) **Note:** When you are prompted for server names, always enter the appropriate host names. Do not enter IP addresses.
	Media server names (fully qualified domain names and short names) **Note:** When you are prompted for server names, always enter the appropriate host names. Do not enter IP addresses.
	Client names (fully qualified domain names and short names)
	User names and passwords
	Credentials for an administrator account Backup administrators must have administrator privileges to install NetBackup.
	Names of the Remote Administration Console hosts that you plan to install (during master server installation).

When you have checked all items in the tables that pertain to your backup environment, you are ready to install NetBackup.

About NetBackup configuration

After you install the software on the servers and the clients, you must set up or configure where your backups are stored. The NetBackup Administration Console provides several configuration wizards. These wizards help you configure where you want files to be stored and which media device is used for storage.

NetBackup Administration Console	The NetBackup Administration Console is the graphical user-interface that assists you with NetBackup configuration and operation. Anytime the console is open, you can press the **F1** key on your keyboard to launch the help.

Configure Storage Devices	Use this wizard to configure the storage devices that you want NetBackup to use. The wizard uses device serialization to configure robotic libraries and drives.
Configure Disk Storage Servers	Use this wizard to create and configure a storage server and a disk pool to use the new storage server.
Configure Cloud Storage Server	Use this wizard to create a cloud storage server and a disk pool, to allow NetBackup to send your data to your cloud storage provider.
Configure Disk Pool	Use this wizard to create and configure a disk pool and a storage server to use the disk pool.
Confgure Volumes	Use this wizard to configure the removable media to use for backups.
Configure the Catalog Backup	Use this wizard to specify how and when NetBackup configuration and catalog information are to be backed up. Catalog backups are essential to recovery of your data, in case of a server failure or crash.

NetBackup master server web server user and group creation

Beginning with NetBackup 8.0, the NetBackup master server includes a configured web server to support critical backup operations. This web server operates under user account elements with limited privileges. These user account elements must be available on each master server (or each node of a clustered master server).

Note: For security purposes, do not create web server users or groups with administrator or superuser privileges.

You can use numerous procedures to create users and groups in operating systems. Some specific approaches are shown, but other methods may accomplish the same goal. The home directory path, user name, and group names are not hard-coded, and can be changed. The default local user name is `nbwebsvc`, and the default local group name is `nbwebgrp`. The user and group must have sufficient permissions to run daemons.

More information about this topic is available.

See "Installation and upgrade requirements for UNIX and Linux" on page 17.

Please be aware of the operating system-specific account and group requirements:

- In UNIX and Linux clustered environments, make sure that the local accounts are defined consistently on all cluster nodes. The UID must be the same for each local account. You can use LDAP accounts on UNIX.

- For Windows clustered master servers, you must use a domain account. You can use a domain account for non-clustered environments, but it is not required.

- For Windows clustered master servers, you must use a domain group.

The NetBackup Master Server installation fails if any of these requirements are not met. On Windows, you are asked to provide the password for the user account as part of the installation process.

Note: If the password associated with the web server account expires after initial configuration, NetBackup provides no notification the password has expired. This behavior is normal and expected, as the operating system manages the account and the password.

As long as the web server remains active, the account and the web server continue to operate normally.

When the web server is restarted, or if you attempt to restart the `nbwmc` service, the service fails to start, due to the expired password. Navigate to the appropriate area in the operating system, supply the correct password, and restart the service.

More information about the web services account and group is available. See the *Veritas NetBackup Security and Encryption Guide* and the section on the web services account.

To create the local user account and the local group:

1 Create a local group.

- **Linux and non-AIX UNIX:** `# groupadd nbwebgrp`

- **AIX:** `# mkgroup nbwebgrp`

- **Windows:** `C:\>net localgroup nbwebgrp /add`

2 Create a local user.

- **Linux and non-AIX UNIX:** `# useradd -g nbwebgrp -c 'NetBackup Web Services account' -d /usr/openv/wmc nbwebsvc`

- **AIX:** `# mkuser home='/usr/openv/wmc' groups='nbwebgrp' nbwebsvc`

- **Windows:** `C:\>net user nbwebsvc` *strong_password* `/add`

3 (Conditional) For Windows only, make the user a member of the group:

```
C:\>net localgroup nbwebgrp nbwebsvc /add
```

4 (Conditional) For Windows only, grant the **Log on as a service** right to the user:

- Go to **Control Panel > Administrative Tools > Local Security Policy**.

- Under **Security Settings**, click **Local Policies > User Rights Assignment**.

- Right-click on **Log on as a service** and select **Properties**

- Add the local user. The default local user name is nbwebsvc.

- Save your changes and close the **Properties** dialog for **Log on as a service**.

Where to find NetBackup documentation

You can find copies of NetBackup documentation on the Veritas NetBackup website in Adobe Portable Document Format (PDF).

http://www.veritas.com/docs/DOC5332

To view the PDF copies of the manuals, you need Adobe Acrobat Reader which you can download from the following site:

http://www.adobe.com

A list of the entire NetBackup documentation set appears as an appendix in the *NetBackup Release Notes*.