

VERITAS NetBackup™ 5.1

Release Notes

for UNIX and Windows

Disclaimer

The information contained in this publication is subject to change without notice. VERITAS Software Corporation makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. VERITAS Software Corporation shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual.

Copyright

Copyright © 2002 - 2004 VERITAS Software Corporation. All rights reserved. VERITAS, VERITAS SOFTWARE, the VERITAS logo, VERITAS NetBackup, and all other VERITAS product names and slogans are trademarks or registered trademarks of VERITAS Software Corporation in the USA and/or other countries. VERITAS and the VERITAS logo Reg. U.S. Pat. and Tm. Off. Other product names and/or slogans mentioned herein may be trademarks or registered trademarks of their respective companies.

Portions of this software are derived from the RSA Data Security, Inc. MD5 Message-Digest Algorithm. Copyright 1991-92, RSA Data Security, Inc. Created 1991. All rights reserved.

VERITAS Software Corporation
350 Ellis Street
Mountain View, CA 94043
Phone 650-527-8000
Fax 650-527-2901
www.veritas.com

Third-Party Copyrights

ACE 5.2A: ACE(TM) is copyrighted by Douglas C.Schmidt and his research group at Washington University and University of California, Irvine, Copyright (c) 1993-2002, all rights reserved.

IBM XML for C++ (XML4C) 3.5.1: Copyright (c) 1999,2000,2001 Compaq Computer Corporation; Copyright (c) 1999,2000,2001 Hewlett-Packard Company; Copyright (c) 1999,2000,2001 IBM Corporation; Copyright (c) 1999,2000,2001 Hummingbird Communications Ltd.; Copyright (c) 1999,2000,2001 Silicon Graphics, Inc.; Copyright (c) 1999,2000,2001 Sun Microsystems, Inc.; Copyright (c) 1999,2000,2001 The Open Group; All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).

JacORB 1.4.1: The licensed software is covered by the GNU Library General Public License, Version 2, June 1991.

Open SSL 0.9.6: This product includes software developed by the OpenSSL Project * for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)

TAO (ACE ORB) 1.2a: TAO(TM) is copyrighted by Douglas C. Schmidt and his research group at Washington University and University of California, Irvine, Copyright (c) 1993-2002, all rights reserved.



Contents

| | |
|---|-----------|
| Preface | ix |
| What Is In This Manual? | ix |
| How To Use This Manual | x |
| Getting Help | x |
| Related Resources | xi |
| Online Documentation | xi |
| On Windows | xi |
| On UNIX | xii |
| On the Support Web Site | xii |
| Glossary | xiii |
| Accessibility Features | xiii |
| Conventions | xiv |
| NetBackup End of Life and Third Party Notice | xvi |
| Supported Configurations | xvi |
| Third Party Products | xvii |
| NetBackup Advanced Reporter Third Party Notices | xvii |
| JRE | xvii |
| foldersTree (ftiens4.js) | xvii |
| Tomcat | xvii |
| | |
| Chapter 1. New Features in NetBackup 5.1 Release | 1 |
| New Publications or Changes | 2 |
| NetBackup 5.1 Enhancements | 2 |
| NetBackup Access Control Capabilities | 2 |



| | |
|---|----------|
| Encryption Enhancements | 3 |
| Volume Shadow Copy Service Support for Windows Server 2003 | 3 |
| NetBackup Vault, Disk Staging Performance Improvements | 3 |
| NetBackup Platform and Database Proliferations | 4 |
| NetBackup Platform Proliferations | 4 |
| Database Agents Proliferations | 4 |
| NetBackup Advanced Client Capabilities | 5 |
| Snapshots for Network Attached Storage (NAS) | 5 |
| Other Advanced Client Enhancements | 5 |
| NetBackup Backup, Archive, and Restore Enhancements | 5 |
| FlashBackup Improvements | 5 |
| Windows 2003 Logo Certification | 6 |
| NetBackup NetWare Enhancements | 6 |
| NetBackup Cluster Support | 6 |
| Chapter 2. Supported Platforms and Peripherals | 7 |
| Server and Client Platform Support | 8 |
| Platform Life Cycle Issues | 9 |
| Adding a Platform | 9 |
| Removing a Platform | 9 |
| NetBackup 5.1 Supported Platforms | 10 |
| Platforms Not Supported As Of NetBackup 5.0 And Beyond | 13 |
| Platforms Not Supported As Of the Next Major Release | 14 |
| Database Agent Platform Support | 15 |
| Other Database Agent Support Information | 16 |
| Database Agent Platforms Not Supported This Release | 16 |
| DB2 Agent | 17 |
| SQL Server Agent | 17 |
| Sybase Agent | 17 |
| DB2 Advanced Client Methods | 17 |



| | |
|---|-----------|
| NetBackup Access Control Platform Support | 18 |
| NetBackup Add-on Product Support | 20 |
| NetBackup Advanced Client | 21 |
| Obtaining Advanced Client Information on the Web | 21 |
| NetBackup Advanced Reporter (NBAR) Supported Platforms | 22 |
| Platform Requirements | 22 |
| Supported Server Platforms | 22 |
| Supported Client Platforms and Browsers | 23 |
| Supported Cluster Solutions | 23 |
| NetBackup Encryption | 24 |
| NetBackup Shared Storage Option (SSO) | 25 |
| Supported Robot Types | 25 |
| NetBackup Vault | 26 |
| Support for Files Greater than Two Gigabytes | 26 |
| Buffer Size for Disk Backups | 26 |
| Binary Sizes | 27 |
| Platforms Supporting the NetBackup Administration Consoles for UNIX | 29 |
| Additional NetBackup-Java Administration Console - Supported Platform Information | 30 |
| Platforms Supporting xbp | 30 |
| Supported Peripherals | 31 |
| Robot Type and TapeAlert Support By Platform | 32 |
| General Notes for Supported Peripherals | 34 |
| NetBackup Backward Compatibility | 35 |
| Chapter 3. NetBackup Product Dependencies | 37 |
| Operating System Patches and Updates | 37 |
| Other Patch Information | 43 |
| Product Dependencies | 44 |
| Supported versions of VxFS and VxVM | 46 |



| | |
|--|-----------|
| Chapter 4. Operational Notes | 49 |
| Installation | 49 |
| General | 52 |
| Database Agents | 53 |
| Exchange Database Agent | 53 |
| Lotus Notes Agent | 53 |
| Microsoft SharePoint Portal Server Agent | 55 |
| Media Manager | 55 |
| SCSI passthru Paths | 56 |
| NetBackup Access Control | 56 |
| NetBackup Java Interfaces | 56 |
| General Notes | 56 |
| Activity Monitor | 61 |
| File System Analyzer & Storage Migrator | 62 |
| NetBackup Management | 62 |
| Host Properties | 62 |
| Backup, Archive, and Restore | 62 |
| Media | 63 |
| NetBackup Cluster Support | 63 |
| Catalog Recovery | 64 |
| Vault | 65 |
| | |
| Chapter 5. Known Product Limitations | 67 |
| NetBackup Documentation | 67 |
| General NetBackup Notes | 67 |
| Installation and Upgrade | 70 |
| NetBackup Windows Clients | 71 |
| NetBackup BE Tape Reader | 72 |
| Bare Metal Restore for NetBackup | 72 |
| Localization and Internationalization Issues | 72 |



| | |
|--|-----------|
| Database Agents | 74 |
| DB2 Agent | 74 |
| DB2 Agent With the Advanced Client | 74 |
| Informix Agent | 75 |
| Lotus Notes Agent | 75 |
| Microsoft Exchange Server Agent | 75 |
| Microsoft SharePoint Portal Server Agent | 76 |
| Oracle Agent with the Advanced Client | 76 |
| Sybase Agent | 76 |
| Media Manager | 76 |
| Media Manager Cluster Support Limitations | 82 |
| NetBackup Access Control (NBAC) | 83 |
| General NBAC Notes | 83 |
| NetBackup Advanced Client | 85 |
| bpadm Interface | 87 |
| FlashBackup | 87 |
| NetBackup Advanced Reporter | 88 |
| NetBackup Interfaces | 88 |
| General NetBackup Java Interface | 88 |
| Backup Policy Management | 90 |
| NetBackup Remote Administration Console | 90 |
| Storage Migrator | 91 |
| Vault | 91 |
| Chapter 6. NetBackup Features End of Life | 93 |
| General NetBackup Features | 93 |
| Client Interface | 94 |
| Terminology End of Life | 95 |
| Appendix A. Related Documents | 97 |
| Release Notes | 97 |



| | |
|--|-----|
| Installation Guides | 97 |
| System Administrator's Guides - Basic Product | 98 |
| System Administrator's Guides - Agents and Options | 99 |
| User's Guides | 101 |
| Device Configuration Guide - Media Manager | 102 |
| Troubleshooting Guide | 102 |
| NetBackup Commands | 102 |



Preface

The VERITAS NetBackup mission is to provide heterogeneous data protection solutions ranging from the workgroup or departmental level to the enterprise level.

The NetBackup Enterprise Server product provides powerful functionality, flexibility, mainframe-caliber robustness, and high performance in large enterprise environments. The NetBackup Server product is a high-performance solution offering ease of use and functionality that is appropriate to smaller work environments.

As with previous releases, the NetBackup 5.1 product will be available via a media kit. Because NetBackup 5.1 is a minor release, this media kit contains the NetBackup 5.0 and NetBackup 5.1 media. All of the existing NetBackup 5.0 licenses will be compatible with this combined media kit. There is also one other significant packaging change for NetBackup 5.1. The NetBackup 5.1 Encryption option is now contained in the NetBackup 5.0/5.1 media kit. It can be found on the CDs that contain the NetBackup 5.1 Options.

What Is In This Manual?

- ◆ Chapter 1 explains the important new features that are included with this release of NetBackup.
- ◆ Chapter 2 lists the platforms and peripherals supported by this release.
- ◆ Chapter 3 lists the product dependencies and updates required for this release.
- ◆ Chapter 4 contains product operational notes as they pertain to the new features listed in Chapter 1.
- ◆ Chapter 5 contains product limitations as they pertain to the new features listed in Chapter 1.

For additional information about known issues with this release, you can refer to Tech Note number 267444 on the VERITAS support web site. This Tech Note will contain the latest information relating to product issues for this release. Here is a link this document, <http://support.veritas.com/docs/267444>.

- ◆ Chapter 6 provides end-of-life information on NetBackup features that will no longer be supported in the next major release following NetBackup 5.1.



- ◆ Appendix A lists all NetBackup documents for this release.

How To Use This Manual

The NetBackup Release Notes for UNIX and Windows document contains valuable information about each new release for the NetBackup customer. Customers will find information that highlights new features that comprise the latest NetBackup release. In addition to new feature information, customers can use this document as a reference manual to find various product support and product dependency information. Finally, this document contains known product limitations associated with the release. As with many products, it is possible that a product is released knowing there are some minor limitations with some of the features. Customers can look in this document and see these known limitations. VERITAS has a policy to be open and truthful about VERITAS products to its customers so they can be assured of the product and its functionality when they receive it.

Getting Help

Use the VERITAS Technical support web set to get help for NetBackup if you have questions.

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 is as 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 will appear and prompt 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

Refer to Appendix A of this document for a complete list of related manuals associated with the content of this document.

Online Documentation

On Windows

The released software contains on-line PDF and ASCII versions of these release notes and a readme file for the client. If you choose to install the documentation during setup, NetBackup installs these documents in the following locations on your disk:



- ◆ `install_path\Help\`
Adobe Acrobat Portable Document Format (PDF) copies of all related documents, including these release notes.
- ◆ The readme files on `install_path\NetBackup\` are:
 - ◆ `Readme_Client.txt`
 - ◆ `Readme_Server.txt`

On UNIX

During NetBackup installation, a text copy of the *NetBackup Media Manager Device Configuration Guide* is installed in

```
/usr/opensv/volmgr/MediaMgr_DeviceConfig_Guide.txt
```

You can copy example code from the device configuration guide if you need to reconfigure the kernel to provide specific tape or optical peripheral support.

The product CD-ROM also contains PDF copies of these release notes and other documents.

Note You will need Adobe Acrobat Reader to view the PDF documents. The latest version of Acrobat Reader is available on the Adobe web site:
<http://www.adobe.com>.

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

On the Support Web Site

Copies of NetBackup documentation are also available on the VERITAS support web site:

1. Log on to the VERITAS support web page,
<http://www.support.veritas.com/>
2. On the **Services: Support** web page, select **NetBackup Products**.
3. Choose a NetBackup product in the **Select Product** window.
4. With the Document tab selected, do the following:



- a. Select a product version, (5.0)
- b. Select a product platform, (All)
- c. Select the Document Type: (**Manuals and Documentation**). The page will likely refresh and list all of the documents for product that you selected. If the page does not refresh automatically, click **Go >>**.

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.

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

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 “Supported Platforms and Peripherals” on page 7, 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. |
| <i>Italics</i> | Used for placeholder text, book titles, new terms, or emphasis. Replace placeholder text with your specific text. For example: Replace <i>filename</i> with the name of your file. Do <i>not</i> use file names that contain spaces. This font is also used to highlight NetBackup server-specific or operating system-specific differences. For example: <i>This step is only applicable for NetBackup Enterprise Server.</i> |
| Code | Used to show what commands you need to type, to identify pathnames where files are located, and to distinguish system or application text that is displayed to you or that is part of a code example. |



Conventions (continued)

| Convention | Description |
|------------|---|
| 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.

Tip Used for nice-to-know information, like a shortcut.

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. Ignore a caution at your own risk.

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**.

Note In Japan, contact your authorized VERITAS NetBackup reseller for support.

NetBackup End of Life and Third Party Notice

"VERITAS Maintenance/Support" only applies to VERITAS Licensed Software, assuming you have a current VERITAS Maintenance/Support subscription for such software and such VERITAS Licensed Software is operating in configurations that VERITAS designates as supported. VERITAS Maintenance/Support does not cover (and we have no responsibility for) providing technical support, installation services or other services for any other software or hardware products. Also, VERITAS is not obliged to provide Maintenance/Support when your VERITAS Licensed Software is operating in configurations that VERITAS does not designate as supportable/supported. Please see the current VERITAS Technical Support Policy and your VERITAS license agreement for more information, terms and limitations.

Supported Configurations

For more information including technical notes regarding currently VERITAS-supported configurations (such as operating system/levels, firmware levels, databases, devices, device drivers, applications, etc.), please refer to our website at <http://support.veritas.com>. Please note that while VERITAS makes reasonable efforts to keep this information updated, we cannot assure that this information will be in all cases complete or the most current.



Third Party Products

Where your Problem may be related to product(s) from a third party vendor with whom we have a cooperative or collaborative relationship on such product(s), then VERITAS may work with that vendor towards resolving your reported Problem. Where VERITAS does not have such a support relationship in place with the third party vendor, or where the vendor ceases to support such product(s), then our ability to support VERITAS Licensed Software operating with such vendor's product(s) may be limited, affected, or prevented (and such third party product(s) may cease to be part of VERITAS-supported configuration(s)).

NetBackup Advanced Reporter Third Party Notices

JRE

This product includes code licensed from RSA Security, Inc. Some portions licensed from IBM are available at <http://oss.software.ibm.com/icu4j/>

foldersTree (ftiens4.js)

This product includes a script originated from www.treeview.net. End users have permission to use the script in VERITAS NetBackup Advanced Reporter, but do not have permission to extract the JavaScript and use it in another application.

Tomcat

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).





New Features in NetBackup 5.1 Release

VERITAS NetBackup™ 5.1 contains several enhancements that include additional supported platforms, administrative capabilities, online help, 256-bit encryption, and access control. In addition, NetBackup 5.1 contains Volume Shadow Copy Service (VSS) Support for Windows Server 2003. The following list identifies the key areas with new features and enhancements.

- ◆ Network Appliances Snapshot support for Oracle
- ◆ NetBackup Advanced Client
- ◆ NetBackup Access Control
- ◆ 128- and 256-bit encryption
- ◆ Microsoft's Volume Shadowcopy Service (VSS) support for Windows Server 2003
- ◆ Improved online help
- ◆ NetBackup Vault performance improvements
- ◆ Platform and database proliferations that include 64-bit server and client support
- ◆ Backup, Archive, and Restore interface improvements
- ◆ FlashBackup improvements
- ◆ Windows 2003 logo certification
- ◆ NetBackup NetWare enhancements
- ◆ NetBackup VCS 4.1 Windows Cluster Support for NetBackup add-on Products:
 - ◆ NetBackup Advanced Reporter (NBAR)
 - ◆ Global Data Manager (GDM)
 - ◆ Vault
 - ◆ Network Data Management Protocol (NDMP)

The following subsections within this chapter briefly summarize each new feature offered in this release. For a more complete description of a feature or enhancement, refer to the appropriate NetBackup documentation included in your NetBackup product CD-ROM.



Note For additional information about NetBackup features, refer to the NetBackup 5.0 Release Notes for UNIX and Windows document on the VERITAS Support web site <http://support.veritas.com> or click on the following URL.

<http://support.veritas.com/docs/264246>

New Publications or Changes

The following publications and help files have changed for the NetBackup 5.1 release.

- ◆ The *NetBackup Shared Storage System Administrator's Guide for UNIX and Windows* has been discontinued. The information from this document has been merged into the *NetBackup Media Manager System Administrator's Guides*.
- ◆ NetBackup 5.1 offers improved online help functionality by converting the existing online help system to the VERITAS standard HTML help on Windows platforms.

NetBackup 5.1 Enhancements

NetBackup 5.1 contains many new features and enhancements to existing capabilities. The following subsections describe some of the features that are new to the general functionality of the base NetBackup product.

NetBackup Access Control Capabilities

The NetBackup Access Control feature is a documented feature that was release in the NetBackup 5.0_M_1 release. The NetBackup Access Control feature in NetBackup 5.1 contains all of the functionality and enhancements introduced in the NetBackup 5.0 maintenance pack. In addition, NBAR 5.1 supports NBAC.

This feature enables NetBackup administrators to protect their NetBackup configuration by enabling Access Control to define three factors that control or restrict access to NetBackup:

- ◆ Who may access NetBackup: Accomplished by defining users and user groups.
- ◆ What functions a user group can perform: Accomplished by assigning users to various user groups.
- ◆ What resources a user group may manage.

This feature requires the installation of the VxSS component that is packaged on separate media that is included with the distribution of the NetBackup 5.1 media kit.



Encryption Enhancements

For security reasons, NetBackup allows the user to take encrypted backups and decrypt the data at the time of restore. Up until this release, NetBackup has supported 40-bit and 56-bit DES (Data Encryption Standard) encryption. In NetBackup 5.1, the ability to encrypt the data has been enhanced to allow 128-bit and 256-bit keys providing the user with more security when doing backups and restores.

Volume Shadow Copy Service Support for Windows Server 2003

Volume Shadow Copy Service (VSS) support for NetBackup Windows Server 2003 takes advantage of features offered by the operating system to better protect the operating system. In previous versions of NetBackup, snapshots taken using VSS were restricted to volumes only. This was the basis of Shadow Copy technology and its backup and restore infrastructure. This feature extends the boundaries of a snapshot that is taken, for example, to include additional objects such as the parent directory of a targeted file that is selected for backup and restore. A user can initiate this new feature from the NetBackup Administration Console.

The following new policy file list directives support Volume Shadow Copy Service:

- ◆ Shadow Copy Components:\
- ◆ Shadow Copy Components:\System State
- ◆ Shadow Copy Components:\System Service
- ◆ Shadow Copy Components:\User Data
- ◆ Shadow Copy Components:\Other Data

For more information about VSS, refer to the *NetBackup System Administrator's Guide, Volume I*.

NetBackup Vault, Disk Staging Performance Improvements

The performance of NetBackup's duplication operation has been a hindrance for customers who rely on it on a regular basis. Add-on products such as NetBackup Vault and NetBackup 5.0 features such as Disk Staging rely more and more on scheduled duplication. If the duplication process takes too long, users may encounter problems such as resource contention.

NetBackup 5.1 addresses performance issues in the duplication process, more specifically when duplicating from disk to tape. In addition, it reduces unnecessary tape unmount and mount operations during duplication sessions.



NetBackup Platform and Database Proliferations

This release of NetBackup includes additional platform support for selected 64-bit servers and clients. In addition, database agents such as Oracle, DB2, and SAP have been enhanced to now support various 64-bit platforms. The following list describes some of the product proliferations that you can expect to see with this release.

NetBackup Platform Proliferations

The release of NetBackup offers support for new platforms. The following list provides a brief overview of the platforms that NetBackup 5.1 supports. For a complete list of supported platforms, refer to Chapter 2, "Supported Platforms and Peripherals". NetBackup 5.1 supports:

- ◆ 64-bit server support for Windows 2003
- ◆ 64-bit client support for the Linux, RedHat and SuSe operating systems
- ◆ 32-bit client support for the Linux, RedHat 3.0 operating system
- ◆ 32-bit server support for the Linux, SuSe8 operating system
- ◆ 64-bit client support for the HP9000, HP-UX 11.23 operating system
- ◆ 32-bit client support for the Solaris 8 and 9 operating systems that run in a 32-bit emulation mode on Operton
- ◆ 32-bit client support for the Solaris 9 operating system

Database Agents Proliferations

NetBackup 5.1 adds 64-bit platforms support for additional database agents. In addition, NetBackup 5.1 will provide support for the Oracle 10G (Legacy). The following subsections identify database agents that have been improved with this release.

Microsoft SQL Server Agent

NetBackup for Microsoft SQL Server now supports the Advanced Client option. In addition, this database agent supports cloaked backups and has an auto-restart capability.

This database agent provides data protection of the SharePoint Portal Server 2003 (SPPS 2003). For a detailed explanation of the enhancement, refer to the "SharePoint 2003 Support Using VERITAS NetBackup for Microsoft SQL Server"
<http://seer.support.veritas.com/docs/264854.htm>

NetBackup Advanced Client Capabilities

Snapshots for Network Attached Storage (NAS)

NetBackup Advanced Client now supports Network Attached Storage (NAS) devices, for creating, managing, and restoring snapshots from an NDMP host. The snapshot is stored on the same NAS device that contains the client data. From the snapshot, you can restore individual files or roll back file systems and volumes, by means of the Advanced Client Instant Recovery feature. A NetBackup for NDMP license is required in addition to the Advanced Client license.

Snapshots for Network Attached Storage is only supported on Solaris and Windows 2000, and Windows 2003 platforms. In addition, Oracle support is only on Solaris platforms.

Note The NetBackup 5.1 release of Advanced Client supports NAS snapshots on Network Appliance (NetApp) devices only.

Other Advanced Client Enhancements

- ◆ The DB2 agent can now provide file-based backup and restore methodologies for DB2 objects. File-based (Proxy) access will enable the agent to participate in any of the frozen image technologies on Windows and UNIX platforms.
- ◆ The SQL Server agent provides file-based backup and restore methodologies for SQL Server objects. File-based backups will be made available for all of the types of SQL Server objects that are amenable to SQL Server VDI (virtual device interface) snapshots.
- ◆ The Microsoft Exchange Server Advanced Client Agent has added support for Volume Shadow Copy Service (VSS) for Exchange 2003 on Windows Server 2003.

NetBackup Backup, Archive, and Restore Enhancements

In the Java Backup, Archive, and Restore interface (for UNIX systems), you can now display the backup schedule type and the name of the policy in the Restore Files tab. With this information, you can identify which schedule type (full, differential incremental, cumulative incremental, or user) and policy created the backup images.

FlashBackup Improvements

NetBackup 5.1 adds the capability of FlashBackup and FlashBackup-Windows policy types to support disk storage units.



Windows 2003 Logo Certification

NetBackup 5.0 and NetBackup 5.1 for Windows meet the Windows 2003 Logo certification requirements.

NetBackup NetWare Enhancements

The NetBackup Common Target Login feature allows you to specify login information that can be used by one or more backup targets. A target consists of NetBackup configuration information that defines the collection of information on the NetWare server that is to be backed up. If the common target login information needs to be changed, you can update it in a single place, without having to update the individual targets that use it. This feature is only available when using the target method for the NetBackup for Novell NetWare Client.

NetBackup Cluster Support

While clustering is not a new feature with this release, enhancements have been made to support additional NetBackup products such as NBAR, GDM, NDMP, and Vault. This release provides additional support for VERITAS Cluster Server (VCS) 4.1 for Windows. For complete details on what is supported, see the cluster compatibility list on the VERITAS Support Web site.



Supported Platforms and Peripherals

This chapter provides information on the platforms and peripherals that this release of NetBackup supports. The following table identifies the primary functionality of this release and the platforms that support these functions.

Platforms for the NetBackup 5.1 Release

| Functionality | Platform Support |
|---|--|
| Core Product / Servers | Solaris, Windows, HP-UX, AIX, Linux ¹ , and Tru64 |
| Core Product Limited Server Functionality | IRIX |
| Vault | Solaris, Windows, AIX, HP-UX, Linux ¹ , and Tru64 |
| GDM | Solaris, Windows ² , AIX, HP-UX, Linux ¹ , and Tru64 |
| NetBackup Advanced Reporter | Windows ² , Solaris, HP-UX, AIX |

1. Core product and server support is on the Linux Red Hat and SuSE SLES platforms.
2. This functionality is not supported on a Windows 64-bit server platform.



Server and Client Platform Support

The supported platform information describing the hardware and operating system combinations that this release of NetBackup supports is now located on the VERITAS Support web site. The supported platform tables in this chapter provide the following types of information:

- ◆ The operating system level and version required to support a NetBackup master or media server.
- ◆ The client operating system level and version required to support a NetBackup client. Predecessors and successors to the supported operating system levels may function without difficulty, as long as the release provides binary compatibility with the supported level.

NetBackup support for a platform or OS version requires platform vendor support for that product. The following platform support lists are subject to change as vendors add and drop support for platforms or OS versions.

Note You will also find the most up-to-date information on peripherals, drives, and libraries on the VERITAS Support Web site.

To locate the supported platform information on the VERITAS Support Web site, perform the following procedure.

1. Open an Internet browser and enter the following:
`http://www.support.veritas.com.`
2. From the Select Product Family list, choose **NetBackup Products**. The Select Product window refreshes showing a list of NetBackup products.
3. Select one of the NetBackup products. The page refreshes and displays a search window with four tabs:
 - ◆ Documents
 - ◆ Downloads
 - ◆ Software Alerts
 - ◆ Compatibility

To use this search tool, click on one of the tabs, choose a product version, platform, document type, and language, and then click the **Go>>**. To locate the NetBackup compatibility lists: select the **Compatibility** tab; select **5.1** for a product version, click **GO>>**.

A list of compatibility documents appear on the page. The titles of these documents are linked to the actual document. Click on a title to open it. The compatibility list document is in PDF format. You must have Adobe Acrobat Reader to view the document.

Platform Life Cycle Issues

NetBackup software supports an ever-changing set of platforms and must be flexible enough to handle platform life cycle issues; issues such as adding and removing a platform from NetBackup's support list.

Adding a Platform

Adding support of a platform to NetBackup introduces a situation where the platform has a future, but no history. In this situation, backward compatibility cannot be guaranteed without exhaustive testing. As a general rule, when a platform is added for a NetBackup release, the platform is supported in that version and subsequent versions (but not previous versions).

Removing a Platform

Removing support of a platform from NetBackup introduces a situation where the platform has a history, but no future. The following rules apply when removing a server platform or a database agent platform.

Removing a Server Platform

When NetBackup announces the removal of a server platform, the platform is still supported for one major release and backward compatible for one more release beyond that.

Removing an Agent Platform

The customer commitment for client platform version support is one version back with every effort made to support all versions. An exception is that the client version cannot be newer than the Master/Media Server version.

You can mix individual agents that are at different versions within a NetBackup domain, however it is possible that during an alternate restore, the restore is sent to an older version. Alternate restores should go to the same or newer versions.



Database agents are to be at the same version level as the client upon which they reside. As with the client agent, support is one version back with every effort made to support all versions. An exception is that the agent version cannot be newer than the Master/Media Server version.

NetBackup 5.1 Supported Platforms

The following table contains a list of platforms, the associated operating systems, and version levels, that NetBackup Enterprise Server and NetBackup Server supports at the time of this product release. It is possible for this information to change after the product is released. VERITAS documents these changes and posts them on the VERITAS support web site, <http://support.veritas.com>.

Platform Support Matrix for NetBackup Enterprise Server and NetBackup Server

| Vendor/Platform | Operating System and Version | Server | Client | Notes |
|-------------------------------------|--|--------|--------|---------|
| HP9000 - PA-RISC | HP-UX 11.0, 11.11 (11.i) | X | X | |
| HP - Itanium Processor Family (IPF) | HP-UX 11.23 | | X | |
| HP Tru64/Alpha | Open VMS Alpha 6.1 — 7.3-1 | | X | 1, 5, 6 |
| HP Tru64/VAX | Open VMS VAX 5.5 — 7.3-1 | | X | 1, 5, 6 |
| HP Tru64/Alpha | Tru64 5.1, 5.1a, 5.1b | X | X | |
| IBM | AIX 4.3.3.10 | X | X | |
| IBM | AIX 5.1 RS/6000, SP, pSeries (32/64 bit) | X | X | |
| IBM | AIX 5.2 RS/6000, SP, pSeries (32/64 bit) | X | X | 7 |
| Intel 32-bit/Novell | Novell 5.1, SP4 and SP5 | | X | 5, 8 |
| Intel 32-bit/Novell | Novell 6.0, SP1, SP2, and SP3 | | X | 5, 8 |
| Intel 32-bit/Novell | Novell 6.5 | | X | 5, 8 |
| Intel 32-bit/Windows | Windows NT 4.0, SP6A | X | X | |
| Intel 32-bit/Windows | Windows 2000, SP4 | X | X | |
| Intel 32-bit/Windows | Windows 2000 SAK | X | X | 2, 4 |



Platform Support Matrix for NetBackup Enterprise Server and NetBackup Server (continued)

| Vendor/Platform | Operating System and Version | Server | Client | Notes |
|-------------------------------|--|--------|--------|-------|
| Intel 32-bit/Windows | Windows XP, SP1 | | X | |
| Intel 32-bit/Windows | Windows 2000 Client - Citrix MetaFrame XPe | | X | 3 |
| Intel 32-bit/Windows | Windows 2000 Client - Citrix MetaFrame 1.8 | | X | 3 |
| Intel 32-bit/Windows | Windows 2003 | X | X | |
| Intel 32-bit/Windows | Windows Storage Server 2003 | X | X | 2, 4 |
| Intel 64-bit/Windows | Windows XP SP1 | | X | |
| Intel 64-bit/Windows | Windows 2003 | X | X | 10 |
| Intel 32-bit/FreeBSD | FreeBSD 4.7 and 4.8 | | X | |
| IBM z800/900 (31-bit mode) | Linux Red Hat zSeries 2.1 | | X | |
| IBM z800/900 (31-bit mode) | Linux SuSE 7.0 | | X | |
| Intel 32-bit/Linux | Linux Debian GNU/Linux 3.0 | | X | |
| Intel 32-bit/Linux | Linux Red Hat 8.0, 9.0 | | X | |
| Intel 32-bit/Linux | Linux Red Hat AS/ES 2.1 | X | X | |
| Intel 32-bit/Linux | Linux Red Hat WS 2.1 | | X | |
| Intel 32-bit/Linux | Linux Red Hat AS/ES/WS 3.0 | X | X | |
| Intel 32-bit/Linux | SuSE 9.0 Workstation | | X | |
| Intel 32-bit/Linux | Linux SuSE 8.0, 8.1, 8.2 | | X | |
| Intel 32-bit/Linux | SuSE SLES 8.0 | X | X | |
| Intel 32-bit/SCO | SCO UNIXWare 7.1.3C | | X | |
| Intel 64-bit/Linux | SuSE SLES 8.0 | | X | |



Platform Support Matrix for NetBackup Enterprise Server and NetBackup Server (continued)

| Vendor/Platform | Operating System and Version | Server | Client | Notes |
|---------------------|--|--------|--------|-------|
| Intel 64-bit/Linux | Linux Red Hat 3.0 | | X | |
| Intel 32-bit/UNIX | Solaris 7, 8, 9 | | X | |
| AMD64/UNIX | Solaris 9 (32-bit emulation mode on Opteron) | | X | |
| Apple Macintosh | MacOS X Server 10.2.2, 10.2.6, 10.3 C | | X | |
| SGI | IRIX 6.5.18 — 6.5.22 | X | X | 2 |
| Sun | Solaris 7, 8, 9 | X | X | |
| Intel 32-bit/VmWare | VmWare, VmWare ESX | | X | 9 |

1. Not packaged with NetBackup media. Requires order of separate media.
2. This release only supports media server and not master server.
3. See TechNote 247732.
4. See TechNote 248317.
5. Does not support encryption.
6. The NetBackup OpenVMS client is available as a downloadable patch at site:
ftp://ftp.emea.support.veritas.com/pub/support/Products/NetBackup_OpenVMS
7. See Technote 256755 for AIX 5.2 support of fibre connected drives.
8. The NetWare Media Server Option does not support drive sharing. Master Server not supported.
9. NetBackup operating system clients are supported when operated in a VmWare virtual machine guest operating system environment with the following limitations:
 - 1) If a customer issue is determined to not be related to NetBackup, VERITAS will refer the customer to the appropriate support vendor for the operating system or application.
 - 2) VmWare support is limited to supported NetBackup operating system clients only. NetBackup servers are not supported.
10. Intelligent Disaster Recovery (IDR), GDM, and NBAR are not supported at this time.



Platforms Not Supported As Of NetBackup 5.0 And Beyond

Backward compatibility with NetBackup 5.1 client software is retained for at least one release level. The following operating systems were no longer supported at the release of NetBackup 5.0 and beyond. The contents of this table remain valid for NetBackup 5.1.

Platforms Not Supported as of NetBackup 5.0 and Beyond

| Hardware Type | Operating System and Version | Server | Client | Notes |
|--------------------------|---|--------|--------|-------|
| Data General (Intel) | DG-UX R4.20MU07 AviiON | | X | |
| HP3000 | MPE/iX C.6.0, C.6.5, and C.7.0 | | X | |
| HP Tru64/Alpha | Tru64 4.0F, 4.0G, and 5.0a | X | X | |
| Intel X86/Novell | Novell 4.2 | | X | |
| Intel X86,Windows | Windows 95, 98, and ME | | X | |
| Intel X86/FreeBSD | FreeBSD 4.0, 4.2, 4.3, 4.4, and 4.6 | | X | |
| Intel X86/Linux | Linux Debian GNU/Linux 2.2r4 | | X | |
| Intel X86/Linux | Linux Red Hat 6.2, 7.0, 7.1, 7.2, and 7.3 | X | X | |
| Intel X86/Linux | Linux Caldera Openlinux 3.1 | | X | |
| Intel X86/Linux | SuSE 7.0, 7.1, 7.2, and 7.3 | | X | |
| Intel X86/Linux | SuSE SLES7 | | X | |
| Intel X86/Linux | Linux TurboLinux 7.0 | | X | |
| Intel X86/Novell | SCO UnixWare 7.1.2 | | X | |
| Intel X86/UNIX | Solaris 6 (X86) | | X | |
| Macintosh (680x0 or PPC) | MacOS 8.5, 8.6, 9.X, and MacOS 1.2 | | X | |
| Macintosh (680x0 or PPC) | MacOS X10.0, X10.1 | | X | |
| NCR | UNIX SVR4MP-RAS 3.02 | X | X | |
| IBM/Sequent | DYNIX/ptx 4.4.2 | X | X | |



Platforms Not Supported as of NetBackup 5.0 and Beyond (continued)

| Hardware Type | Operating System and Version | Server | Client | Notes |
|---------------|-------------------------------------|--------|--------|-------|
| IBM/Sequent | DYNIX/ptx 4.4.4 — 4.4.8, and 4.4.10 | X | X | |
| IBM/Sequent | DYNIX/ptx 4.5 — 4.5.2, and 4.5.3 | X | X | |
| SGI | IRIX 6.5.00 — 6.5-17 | X | X | |
| Sun | Solaris 6 | X | X | |

Note All operating system versions for these platforms are not supported with NetBackup 5.1.

Platforms Not Supported As Of the Next Major Release

The next major release of NetBackup no longer contains software to upgrade some operating system levels to include new product features and capabilities. Backward compatibility with NetBackup 5.1 client software is retained for at least one release level.

Platforms Not Supported as of the Next Major Release

| Hardware Type | Operating System and Version | Server | Client | Notes |
|--------------------------|------------------------------|--------|--------|-------|
| HP Tru64/Alpha | Tru64 5.0 and 5.0a | X | X | |
| IBM | AIX 4.3.3.10 | X | X | |
| Intel 32-bit/Novell | Novell 5.0 | | X | |
| Intel 32-bit/Novell | Novell 6.0 | | X | |
| Intel 32-bit/Windows | Windows NT 4.0, SP6A | X | X | |
| Intel 32-bit/Novell | FreeBSD 4.7 | | X | 1 |
| Intel 32-bit/Novell | Linux Debian GNU/Linux 3.0 | | X | |
| Intel 32-bit/Novell | Linux Red Hat 8.0 | | X | |
| Intel 32-bit/Novell | Linux SuSE 8.1 | | X | 1 |
| Macintosh (680x0 or PPC) | MacOS X Server 10.2.2 | | X | 1 |



Platforms Not Supported as of the Next Major Release (continued)

| Hardware Type | Operating System and Version | Server | Client | Notes |
|---------------|------------------------------|--------|--------|-------|
| SGI | IRIX 6.5.08-20 | X | | 2 |
| Sun | Solaris 7 | X | X | |

1. It is our intention to support a newer operating system version from this vendor at our next major release and to no longer support this version.
2. In VERITAS's next release, SGI IRIX will be supported as a client only, no master or media server support is planned.

Database Agent Platform Support

The following table lists the new platforms and the database agents that will support each. This table is a summary of the new support offerings with this release. For a more complete list of NetBackup database agents and the platforms they support, refer to the NetBackup Database Agent Compatibility List on the VERITAS support web site.

| Vendor | Operating System | Oracle Agent | DB2 Agent | Lotus Notes Agent | SAP Agent | SQL Server Agent | Exchange Agent |
|-------------------------------------|-------------------|--------------|-----------|-------------------|-----------|------------------|----------------|
| HP - Itanium Processor Family (IPF) | HP-UX 11.23 | Yes | Yes | No | Yes | NA | NA |
| Intel 64-bit/Windows | Windows 2003 | Yes | Yes | No | Yes | Yes | NA |
| Intel 64-bit/Linux | Linux Red Hat 3.0 | Yes | Yes | No | Yes | NA | NA |
| Intel 64-bit/Linux | SuSE SLES 8.0 | Yes | Yes | No | Yes | NA | NA |
| AMD64/UNIX | Solaris 8, 9 | Yes | Yes | No | Yes | NA | NA |

The VERITAS support web site now contains the most current platform support information for NetBackup database agents. You can use the following procedure to locate this information.

To locate the latest Database Agent information on the VERITAS support web site, perform the following procedure.



1. Go to the VERITAS support web page: <http://www.support.veritas.com>.
2. From the Select Product Family list, choose **NetBackup Products**. The Select Product window refreshes showing a list of NetBackup products.
3. Select one of the NetBackup products. The page refreshes and displays a search window with four tabs:
 - ◆ Documents
 - ◆ Downloads
 - ◆ Software Alerts
 - ◆ Compatibility
4. Select **5.1** in the **Product Version** drop-down field.
5. Select a Product Platform.
6. Click the **Compatibility** tab. The page will refresh showing documents that contain compatibility information.
7. Click on the title of the document link for NetBackup Database Agent Compatibility List. A document appears that contains a downloadable file that enables you to view the supported database spreadsheet for this release.

Other Database Agent Support Information

Script-based BLI backups for Oracle (without RMAN) are available with the NetBackup for Oracle on UNIX agent for Oracle RDBMS 7.1 and later.

The following subsections define additional support information for various NetBackup database agents.

Database Agent Platforms Not Supported This Release

The following table contains a list of the platforms that are not supported for this release of NetBackup.

| Platform | Operating System and Version |
|--------------------|------------------------------|
| Data General | DG/UX R 4.x |
| Intel 32-bit/Linux | Red Hat 6.2, 7.0, and 7.1 |

| Platform | Operating System and Version |
|----------------------------|------------------------------|
| IBM z800/900 (31-bit mode) | SuSE SLES 7 |
| Intel 32-bit/Linux | SuSE 7.0 |
| Sequent | DYNIX/ptx |
| HP Tru64/Alpha | Tru64 4.x, 5.0 and 5.0a |

DB2 Agent

NetBackup for DB2 does not support IBM DB2 Datalinks Manager.

SQL Server Agent

NetBackup for SQL Server agent no longer supports the backup of SQL Server 6.5 database objects.

Sybase Agent

NetBackup for Sybase no longer supports the backup of SybaseIQ databases.

DB2 Advanced Client Methods

The following table shows the platforms that support the following DB2 Advanced Client methods.

| DB2 Advanced Client Methods | Platforms Supporting This Method |
|--|-------------------------------------|
| NetBackup_Snapshot (Nbu_snap) | Solaris, |
| VxFS Checkpoint fsclone | Solaris, HP-UX |
| VxVM Snapshot | Solaris, Windows 2000, Windows 2003 |
| VxVM FlashSnap (Remote) | Solaris, Windows 2000, Windows 2003 |
| VxVM_Volume_Replicator (Remote Only) VVR | Solaris, |



| DB2 Advanced Client Methods | Platforms Supporting This Method |
|------------------------------------|-------------------------------------|
| VSS | Windows 2003 |
| Instant Recovery (VxFS Checkpoint) | Solaris, HP-UX |
| Instant Recovery (VxVM) | Solaris, Windows 2000, Windows 2003 |
| Instant Recovery (VVR) | Solaris, |
| Instant Recovery on Tape | Solaris, Windows 2000, Windows 2003 |

NetBackup Access Control Platform Support

The following table contains a list of platforms, the associated operating systems, and version levels, that NBAC supports on NetBackup Enterprise Server and NetBackup Server systems at the time of this product release. It is possible for this information to change after the product is released. VERITAS documents these changes and posts them on the VERITAS support web site, <http://support.veritas.com>. For additional information on the platforms that NetBackup supports for this release, refer to the *NetBackup Release Notes for UNIX and Windows*.

| Vendor/Platform | Operating System and Version | Server | Client | NBAC AT | NBAC AZ |
|-------------------------------------|------------------------------|--------|--------|---------|---------|
| HP9000 - PA-RISC | HP-UX 11.0, 11.11 (11.i) | X | X | X | X |
| HP - Itanium Processor Family (IPF) | HP-UX 11.23 | | X | | |
| HP Tru64/Alpha | Open VMS Alpha 6.1 — 7.3-1 | | X | | |
| HP Tru64/VAX | Open VMS VAX 5.5 — 7.3-1 | | X | | |
| HP Tru64/Alpha | Tru64 5.1, 5.1a, 5.1b | X | X | X | X |
| IBM | AIX 4.3.3.10 | X | X | X | X |
| IBM | AIX 5.1 RS/6000, SP, pSeries | X | X | X | X |
| IBM | AIX 5.2 RS/6000, SP, pSeries | X | X | X | X |



| Vendor/Platform | Operating System and Version | Server | Client | NBAC AT | NBAC AZ |
|-------------------------------|--|--------|--------|---------|---------|
| Intel 32-bit/Novell | Novell 5.1, SP4 and SP5 | | X | | |
| Intel 32-bit/Novell | Novell 6.0, SP1, SP2, and SP3 | | X | | |
| Intel 32-bit/Novell | Novell 6.5 | | X | | |
| Intel 32-bit/Windows | Windows NT 4.0, SP6A | X | X | X | X |
| Intel 32-bit/Windows | Windows 2000, SP4 | X | X | X | X |
| Intel 32-bit/Windows | Windows 2000 SAK | X | X | 1 | |
| Intel 32-bit/Windows | Windows 2000 SAK Business Server | X | X | 1 | |
| Intel 32-bit/Windows | Windows XP, SP1 | | X | X | |
| Intel 32-bit/Windows | Windows 2000 Client - Citrix MetaFrame XPe | | X | | |
| Intel 32-bit/Windows | Windows 2000 Client - Citrix MetaFrame 1.8 | | X | | |
| Intel 32-bit/Windows | Windows 2003 | X | X | X | X |
| Intel 32-bit/Windows | Windows Storage Server 2003 | X | X | | |
| Intel 64-bit/Windows | Windows XP SP1 | | X | | |
| Intel 64-bit/Windows | Windows 2003 | X | X | | |
| Intel 32-bit/FreeBSD | FreeBSD 4.7 and 4.8 | | X | | |
| IBM z800/900 (31-bit mode) | Linux Red Hat zSeries 2.1 | | | | |
| IBM z800/900 (31-bit mode) | Linux SuSE 7.0 | | X | X | |
| Intel 32-bit/Linux | Linux Debian GNU/Linux 3.0 | | X | X | |
| Intel 32-bit/Linux | Linux Red Hat 8.0, 9.0 | | X | X | |
| Intel 32-bit/Linux | Linux Red Hat AS/ES 2.1 | X | X | X | X |
| Intel 32-bit/Linux | Linux Red Hat WS 2.1 | | X | | |



| Vendor/Platform | Operating System and Version | Server | Client | NBAC AT | NBAC AZ |
|---------------------|--|--------|--------|---------|---------|
| Intel 32-bit/Linux | Linux Red Hat AS/ES/WS 3.0 | X | X | | |
| Intel 32-bit/Linux | SuSE 9.0 Workstation | | X | | |
| Intel 32-bit/Linux | Linux SuSE 8.0, 8.1, 8.2 | | X | X | |
| Intel 32-bit/Linux | SuSE SLES 8.0 | X | X | | |
| Intel 32-bit/SCO | SCO UNIXWare 7.1.3 | | X | | |
| Intel 64-bit/Linux | SuSE SLES 8.0 | | X | | |
| Intel 64-bit/Linux | Linux Red Hat 3.0 | | X | | |
| Intel 32-bit/UNIX | Solaris 7, 8, 9 | | X | | |
| AMD64/UNIX | Solaris 9 (32-bit emulation mode on Opteron) | | X | | |
| Apple Macintosh | MacOS X Server 10.2.2, 10.2.6, 10.3 | | X | | |
| SGI | IRIX 6.5.18 — 6.5.22 | X | X | | |
| Sun | Solaris 7, 8, 9 | X | X | X | X |
| Intel 32-bit/VmWare | VmWare, VmWare ESX | | X | | |

NetBackup Add-on Product Support

The following subsections identify NetBackup 5.1 product add-ons. Each section describes the various robots and operating system platforms that each add-on supports. The following add-ons are available with the NetBackup 5.1 release.

- ◆ NetBackup Advanced Client
- ◆ NetBackup Advanced Client - FlashBackup
- ◆ NetBackup Advanced Reporter (NBAR)
- ◆ NetBackup Encryption
- ◆ NetBackup SAN Shared Storage Option (SSO)
- ◆ NetBackup Vault



NetBackup Advanced Client

NetBackup Advanced Client provides data protection services for snapshot data, and supports offhost backup over Fibre Channel networks (in addition to conventional backups to locally attached devices). The following types of information can be found on the VERITAS Support web site (refer below for instructions on locating this information):

- ◆ Explain how to obtain information about Advanced Client on the VERITAS support web site.
- ◆ Contain tables that list the platforms, operating systems, and snapshot methods that NetBackup Advanced Client supports for the following backup methods:
 - ◆ Local backups using a snapshot
 - ◆ offhost backup (via an alternate backup client, media server copy, or third party copy) using a snapshot
 - ◆ Instant recovery using persistent snapshots
 - ◆ Disk Array Snapshot methods
 - ◆ File system performance backup using Flashbackup

These backup methods are described in the *NetBackup Advanced Client System Administrator's Guide*.

Obtaining Advanced Client Information on the Web

The VERITAS support web site includes a compilation of notes on Advanced Client. These notes include up-to-date lists of supported operating systems and peripherals, and assistance for some of the configuration procedures found in the *NetBackup Advanced Client System Administrator's Guide*. To locate this information, do the following:

1. Go to `www.support.veritas.com`.
2. In the **Knowledge Base Search** field, enter the following:
AdvancedClient_ConfigNotes
3. Click **Search**.

The full title of the document is:

VERITAS NetBackup Advanced Client Configuration and Compatibility



NetBackup Advanced Reporter (NBAR) Supported Platforms

There are two parts to platform support: the host operating systems and versions of NetBackup that NBAR runs on, and the supported browsers used to view the web console.

Platform Requirements

- ◆ NBAR 5.1 supports NetBackup 5.1.
 - ◆ NBAR supports VERITAS NetBackup Enterprise Server and VERITAS NetBackup Server.

Supported Server Platforms

NetBackup Advanced Reporter 5.1 supports the following operating systems:

| Operating System | Supported Versions | Notes |
|------------------|---|---|
| AIX | AIX 5.1 (Power PC -- 32 and 64 bit) AIX 5.2 (Power PC -- 32 and 64 bit) | |
| HP-UX | HP-UX 11.0 HP-UX 11i | Note We strongly recommend you install HP-UX patches PHKL_22840 and PHNE_22397. These patches have dependencies on other patches. Refer to the HP support site at www.hp.com for more information. |
| Solaris | Solaris 7 Solaris 8 Solaris 9 | Note These operating systems are supported on Sun/SPARC systems only. |
| Windows | Windows NT 4.0 Server with Service Pack 6A or later Windows 2000 Server with Service Pack 3 or later Windows 2003 | |



Supported Client Platforms and Browsers

NetBackup Advanced Reporter 5.0 supports the following operating systems and browsers marked with an X. NBAR supports only English language browsers.

NBAR Supported Client Platforms and Browsers

| Operating System | Netscape 4.7 | Netscape 6.1x | Netscape 7 | Microsoft Internet Explorer 5.5 | Microsoft Internet Explorer 6 |
|-------------------------------------|--------------|---------------|------------|---------------------------------|-------------------------------|
| AIX 5.1 (Power PC -- 32 and 64 bit) | X | X | | | |
| AIX 5.2 (Power PC -- 32 and 64 bit) | X | X | | | |
| Solaris 7, 8, 9 on SPARC stations | X | | X | | |
| HP-UX 11.0, 11i | X | X | X | | |
| Windows NT 4.0 Workstation | X | X | X | X | X |
| Windows NT 4.0 Server | X | X | X | X | X |
| Windows 2000 Professional | X | X | X | X | X |
| Windows 2000 Server | X | X | X | X | X |
| Windows 2000 Advanced Server | | X | X | X | X |
| Windows 2000 Data Center | | X | X | X | X |
| Windows XP with SP2 or later | | | X | | X |
| Windows Server 2003 | | | | | X |

Supported Cluster Solutions

NBAR supports the following clustering solutions on VERITAS NetBackup Enterprise Server.



NBAR does not support upgrading to a clustered configuration from a standalone NBAR configuration. Additionally, you can only upgrade cluster configurations which were supported by NBAR 5.0:

| Cluster Solution | Operating System | Supported Configurations |
|---------------------------------|---|----------------------------|
| VERITAS Cluster Server (VCS) | Solaris | NBAR 5.1, NBAR 5.0 upgrade |
| | HP-UX | NBAR 5.1, NBAR 5.0 upgrade |
| | AIX | NBAR 5.1, NBAR 5.0 upgrade |
| | Microsoft Windows 2000 and Microsoft Windows Server 2003 | NBAR 5.1 |
| Sun Cluster | Solaris | NBAR 5.1, NBAR 5.0 upgrade |
| Microsoft Cluster Server (MSCS) | Microsoft Windows NT, Microsoft Windows 2000, and Microsoft Windows Server 2003 | NBAR 5.1, NBAR 5.0 upgrade |

See the *NetBackup High Availability Guide* for more information about supported clusters.

NetBackup Encryption

The following list shows the policy types that support encryption for this release.

- ◆ AFS
- ◆ DB2
- ◆ DataStore
- ◆ Informix-On-BAR
- ◆ LOTUS_NOTES
- ◆ MS-Exchange
- ◆ MS-SharePoint
- ◆ MS-SQL-Server
- ◆ MS-Windows-NT
- ◆ Oracle
- ◆ SAP



- ◆ Split-Mirror
- ◆ Standard
- ◆ Sybase

The following list shows the policy types that do **not** support encryption for this release.

- ◆ Apollo-wbak
- ◆ DataTools-SQL-BackTrk
- ◆ FlashBackup
- ◆ FlashBackup-Windows
- ◆ NCR_TERADATA
- ◆ NDMP
- ◆ NetWare
- ◆ OS/2
- ◆ Vault

NetBackup Shared Storage Option (SSO)

Supported Server Platforms:

- ◆ Tru64 UNIX
- ◆ HP-UX
- ◆ AIX
- ◆ Windows
- ◆ Red Hat Linux
- ◆ IRIX
- ◆ SPARC/Solaris

Supported Robot Types

There is a distinction between standard Media Manager supported robot types and supported robot types for SSO.

SSO is supported *only* with the following Media Manager robot types:

- ◆ ACS, TLH, and TLM (these are API robot types)
- ◆ TL8 and TLD

Media Manager robot types LMF, ODL, RSM, TL4, TS8, TSD, and TSH are *not* supported for SSO.

SSO is also supported for standalone (non-robotic) drives.



NetBackup Vault

NetBackup Vault supports the same operating systems and versions as NetBackup with following exceptions:

- ◆ Inline Tape Copy does not support the following destination storage types:
 - ◆ NDMP
 - ◆ Third-party copies
 - ◆ Optical devices
- ◆ Inline Tape Copy does not support storage units that use a QIC (quarter-inch cartridge) drive type.
- ◆ A single Inline Tape Copy operation cannot use destination storage devices on multiple media servers.

Support for Files Greater than Two Gigabytes

The current version of NetBackup supports file sizes greater than two gigabytes on the following client systems.

- ◆ HP Tru64
- ◆ FreeBSD
- ◆ HP-UX
- ◆ IBM AIX
- ◆ Linux
- ◆ Mac OS X Server (as NetBackup client)
- ◆ Novell NetWare
- ◆ SGI IRIX
- ◆ Sun Solaris
- ◆ Windows NT, 2000, XP (32 and 64 bit), LE (64 bit), 2003

Buffer Size for Disk Backups

In this release of NetBackup, the default buffer size for disk backups has been increased to 256K. In addition, if you are performing multiple copies of disk and tape, the default buffer size should equal the tape buffer size.



Binary Sizes

The following table shows the approximate binary size of the NetBackup and Media Manager software for each platform and operating system supported by NetBackup.

| Hardware Type | Operating System | NetBackup and Media Server | NetBackup Client |
|-------------------------------------|--|----------------------------|------------------|
| HP9000 PA-RISC | HP-UX 11.0, HP-UX 11.11 | 406 MB | 146 MB |
| HP - Itanium Processor Family (IPF) | HP-UX 11.23 | -- | 28 MB |
| HP Tru64/Alpha | Open VMS Alpha 6.1 - 7.3-1 | -- | 15 MB |
| HP Tru64/VAX | Open VMS VAX 5.5 - 7.3-1 | -- | 15 MB |
| HP Tru64/Alpha | Tru64 5.0, 5.0a, 5.0b | 323 MB | 93 MB |
| IBM | AIX 4.3.3.10 | 292 MB | 23 MB |
| IBM | AIX 5.0 RS/6000, SP, pSeries (32/64 bit) | 363 MB | 95 MB |
| IBM | AIX 5.2 RS/6000, SP, pSeries (32/64 bit) | 363 MB | 95 MB |
| Intel 32-bit/Windows | Windows NT 4.0, SP6 | 250 MB | 85 MB |
| Intel 32-bit/Windows | Windows 2000, SP4 | 250 MB | 85 MB |
| Intel 32-bit/Windows | Windows XP, SP1 | -- | 85 MB |
| Intel 32-bit/Windows | Windows 2000 Client - Citrix MetaFrame XPe | -- | 85 MB |
| Intel 32-bit/Windows | Windows 2000 Client - Citrix MetaFrame 1.8 | -- | 85 MB |
| Intel 32-bit/Windows | Windows 2003 | 250 MB | 85 MB |
| Intel 32-bit/Windows | Windows Storage Server 2003 | 250 MB | 85 MB |
| Intel 64-bit/Windows | Windows XP SP1 | -- | 85 MB |
| Intel 64-bit/Windows | Windows 2003 | 290 MB | 85 MB |
| Intel 32-bit/Novell | Novell 5.1, SP4 and SP5 | -- | 3.12 MB (a) |
| Intel 32-bit/Novell | Novell 6.0, SP1, SP2, and SP3 | -- | 3.12 MB (a) |



| Hardware Type | Operating System | NetBackup and Media Server | NetBackup Client |
|-------------------------------|--|----------------------------|------------------|
| Intel 32-bit/Novell | Novell 6.5 | 21 MB | 3.12 MB (a) |
| Intel 32-bit/Linux | Linux Debian GNU/Linux 3.0 | -- | 94 MB |
| Intel 32-bit/Linux | Linux Red Hat 8.0, 9.0 | -- | 94 MB |
| IBM z800/900 (31-bit mode) | Linux Red Hat zSeries 2.1 | -- | 8 MB |
| Intel 32-bit/Linux | Linux Red Hat AS/ES 2.1 | 263 MB | 94 MB |
| Intel 32-bit/Linux | Linux Red Hat WS 2.1 | -- | 94 MB |
| Intel 32-bit/Linux | Linux Red Hat AS/ES/WS 3.0 | 263MB | 94 MB |
| Intel 32-bit/Linux | Linux SuSE 8.0, 8.1, 8.2 | -- | 94 MB |
| Intel 64-bit/Linux | Linux SuSE SLES8.0 | -- | 16 MB |
| Intel 64-bit/Linux | Linux Red Hat 3.0 | -- | 16 MB |
| IBM z800/900 (31-bit mode) | Linux SuSE 7.0 | -- | 8 MB |
| Intel 32-bit/Linux | SuSE SLES 8.0 | -- | 94 MB |
| Intel 32-bit/Linux | 9.0 Workstation | -- | 94 MB |
| Intel 32-bit/UNIX | Solaris 7, 8, 9 | -- | 89 MB |
| AMD 64/UNIX | Solaris 9 (32-bit emulation mode on Operton) | -- | |
| Apple Macintosh | MacOS X Server 10.2.2, 10.2.6, 10.3 | -- | 8 MB |
| SGI | IRIX 6.5.18 - 6.5.22 | 205 MB | 21 MB |
| Sun | Solaris 7, 8, 9 | 395 MB | 105 MB |

a. Add 1 MB of space for the Netware GUI on a Windows system.



Platforms Supporting the NetBackup Administration Consoles for UNIX

VERITAS supports only the window managers in the following table when using NetBackup Java. There are a number of user interface anomalies using the various window managers available on UNIX platforms. Many of these problems are documented as Java bugs. Most of these problems are because of unusual or non-standard window manager configurations and occur randomly and infrequently. In the most common cases of misplaced or shifted components within a dialog, simply resizing the dialog repaints the display and causes the interface to display correctly. Although CDE, MWM and OLWM have the most reported bugs, this is largely due to their popularity; do not use `fvwm` or `twm` instead.

VERITAS has seen the best overall performance with the CDE window manager and recommends this window manager on the non-Linux UNIX platforms. For additional information on how to improve performance of your NetBackup-Java GUI environment, refer to the *NetBackup System Administrator's Guide*.

The following table identifies the platforms that support the NetBackup Administration Console for UNIX and the NetBackup-Java Client GUI in this release.

Platforms that Support NetBackup-Java Administration Console and NetBackup-Java Administration Client GUI

| Platform | NetBackup-Java Administrative Console | NetBackup-Java Client GUI | Supported Window Managers (UNIX) |
|-------------------------------------|---------------------------------------|---------------------------|----------------------------------|
| Windows NT 4.0 (SP 6A) | Yes | Yes | NA |
| Windows 2000 (SP 2), XP, 2003 | Yes | Yes | NA |
| Solaris 7, 8, 9 | Yes | Yes | CDE, Motif |
| Solaris 7, 8 (x86) | Yes | Yes | CDE, Motif |
| HP-UX 11.00, 11i (11.11) | Yes | Yes | CDE, Motif |
| HP - Itanium Processor Family (IPF) | No | No | CDE |
| Red Hat Linux 8.0, 9.0 | Yes | Yes | GNOME/Enlightenment KDE/KWM |
| Red Hat Linux zSeries 7.2 | Yes | Yes | GNOME/Enlightenment KDE/KWM |
| Red Hat Linux AS/ES, WS 2.1 | Yes | Yes | GNOME/Enlightenment KDE/KWM |



Platforms that Support NetBackup-Java Administration Console and NetBackup-Java Administration Client GUI

| Platform | NetBackup-Java Administrative Console | NetBackup-Java Client GUI | Supported Window Managers (UNIX) |
|-------------------------------|---------------------------------------|---------------------------|----------------------------------|
| Itanium Linux 64 bit | Yes | Yes | GNOME/Enlightenment KDE/KWM |
| AIX 5.0, 5.2 | Yes | Yes | CDE |
| HP Tru64 5.1, 5.0, 5.0a, 5.0b | Yes | Yes | CDE |

Additional NetBackup-Java Administration Console - Supported Platform Information

NetBackup-Java Administration Console for AIX only supported on CHRP platform

The Java runtime environment (JRE) for the AIX platform is only supported on IBM's Common Hardware Reference Platform (CHRP) machines. On an AIX host, the NetBackup installation will check to ensure the host is a CHRP machine. If not, the NetBackup-Java Administration Console code will not be installed.

Platforms Supporting xbp

The following clients have the xbp interface capability.

Platforms that Support xbp

| Client Type | Operating System |
|-------------------|------------------------|
| HP-UX Tru64/Alpha | Open VMS (5.5 - 7.2.1) |
| HP-UX PA-RISC | HP 11.00 |
| Intel x86 | Linux |
| SGI | IRIX(6.5) |
| Sun | Solaris 7, 8, 9 |
| X86/UNIX | Solaris 7, 8 |

- ◆ Support of the Motif client interface



At the next major release after NetBackup 5.1, NetBackup will no longer include the Motif version of the client interface (xbp).

- ◆ The command line interface (bp) will continue to be supported. It is available on all UNIX client platforms.
- ◆ The Java client GUI interface (jbpSA) will continue to be supported. Refer to the “Platforms Supporting the NetBackup Administration Consoles for UNIX” on page 29 for a list of supported platforms.

Supported Peripherals

This section contains a table that identifies the supported robot types at the release of NetBackup 5.1. As with many products, soon after a given release, changes can occur and new robots can become supported; therefore, users can find the most current information on the supported peripherals and robot types that are applicable to the NetBackup 5.1 product on the VERITAS support web page. To locate the supported platform information on the VERITAS support web site, perform the following procedure.

1. Go to the VERITAS support web page: <http://www.support.veritas.com>.
2. From the Select Product Family list, choose **NetBackup Products**. The Select Product window refreshes showing a list of NetBackup products.
3. Select one of the NetBackup products (such as, NetBackup Enterprise Server). The page refreshes and displays a search window with four tabs:
 - ◆ Documents
 - ◆ Downloads
 - ◆ Software Alerts
 - ◆ Compatibility
4. Click the **Compatibility** tab. The page will refresh showing documents that contain compatibility information. Search through these results for the following document link: **Device and Library Compatibility Information - All Versions and Platforms**
5. Click **Device and Library Compatibility Information - All Versions and Platforms**.
6. A new web page will appear that contains a list of product options to choose from. Select a product from the list that relates to NetBackup 5.1. A list of vendors appears.



7. At the bottom of the list of vendors there are links that explain what drives, libraries, and robot types are currently supported. The links are shown in the following list. Click on one of these links to view the type of information you would like to see.
- ◆ View All Supported Drives
 - ◆ View All Supported Libraries
 - ◆ View All Supported Robot Types.

Robot Type and TapeAlert Support By Platform

The following tables show the robot types that NetBackup and Media Manager support on each platform. The robot type classifies the devices and peripherals either by their physical characteristics, by their media type, or by the communication methods used by their underlying robotics. (See the *NetBackup Media Manager System Administrator's Guide* for more information about the robot types.)

| | |
|-------------------------------------|---------------------------------|
| ACS ... Automated Cartridge System | TLD ... Tape Library DLT |
| LMF ... Library Management Facility | TLH ... Tape Library Half-inch |
| ODL ... Optical Disk Library | TLM ... Tape Library Multimedia |
| RSM ... Removable Storage Manager | TS8 ... Tape Stacker 8MM |
| TL4 ... Tape Library 4MM | TSD ... Tape Stacker DLT |
| TL8 ... Tape Library 8MM | TSH ... Tape Stacker Half-inch |

Table 1. NetBackup Enterprise Server- Robot Support by Platform

| Platforms | Robot Types | | | | | | | | | | | | Tape-Alert ¹ |
|-------------------------------------|------------------|-----|-----|-----|-----|-----|-----|-----|------------------|-----|-----|-----|-------------------------|
| | ACS | LMF | ODL | RSM | TL4 | TL8 | TLD | TLH | TLM | TS8 | TSD | TSH | |
| HP-UX Tru64 UNIX | Yes | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes |
| HP - Itanium Processor Family (IPF) | Yes | No | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes |
| Linux Red Hat | Yes | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Microsoft Windows | Yes ² | No | No | Yes | Yes | Yes | Yes | Yes | Yes ² | Yes | Yes | No | Yes |
| IBM RS6000 AIX | Yes | No | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No |
| SGI IRIX | Yes | No | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |



Table 1. NetBackup Enterprise Server- Robot Support by Platform

| Platforms | Robot Types | | | | | | | | | | | | Tape-Alert ¹ |
|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|
| | ACS | LMF | ODL | RSM | TL4 | TL8 | TLD | TLH | TLM | TS8 | TSD | TSH | |
| Sun Solaris | Yes | Yes | Yes | No | Yes |

1. TapeAlert support is a tape drive feature. This column only indicates whether the host platform will poll the drive for this information.

2. This robot type is not supported on Windows 2003 64-bit server.

The following lists define current notes that apply specifically to each Robot identified in the previous table.

- ◆ ACS
 - ◆ Contact your drive and operating system vendors to ensure that the standard tape driver support is available.
 - ◆ NetBackup Vault 4.5 and higher supported.
- ◆ ODL
 - ◆ Corsair and FX drives are supported, but not mixed in same library.
 - ◆ HP9000 requires SCSI pass-through driver from HP.
- ◆ TL4
 - ◆ HP9000 requires SCSI pass-through driver from HP.
- ◆ TL8
 - ◆ HP9000 requires SCSI pass-through driver from HP.
 - ◆ NetBackup Vault 4.5 and higher supported.
- ◆ TLD
 - ◆ HP9000 requires SCSI pass-through driver from HP.
 - ◆ NetBackup Vault 4.5 and higher supported.
- ◆ TLH
 - ◆ Tru64 - IBM Impcd package tested on Tru64 (5.1.3.0).
 - ◆ RS6000, Windows - IBM ATL tested on AIX (5.4.8.0).
 - ◆ HP-UX, Windows, Solaris - IBM Impcd package tested on Solaris (5.3.9.0).
 - ◆ SGI - IBM Impcd package tested on SGI (5.2.0.0)
 - ◆ NetBackup Vault 4.5 and higher supported.



- ◆ TLM
 - ◆ DAS media types supported: 3480, 3590, DECDLT, 8mm, 4mm, LTO, and DTF. On HP9000, OD_THICK also supported. Any DAS media types not listed are not supported.
 - ◆ NetBackup Vault 4.5 and higher supported.
- ◆ TS8
 - ◆ HP9000 requires SCSI pass-through driver from HP.

Table 2. NetBackup Server - Robot Support by Platform

| Robot Type ¹ | Hewlett Packard HP-UX | Linux Red Hat | Sun Solaris | Microsoft Windows | HP Tru64 | IBM AIX |
|-------------------------|--------------------------|------------------|----------------|----------------------|-------------|---------|
| RSM | No | No | No | Yes ³ | No | No |
| TL4 ² | Yes | Yes | Yes | Yes | Yes | Yes |
| TL8 | Yes | Yes | Yes | Yes | Yes | Yes |
| TLD | Yes | Yes | Yes | Yes | Yes | Yes |
| TS8 | Yes | Yes | Yes | Yes | Yes | Yes |
| TSD | Yes | Yes | Yes | Yes | Yes | Yes |
| TSH | No | No | Yes | No | No | Yes |
| ODL | Yes | Yes | Yes | No | No | Yes |

1. Use the acronym in this column when you define the robot to NetBackup and Media Manager.

2. Supported only with Hewlett-Packard and Sony.

3. Supported only on Windows 2000 and 2003.

General Notes for Supported Peripherals

As announced in the NetBackup 5.0 release, the TSD and TS8 robotic daemons may be decommissioned in the next major release of NetBackup. This item serves as a reminder that any devices configured as these two types will then be supported by the TLD and TL8 daemons. The upgrade install will automatically change existing device configurations. Any new device configuration done via the Device Discovery Wizard will not use TSD or TS8.

NetBackup Backward Compatibility

Starting with NetBackup DataCenter 4.5, mixed patch-level versions of 4.5 were supported. These same rules have been carried forward to NetBackup 5.1. This type of support enables NetBackup servers to run a mixture of NetBackup major releases and patches in the same environment. In past versions, such as NetBackup 3.4, all master and media servers were expected to be at the same patch level. However, because of large backup environments and rigid customer change control procedures, there was great demand for incrementally upgrading production backup environments. For example, with this release of NetBackup a customer can have the following in their environment and have all managed by one master server:

- ◆ A master server running NetBackup 4.5 FP3
- ◆ Another server running NetBackup 5.0GA
- ◆ Another server running NetBackup 5.0 MPx
- ◆ Another server running NetBackup 4.5GA
- ◆ Another server running NetBackup 4.5 MPx
- ◆ Another server running NetBackup 4.5 FPx

The basic rules for a mixed-server environment are as follows:

- ◆ In a mixed environment such as this, and to avoid version conflict and resulting problems, it is imperative to have the master server at the highest revision in your configuration.
- ◆ A master server can inter-operate with a media server that is running a level of NetBackup that is one major release lower. In addition, installing NetBackup 5.1 on a master server, then allows a media server to be upgraded to NetBackup 5.1.

For example, a master server running a 5.1 level of NetBackup can inter-operate with a media server running any 4.5 level of NetBackup.

- ◆ No media server may have a numerically higher version than the master server. The media servers must be running equal or lower levels of NetBackup.
For example, a master server running NetBackup 4.5 FP6 in an environment can inter-operate with media servers running 4.5, 4.5 MP2, and 4.5 MP5.
- ◆ VERITAS has typically supported NetBackup clients running at different patch/pack levels or at a previous release (for instance NetBackup 4.5 client can be supported using a NetBackup 5.1 server).
- ◆ The volume database host, the global device database host, the vmd/DA host, and the master server must all be running the same level of NetBackup. The volume database host and the global device database host must be at the same or greater level of NetBackup as the media servers that they service.





NetBackup Product Dependencies

This chapter provides information on the product dependencies of NetBackup 5.1. It is important that users verify that their operating system is up-to-date with all of the latest patches and upgrades before they install NetBackup. This section is a guide used to inform users of known operating systems that require a patch or upgrade. For your convenience and whenever possible, a link is provided for each patch that will direct users to the proper web site where they can find the patches and upgrades that they need to install.

The following table contains a list of platforms, the associated operating systems, and version levels, that NetBackup supports. If your operating system version is older than those shown in this chapter, then you should refer to previous versions of the NetBackup Release Notes documents to determine if a known dependency exists for your OS version. (Refer to the VERITAS Support web site (<http://www.support.veritas.com>) to download a previous revision of the NetBackup Release Notes.)

Operating System Patches and Updates

The following table provides the known operating system (OS) patches and updates

OS Patches and Updates

| Hardware Type | OS – Version | Patch | Description |
|----------------------|--------------|-------------------------|---|
| SPARC/ UltraSPARC | Solaris – 7 | 107473-07 (or later) | If using Advanced Client with VxVM 3.2 Release, then users need to install this patch. Users should install this patch before they install VxVM. |
| | | 110722-01 (or later) | If using Advanced Client with VxVM 3.2 Release, then users need to install this patch. If users have Sun’s Alternate Pathing (AP), they must install Solaris patch 110722-01 for VxVM 3.2 to co-exist with the AP driver version 2.3.1. However, users must also upgrade AP. Please see DMP Coexistence with Alternate Pathing before installing VxVM. |



OS Patches and Updates (continued)

| Hardware Type | OS – Version | Patch | Description |
|----------------------|---------------------|---|---|
| | | 106541-16 (or later) | If using Advanced Client with VxVM 3.2 Release, then users need to install this patch. If users are running Solaris 7, they must install patch ID 106541. |
| | | 110881-01 | The 4354397 <code>semop()</code> hangs because of a signal that is received. A conflict exists between GUID code that SMUX and SIG FCL uses. SMUX GUID code is based on SIG FCL so both were creating semaphore with the same ID. |
| | | JRE 1.4 ² (required OS patches) | These fixes to the Operating System are required to ensure proper operation of the VERITAS NetBackup-Java Administration Console. |
| SPARC/ UltraSPARC | Solaris – 8 | 109041-04 ¹ | This patch resolves a problem where NetBackup Java Administration Console hangs before entering the Scheduling Service. |
| | | SUNWsan package (see your vendor to obtain) 109529-06 (or later) | If using Advanced Client with VxVM 3.2 Release, then users need to install this patch. Users must install the SUNWsan package and patch 109529 before installing patch 111413. Users can then install VxVM. The order of these steps is important. |
| | | 111413-02 (or later) | |
| | | 110722-01 (or later) | If using Advanced Client with VxVM 3.2 Release, then users need to install this patch. If users have Sun's Alternate Pathing (AP), they must install Solaris patch 110722-01 for VxVM 3.2 to co-exist with the AP driver version 2.3.1. However, users must also upgrade AP. Please see DMP Coexistence with Alternate Pathing before installing VxVM. |
| | | 108528-08 | The 4354397 <code>semop()</code> hangs because of a signal that is received. A conflict exists between GUID code that SMUX and SIG FCL uses. SMUX GUID code is based on SIG FCL so both were creating semaphore with the same ID. |



OS Patches and Updates (continued)

| Hardware Type | OS – Version | Patch | Description |
|---------------|--------------|---|---|
| | | 110383-01 | The 4354397 <code>semop ()</code> hangs because of a signal that is received. A conflict exists between GUID code that SMUX and SIG FCL uses. SMUX GUID code is based on SIG FCL so both were creating semaphore with the same ID. |
| | | JRE 1.4 ² (required OS patches) | These fixes to the Operating System are required to ensure proper operation of the VERITAS NetBackup-Java Administration Console. |
| Intel x86 | Solaris – 7 | 106328-08 ¹ | Sun problem ID number 4199857. Missing symbols from libCrun.so.1. |
| | | 110882-01 | The 4354397 <code>semop ()</code> hangs because of a signal that is received. A conflict exists between GUID code that SMUX and SIG FCL uses. SMUX GUID code is based on SIG FCL so both were creating semaphore with the same ID. |
| | | JRE 1.4 ² (required OS patches) | These fixes to the Operating System are required to ensure proper operation of the VERITAS NetBackup-Java Administration Console. |
| Intel x86 | Solaris – 8 | 109042-04 ¹ | This patch resolves a problem where NetBackup-Java Administration Console hangs before entering the Scheduling Service. |
| | | 108529-08 | The 4354397 <code>semop ()</code> hangs because of a signal that is received. A conflict exists between GUID code that SMUX and SIG FCL uses. SMUX GUID code is based on SIG FCL so both were creating semaphore with the same ID. |
| | | 110397-01 | The 4354397 <code>semop ()</code> hangs because of a signal that is received. A conflict exists between GUID code that SMUX and SIG FCL uses. SMUX GUID code is based on SIG FCL so both were creating semaphore with the same ID. |
| | | JRE 1.4 ² (required OS patches) | These fixes to the Operating System are required to ensure proper operation of the VERITAS NetBackup-Java Administration Console. |



OS Patches and Updates (continued)

| Hardware Type | OS – Version | Patch | Description |
|----------------------|----------------------|--|---|
| HP | HP-UX 11.00 | PH_KL22840 (or later) | Required to run NetBackup Advanced Reporter on HP-UX 11.00 |
| | HP-UX 11.00 | PH_NE_22397 (or later) | On HP/UX 11.0, if a connection is initiated re-using the port number used by a previously closed connection that is in TIME_WAIT, the new connection times out. The above fix has been added to eliminate the conditions that lead to the connection time-out problem experienced via the NetBackup-Java Administration Console. In addition, this patch is also required to run NetBackup Advanced Reporter on HP-UX 11.00. |
| | HP-UX 11.00 | PHSS_26559 (or later) | s700_800 11.00 ld(1) and linker tools cumulative patch. Updates /usr/lib/dld.sl to a version capable of loading the visd shared libraries at runtime. This is needed for the GDM information server. |
| | HP-UX 11.10 | PHCO_28425 | This is a recommended critical patch from HP that is required for NetBackup to use VxSS. |
| | HP-UX 11.00/11.10 | PHSS_24627 ³ (replaced by 24627) | These patches are necessary to enable any C++ runtime code to work properly. |
| | HP-UX 11.00/11.10 | PHSS_24627 ³ (replaced by 24627) | These patches are necessary to enable any C++ runtime code to work properly. Check for existence by doing a <code>swlist -l product PHSS_24627</code> . |
| | HP-UX 11.10 | PHKL_25525 ³ | This patch will allow HP-UX 11.00 mmap() to use large files from 2GB to 4GB. |
| | HP-UX 11.11 | PHSS_22898 ³ (replaced by 24638) | These patches are necessary to enable any C++ runtime code to work properly. |
| | HP-UX 11.11 | PHKL_25227 ³ | Patch which allow HP-UX 11.11 mmap() to use large files from 2GB to 4GB. |
| | HP-UX 11.11 | PHCO_29029 | This is a recommended critical patch from HP that is required for NetBackup to use VxSS. |



OS Patches and Updates (continued)

| Hardware Type | OS – Version | Patch | Description |
|---------------|---|---|---|
| | (All versions) | JRE 1.4 ⁴ (required OS patches) | These fixes to the Operating System are required to ensure proper operation of the VERITAS NetBackup-Java Administration Console. |
| | HP-UX 11.00 with IPR0103 and IPR0106 ⁵ | PHSS_24044 | Allow <code>POLL_INTERVAL</code> to be set to zero in <code>/var/stm/config/tools/monitor/dm_stape.cfg</code> . This disables the <code>dm_stape</code> monitor within the Event Monitoring System. |
| | HP-UX 11.11 with IPR0103 and IPR0106 ⁵ | PHSS_24045 | Allow <code>POLL_INTERVAL</code> to be set to zero in <code>/var/stm/config/tools/monitor/dm_stape.cfg</code> . This disables the <code>dm_stape</code> monitor within the Event Monitoring System. |
| HP Alpha | Tru64 5.0. 5.0a, 5.0b | Fixed libc.so in Patches 00691.00, 01830.00 | Shared libraries that call <code>atexit()</code> or <code>pthread_atfork()</code> to register <code>atexit</code> or <code>prefork</code> handlers do not unregister the handlers if the libraries are unmapped by a call to <code>dlclose</code> . Check for this patch by performing the following: <pre>nm /shlib/libc.so grep atdlclose</pre> If you see no output from the above <code>nm</code> command, then you do not have the required patch. For information on HP Alpha patches, refer to: http://ftp.support.compaq.com/patches/.new/unix.shtml |
| Intel x86 | Red Hat Linux 7 | <code>glibc</code> (RHBA-2000:079-04) | The NetBackup-Java Administration Console segfaults on Red Hat Linux 7 when it is started. This is a known Red Hat Linux 7 bug. You must install at least the <code>glibc</code> (RHBA-2000:079-04) bug fix from Red Hat (http://www.redhat.com). |



OS Patches and Updates (continued)

| Hardware Type | OS – Version | Patch | Description |
|----------------------|----------------------|-------------------------------|--|
| | | ncurses.5.2-12 | <p>If you do not have this installed, you will see the following error when trying to start the NetBackup menu interface on the client:</p> <pre>error while loading shared libraries: libncurses.so.5: cannot open shared object file: No such file or directory.</pre> <p>The error appears to be more serious on a server, because license keys will appear invalid, when the real problem is that <code>ncurses</code> is not installed.</p> |
| Intel x86 | Red Hat Linux ES 3.0 | compat-libstdc++-7.3-2.96.122 | <p>If you do not have this installed, you will see the following error when trying to execute some of the binaries on the client:</p> <pre>error while loading shared libraries: libstdc++-libc6.2-2.so.3: cannot open shared object file: No such file or directory.</pre> <p>The error appears to be more serious on a server, because license keys will appear invalid, when the real problem is that the package is not installed.</p> |
| AIX | (All versions) | 4330-02 (or later) | <p>For AIX 5.0, the NetBackup-Java Administration Console requires the AIX 5100-03 Recommended Maintenance Level. This maintenance package is intended for customers who already have AIX 5.0 installed. The AIX 5100-03 maintenance package can be downloaded from, http://techsupport.services.ibm.com/server/nav?fetch=ffa5e, using APAR number IY32749 (PTF U484854). If you are a licensee of AIX 5.0, you can obtain an update CD dated 10/2002 by contacting your point of sale. In addition, you also need APAR IY35108 (for AIX 5.0) or APAR IY35844 (for AIX 5.2) to fix a thread safety problem with the AIX dup2 system call.</p> |
| AIX | AIX 4.3.3 | 5.0.2.0 of x1C.rte (or later) | <p>This file set is necessary to enable any C++ runtime code to work properly.</p> |



OS Patches and Updates (continued)

| Hardware Type | OS – Version | Patch | Description |
|-----------------|------------------|---------------------------------|--|
| AIX | AIX 5.0 (64-bit) | APAR IY27467 (Emergency Fix) | Users can find this patch at: ftp://service.software.ibm.com/aix/efixes/iy27467/ and will be available for download until the official fix is released. Caution You must install this IBM patch prior to installing NetBackup. Installing and running NetBackup Media Server on an AIX 5.0 64-bit operating system can result in core dumps and system crashes if this patch is not installed. |
| X86/ Windows | NT 4.0 SP 6A | Obtain from Microsoft | Required on all NT 4.0 machines in order to install. Install will notify user if not at required level |
| X86/ Windows | 2000 SP 2 | Obtain from Microsoft | Required on all 2000 machines in order to install. Install will notify user if not at required level |

Note: The following list contains URLs to other vendor's web sites. Changes to these sites can occur without notification. If a URL is no longer valid, please contact the vendor directly for assistance.

1. For information about the Sun patch bundles, refer to: <http://sunsolve.sun.com>.
2. For information about the operating system patches for Java 1.4 that are associated with Sun Solaris, refer to: <http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/J2SE>.
3. For information about the HP 9000 patches, refer to:
<http://us-support.external.hp.com/common/bin/doc.pl>
4. For information about the java patches associated with HP 9000, refer to:
<http://www.hp.com/products1/unix/java/patches/index.html>.
5. Using the patch IPR0106 works fine, however, VERITAS recommends you upgrade to IPR0109.

Other Patch Information

If you have a system running HP-UX 11.00 and install the PHKL_26239 or PHKL_27800 patches, you will experience problems with Block-level Incremental Backups. This problem does not occur with these patches on systems running HP-UX 11.11.



Product Dependencies

The following tables define the product-related dependencies associated with this release.

Product Related Dependencies

| Dependency | Vendor | Description |
|--|------------|--|
| Internet Explorer 5.0 or higher (GDM requires 5.5 or higher) | Microsoft | Required for Explorer Extension in the Windows NetBackup GUI. If this is not available, the install will fail. |
| VxVM 3.2 or higher for Solaris 7, 8, and HP-UX 11i | VERITAS | Required for Advanced Client - VxVM being used on client. |
| VxVM 3.5 or higher for Solaris 9 | VERITAS | Required for Advanced Client - VxVM being used on client. |
| VxVM 3.3.1 SP1 HF3 or higher for Windows 2000 | VERITAS | Required for Advanced Client - VxVM being used on client. |
| VxFS 3.4 or higher for Solaris 7 and 8 | VERITAS | This is required for Advanced Client - VxFS file system being used on client. |
| VxFS 3.5 or higher for Solaris 9 | VERITAS | This is required for Advanced Client - VxFS file system being used on client. |
| VxFS 3.3 or higher for HP-UX 11i | VERITAS | This is required for Advanced Client - VxFS file system being used on client. |
| Online JFS 3.3 or higher for HP-UX | HP website | This is required for Advanced Client - Online JFS file system being used on HP-UX 11i client. |
| VxFS 3.5 or higher or Online JFS 3.3 or higher for HP-UX 11i | HP website | This is required for VxFS_Checkpoint snapshots in Advanced Client - VxFS file system being used on HP-UX 11i client. |
| Oracle 8i or above with RMAN proxy copy capability | Oracle | This is required to use Oracle DB Agent with Advanced Client. |



Product Related Dependencies

| | | |
|--|----------------------|---|
| TimeFinder release for Solaris or HP-UX; SYMAPI Library release 4.2-154 or higher for Solaris or HP-UX | EMC | This is required for Advanced Client - TimeFinder snapshots. Note The SYMAPI Library is installed on the host but the TimeFinder firmware gets installed on the EMC Symmetrix disk array - NOT on the host where NetBackup is installed. |
| RAID Manager Library version 01-03-03/01 or higher for Solaris or HP-UX; ShadowImage release for Solaris or HP-UX | Hitachi Data Systems | This is required for Advanced Client - ShadowImage snapshots. Note The RAID Manager Library is installed on the host but the ShadowImage firmware gets installed on the HDS 7700/9900 array - NOT on the host where NetBackup is installed. |
| RAID Manager Library version 01-03-03/01 or higher for Solaris or HP-UX; BusinessCopy release for Solaris or HP-UX | HP | This is required for Advanced Client - BusinessCopy snapshots. Note The RAID Manager Library is installed on the host but the BusinessCopy firmware gets installed on the HP XP256 and 512 series disk arrays - NOT on the host where NetBackup is installed. |
| LibAttach version 1.1 for Windows NT and Windows 2000 | StorageTek | Required to control ACSLS robotics on Windows NT and Windows 2000 platforms. |



Supported versions of VxFS and VxVM

The following table shows the different versions of VxFS and VxVM that VERITAS NetBackup supports, and the corresponding operating systems for each.

Versions VxFS and VxVM Currently Supported by VERITAS NetBackup

| Operating System | Version of VxFS | Version of VxVM |
|-------------------------|-----------------------------|-----------------------------|
| AIX 5.0 | VxFS 3.4 | VxVM 3.2 |
| HP-UX 11.00 | VxFS 3.3 | VxVM 3.1 |
| HP-UX 11.11 (11i) | VxFS 3.3 and 3.5 | VxVM 3.1, 3.2, and 3.5 |
| HP Itanium | VxFS 3.5 | VxVM 3.2 |
| Linux Red Hat z-Series | VxFS 3.4 | VxVM 3.2 |
| Linux Red Hat AS/ES 2.1 | VxFS 3.4 update 1 or higher | VxVM 3.2 update 1 or higher |
| Linux Red Hat WS 2.1 | VxFS 3.4 update 1 or higher | VxVM 3.2 update 1 or higher |
| Solaris 7 and 8 | VxFS 3.4, 3.5, and 4.0 | VxVM 3.1, 3.2, 3.5, and 4.0 |
| Solaris 9 | VxFS 3.5, and 4.0 | VxVM 3.5 and 4.0 |
| Windows NT | -- | VxVM 2.7 |
| Windows 2000 | -- | VxVM 3.0 and 3.1 |

Note NetBackup has improved its integration with the VERITAS File System (VxFS) product to ensure interoperability on all supported VxFS versions. If running a VxFS version prior to VxFS 4.0 then new VxFS libraries need to be installed on the client in order to backup systems running VxFS.

You must download the appropriate VxFS libraries to your system using the VERITAS support web site. Use the procedure described in TechNote number 262225 to guide you through this process.

Improved Integration with VERITAS File System (VxFS)

| Platform(s) | VxFS 3.5 | VxFS 3.4 | VxFS 3.3 |
|--------------------|-----------------|-----------------|-----------------|
| Solaris 7 | X | X | NA |
| Solaris 8 | X | X | NA |
| Solaris 9 | X | NA | NA |
| HP-UX 11.11 (11.i) | X | NA | X |
| HP-UX 11.0 | NA | NA | X |





Operational Notes

The following notes explain important aspects of NetBackup operations that may not be documented elsewhere.

Note References to UNIX also apply to Linux, unless otherwise stated.

Installation

The following items offer additional information that may help you use NetBackup after you have installed the product.

1. In this version of NetBackup, the NetBackup Master Server UNIX installation and upgrade processes will install client software remotely only when the remote client being installed or upgraded is a true client, not a master or a media server as well. This is to strictly enforce the requirement that server and client software installed on a single master or media server is at the same release level. Any NetBackup server must be installed or upgraded as a server; upgrading only client binaries on a server is not allowed.

For additional details regarding how to update clients can be found in the *NetBackup Installation Guide for UNIX*.

2. Version File Changes

The DataBase agent version files that are created upon a successful install have been renamed and moved to a new location. This location and naming convention now matches how other version files for NetBackup 5.1 Add-ons are handled. DataBase agent version files are now installed to:

- ◆ /usr/opensv/share with a name of version_<agent>. For example:
- ◆ /usr/opensv/share/version_db2
- ◆ /usr/opensv/share/version_informix
- ◆ /usr/opensv/share/version_lotus
- ◆ /usr/opensv/share/version_oebu



- ◆ /usr/opensv/share/version_sap
- ◆ /usr/opensv/share/version_sybase

The contents of these files remains the same as before.

3. Advanced Client Products

In NetBackup 5.1, the following products are combined into one package called NetBackup Advanced Client:

- ◆ ServerFree Agent, comprised of:
 - ◆ Core Frozen Image Services
 - ◆ Extended Frozen Image Services/Array Integration Option
 - ◆ offhost and SAN Data Movement Services
- ◆ FlashBackup
- ◆ Instant Recovery Option
- ◆ Block Level Incremental (BLI)

The new package is installed with an Advanced Client key. If you are upgrading from a previous NetBackup release, an Array Integration Option, Extended Frozen Image Services, FlashBackup, offhost and SAN Data Movement Services, or Persistent Frozen Image key will allow you to install the new package.

Note BLI and ServerFree Agent features that used to be associated with Oracle are now part of the Advanced Client product/license. Therefore, to enable BLI or ServerFree Agent functionality for Oracle, the Oracle and Advanced Client packages must be installed. If upgrading from a previous NetBackup release, an Oracle on UNIX Advanced BLI Agent or Oracle ServerFree Agent key will allow you to install the Advanced Client package in addition to the Oracle package.

4. Additional Help Installing NetBackup When Using Intelligent Disaster Recovery

When installing NetBackup on a Windows XP or Windows 2003 machine, please do either of the following if Intelligent Disaster Recovery is planned on being used for that machine.



- a. Go to the `NetBackup\Bin` folder and execute `DRFILE.EXE` before performing any backups on the machine. This will cause some files to be created in the `%SYSTEMROOT%\repair` folder that are critical for the restore and need to appear in the backup images.
- b. Before creating the bootable media for the machine, make sure that at least two backups have been performed on the machine. Collecting the Disaster Recovery Information after the first backup will cause some files to be created in the `%SYSTEMROOT%\repair` folder. These files need to appear in the backup images and the second backup should contain these files.

Note This is done assuming that the policy has been configured to *Collect Disaster Recovery Information* and the Backup Selections have been specified to fully protect the machine.

5. Oracle Products and Database Archiver

In NetBackup 5.1 the Database Archiver package has been combined with the Oracle package and the new package is installed via an Oracle extension key. If upgrading from a previous NetBackup release, an Oracle extension, Oracle on UNIX Advanced BLI Agent, Oracle ServerFree Agent or a Database Archiver key will allow you to install the new package.

6. To support numerous levels of VxFS when upgrading from NetBackup 4.5, a new client platform configuration has been created for HP 11.11 systems. HP 11.11 clients that are currently configured in NetBackup policies as HP9000-800/HP-UX11.00 or HP9000-700/HP-UX11.00 should be changed to HP9000-800/HP-UX11.11 or HP9000-700/HP-UX11.11.

During an upgrade of a UNIX NetBackup server, you will be asked the following question:

Do you want to update the NetBackup software on the clients?

If you have HP clients that need to be reconfigured, answer no. The installation of the server will complete. You may then reconfigure your HP clients and run `update_clients` as documented in the "Upgrading Clients After the Installation" section of the *NetBackup Installation Guide for UNIX*.

7. Oracle, Informix, DB2 and Sybase

The installation process of these database agents has been changed to only install the agent's files, not execute the configuration script. This change is reflected in each agent's System Administrator's Guide.



The need for the Oracle configuration script (which used to ask for a UNIX database administrators' group on HP, Solaris and AIX) has been eliminated. The `oracle_link` script still exists.

8. Man pages are not installed on UNIX clients.

NetBackup man pages are installed only on the UNIX NetBackup server. If you want to provide man pages for the commands on UNIX client workstations, you can find `troff` source for them in the directory, `/usr/obj/RS60000/netbackup/bin/goodies/man`.

9. Installing using terminal services or a remote desktop connection.

When installing via a remote desktop connection, the source media must either be on a device local to the machine (either the machine's CD-ROM drive or copied to its hard drive), or a UNC network path. Installs are not supported in situations where the source media location is on a mapped network drive from within a terminal services session.

10. The operating system may open a GUI window (for example, File Manager on a Solaris system,) when the CD-ROM is inserted into the drive. VERITAS recommends that you do not use this window to install NetBackup products because unpredictable results may occur. Follow the installation instructions provided in the NetBackup 5.1 documentation set.

General

1. VERITAS supports only those commands, man pages, options, and parameters that are documented. If a command is not documented, then VERITAS does not support it.
2. It is possible that backups spanning midnight can be missed.

Customer sites frequently configure backup windows that span midnight. This configuration enables backups to take place during off peak hours. If the frequency of these backups is set for "interval mode", then the backup times can slowly slide over the midnight boundary and into the following day. That is to say, backups begin to occur after midnight.

Note The sliding of backup times is usually related to lack of resources availability.

Once backups have slid into the second day of a window that spans midnight, then the backups tend to continue to be taken after midnight. For normal customer sites this is not a problem. However, some customer sites set up backup windows that span multiple days. In these cases it's possible for the backup times to slowly slide deeper into the window.



If the backup time slides too deep into the window, there is a possibility that a backup can be missed.

Customers can force the backups to be taken at the beginning of the window by creating the following touch file:

```
/usr/opensv/netbackup/db/config/MULTI_DAY_BACKUP_WINDOW
```

Forcing the backup to the beginning of the window requires the following:

- a. Interval mode backup.
- b. Above touch file is created.
- c. Backup window spans multiple days.
- d. Previous backup was taken prior to window opening.
- e. Next backup scheduled after window opens.

Database Agents

Exchange Database Agent

Individual mailbox backups should be performed in addition to your normal online Exchange database backups. A backup of the databases is still required for a disaster recovery of the Exchange server

Lotus Notes Agent

NetBackup 5.1 will provide support for Lotus R6.0.2 and later on:

- ◆ Solaris 8 and 9
- ◆ AIX 4.3.3, 5.0, and 5.2
- ◆ Windows NT and Windows 2000

Requirements for Lotus R6.0.3 and Lotus R6.5.1 on Solaris

Support for Lotus R6.0.3 on Solaris requires a hotfix to resolve the following SPR: SPR#JCHN5QVL3E (which addresses a transaction log recovery issue).



Support for Lotus R6.0.3 and Lotus R6.5.1 on Solaris requires customers to manually create a link to address a change introduced by Lotus for Domino R6.0.3 and Domino R6.5.1. To create the required link, do the following:

```
ln -s /opt/lotus/notes/latest/sunspa/libndgts.so
/usr/lib/libndgts.s
```

If the link is not created, backups of Lotus will fail with a status 9 error and bpbkar will log debug messages similar to the following:

```
06:14:56.578 [25498] <16> lotus_init: ERR - Load of NetBackup for
Lotus Notes extension failed: libvnbln.so: ld.so.1:
/bp/bin/bpbkar: fatal: libndgts.so: open failed: No such file or
directory
```

```
06:14:56.579 [25498] <16> bpbkar Exit: ERR - bpbkar FATAL exit
status = 9: an extension package is needed, but was not installed
06:14:56.579 [25498] <16> bpbkar Exit: INF - EXIT STATUS 9: an
extension package is needed, but was not installed.
```

Requirements for Lotus R6.0.3 on AIX

Support for Lotus R6.0.3 on AIX requires a hotfix to resolve the following SPR: SPR#JCHN5QVL3E (which addresses a transaction log recovery issue).

Requirements for Lotus R6.0.3 and Lotus R6.5.0 on Linux

Support for Lotus R6.0.3 and Lotus R6.5.0 on Linux requires a hotfix to resolve the following SPR: SPR#JCHN5QVL3E (which addresses a transaction log recovery issue).

Once the hotfix is installed on the Lotus Domino server, a change to the notes.ini file must be made in order for Domino to work properly with NetBackup.

- a. Add the following line to the end of the notes.ini file for each Domino partition:

```
DEBUG_SEMOP_ERRNO0_EINTR=1
```

Note The last character in ERRNO0 is a zero.

- b. Restart the Domino server partition

Requirements for Lotus R6.03 and Lotus R6.5.0 on Windows

Support for Lotus R6.0.3 and Lotus R6.5.0 on Windows requires a combination hotfix to resolve the following two SPRs: SPR#THUR5LPPW9 (which addresses a file path syntax) and SPR#JCHN5QVL3E (which addresses a transaction log recovery issue). There is a single hotfix file to address both issues. Previous Lotus hotfixes may need to be removed before installing this new combination hotfix.

Microsoft SharePoint Portal Server Agent

1. SharePoint Portal Workspace

Workspace backups should be performed in addition to your normal online SharePoint database backups. A backup of the database is still required for a disaster recovery of the SharePoint Portal Server.

Media Manager

1. The Media Manager volume daemon (vmd) and NetBackup Volume Manager service acting as the Shared Storage Option Device Allocator (DA), now enforces a limit of 255 registering hosts. This limit applies as a total limit in case of multiple independent groups of servers (domains) using the same device allocation host.
2. For TLH, the media server that is the library-controlled daemon should be upgraded before all other media servers.
3. The following are implementation strategies and considerations for RSM robots.
 - ◆ The **Perform full inventory on mount failure property** on the General Properties tab of the RSM applet could be turned off as it slows down robotic operations.
 - ◆ NetBackup Media Manager *never* deletes, frees, or de-allocates media in the RSM NTMS database. This must be done manually in the RSM applet by the user since it may result in the loss of data.
 - ◆ NetBackup Media Manager does not support cleaning functions for any RSM robots. These functions must be done using the RSM interface in the Computer Management application.
 - ◆ NetBackup Media Manager does not support RSM-enabled standalone drives. Standalone drives to be used with NetBackup must be disabled in RSM.



- ◆ When media is removed from RSM and recreated, or moved among devices, it is a good practice to update the volume's unique identifier in NetBackup Media Manager by running the command:

```
vmquery -vuguid Media_Id
```

Caution If the network card in an RSM server is replaced, RSM creates all new unique identifiers for ALL RSM objects including robots, drives and volumes. This means that all of your devices must be configured again in NetBackup and all volumes must have their unique identifiers updated with the above command.

SCSI passthru Paths

In this and previous versions of NetBackup, configurations were able to run without SCSI passthru paths, although some functionality was degraded (such as, SCSI reserve/release, NetBackup device discovery). Beginning with the next major release of NetBackup, a default installation will require the use of SCSI passthru paths. Some supported platforms will require no additional configuration changes. However, some platforms will require configuration changes. For information on those systems that require configuration changes, refer to the *NetBackup Device Configuration Guide for UNIX and Windows*.

NetBackup Access Control

1. VERITAS recommends that the NBAC NBU_Security Admin group never be modified.
2. The NBAC feature will initially contain the following groups: NBU_Security Admin, NBU_Admin, NBU_Operator, NBU_User, and Vault Operator.

NetBackup Java Interfaces

General Notes

1. NetBackup-Java Administration Console install on Windows

Because of the new feature that preserves a list of hostnames and usernames to pick from in a drop-down list on the console's login dialog, it is no longer necessary to specify more than one hostname in the install dialog that asks for a list of names.

Ultimately, all of the desktop shortcuts will default to the hostname and username that you used on the last successful login. One desktop shortcut can be used to launch multiple copies of the console.

2. Improving NetBackup-Java GUI Performance

The user has the choice of running the NetBackup-Java console either locally on your desktop or remotely and displaying back to your desktop host. Which platform you are running the GUI from is a big factor when you are faced with performance issues. For information and helpful tips on how to improve the performance of your NetBackup-Java GUI Environment, refer to the *NetBackup Systems Administrator's Guide, Volume I*.

3. Long waits for application response, incomplete data, reduced functionality and/or unexpected error messages may be returned in the applications as a result of invalid NetBackup configurations or inadequate file system space in

`/usr/opensv/netbackup/logs` on the host specified in the login dialog or in `/usr/opensv/java/logs` on the host that the NetBackup-Java Administration Console was started. Following are some example results when these things occur.

- ◆ No response during login
- ◆ Cannot connect socket errors during login to the NetBackup Java application server (bpjava)
- ◆ Reduced functionality in the NetBackup Java Administration Console, for example, only Backup, Archive and Restore and Files System Analyzer nodes in the tree
- ◆ Error dialog with Unable to login, status: 35 cannot make required directory message
- ◆ Error dialog with `/bin/sh: null: not found (1)` message
- ◆ Empty warning dialogs
- ◆ Error dialog with An exception occurred:
`vrts.nbu.admin.bpmgmt.CommandOutputException: Invalid or unexpected class configuration data: <rest of the message varies>`

4. Support of NetBackup-Java Administration Console on AIX platforms

For AIX platforms, the Java Runtime Environment (JRE) is only supported on AIX 5.0. It is not supported on AIX 4.3. Therefore this release of the NetBackup-Java Administration Console cannot be used on AIX 4.3 systems. Customers with an AIX 4.3 NetBackup master server can administer this server remotely from any other UNIX or Windows server platform capable of hosting the NetBackup Administration Console.



5. Reduced functionality (only the Backup, Archive and Restore component available) or 'cannot connect' errors during initialization of the NetBackup-Java Administration Console will result if one or more of the NetBackup services or daemons on the host specified in the login dialog is not running.

6. Restart NetBackup-Java Administrative Console after restart of daemons

After restarting daemons/services in Activity Monitor or via other commands, we recommend exiting all instances of the NetBackup-Java administration console and starting a new copy of it via the `jnbSA` command. If the VSM product has been installed and available in the GUI, the same applies for the VSM `migrd` daemon.

7. Window managers configured for auto focus are not supported. Auto focus means that windows are activated (get the focus) when you position the mouse cursor over them. The following explains how to correctly set up a CDE environment.

In the CDE environment, use the Style Manager -- Window dialog to change the window behavior to Click In Window To Make Active. NetBackup Java does not run properly if the Style Manager has the following selected: Point in Window To Make Active.

8. If you are not set up properly to display to a machine from where you are executing `jnbSA`, you see one of the following happen: nothing (it is probably displaying on the machine where `jnbSA` is executing), the command fails with no error message (that is, the OS command prompt is received) or the following error message is placed in the log file (the log file name is displayed to the window in which you executed the `jnbSA` command).

```
java.lang.InternalError: Can't connect to X11 window server
using "host_name" as the value of the DISPLAY variable.
```

Prior to starting `jnbSA`, be sure to execute the `xhost` command on the machine where you intend to see the user interface and set the `DISPLAY` environment variable on the machine executing `jnbSA` prior to starting `jnbSA`. Reference the man page for the `xhost` command for additional capabilities.

9. To better facilitate getting support information for problems you may experience with NetBackup Java when running on Solaris Intel, Solaris Sparc, HP-UX, AIX, Red Hat Linux, SuSE Linux and Tru64, the application startup script, `jnbSA`, writes a log file by default to `/usr/openv/java/logs`. There is one log file for every instance of the application. Normally, these log files are not large (less than 2 KB). However, periodic pruning of the files in this directory is recommended. For more detail, refer to the "Gathering Information for NetBackup Java" section in the *NetBackup Troubleshooting Guide for UNIX and Windows*.

10. The operating system version data seen in various tables may not be accurate for any pre-4.5 host.



11. There is no support in the Administration console for administering pre-4.5 servers.
12. Evaluation software expiration and the NetBackup Java interface application.

Attempts to use the NetBackup Java Administration Console after an evaluation copy of NetBackup has expired results in the following error message being displayed in an error dialog and all the NetBackup Java applications except Backup, Archive, and Restore disabled.

Administrator applications are not accessible due to the following error: Unable to get the attribute table.
13. Administrative capabilities depend on licenses and user authorization

The existence of various administrative capabilities (for example, Vault Management in the Administration Console's tree) is dependent on whether it is licensed and/or a nonroot user has been authorized for it on the relevant NetBackup host. This is checked during each *change server* operation.

In addition, upon completion of any *change server* operation, the Backup, Archive, and Restore capability is not available as it is only available for tasks on the host specified in the console's login dialog.
14. Restart daemons and utilities after a configuration or license key change

After making a change to the NetBackup configuration via the Host Properties dialogs, you must restart all daemons and utilities (including the NetBackup-Java Administration Console) to ensure the new configuration values are used.
15. Configuration conflicts may result if more than one administrator attempts administration tasks simultaneously on the same object. The last update will prevail.
16. Deleting all license keys causes the administration console to be non-functional. You'll have to use the `bpmnlicense` command to update the licensing database prior to use of the console.
17. Configuring Host Properties or Frozen Image.

For clients of a server that is the target of a *change server* requires the server specified in the console login dialog be in the server list of all the clients.
18. VNETD connect option, `NBJAVA_CONNECT_OPTION`, not supported for DGUX clients.

The NetBackup-Java console configuration option, `NBJAVA_CONNECT_OPTION`, must be set to 0 when specifying a DGUX client host in the administration or user console's login dialog. If not, the following error dialog will occur when trying to login.



Unable to login, status: 517 Can not connect to the NB-Java user service via VNETD on <hostname> on port 13724.

Exception: java.net.ConnectException: Connection to user service via VNETD is unsuccessful - status: 23. Exception message: Connection to user service via VNETD is unsuccessful - status: 23.

The `NBJAVA_CONNECT_OPTION` applies to all execution instances of the `jbpSA` or `jnbSA` regardless of the host specified in the login dialog. For more information, consult the documentation in the *NetBackup System Administrator's Guide for UNIX, Volume I*.

19. Memory requirements to run the NetBackup-Java Administration Console

VERITAS recommends that you run the console (`jnbSA`, `jbpSA`, or Java Windows Display Console) on a machine with 1 gigabyte of physical memory and 256 megabytes of memory available to the application.

20. Remote display back of the NetBackup-Java Administration Console not recommended

VERITAS does not recommend running the NetBackup-Java Administration Console in any remote display back configuration. Problems have occurred with certain GUI controls (such as, incorrect combo box operations, very sluggish table scrolling with large numbers of rows, and table display problems with large numbers of rows). In addition, other serious problems have occurred with the GUI aborting or hanging caused by a Java Virtual Machine (JVM) failure due solely to the remote display back configuration. These JVM failures have most often been seen on the AIX platform.

Therefore, VERITAS can only recommend that you run the NetBackup-Java Administration Console on your local desktop for administering any NetBackup host (by specifying that remote host in the GUI's login dialog). The NetBackup-Java Administration Console runs on the Solaris Sparc, Solaris Intel, HP-UX, Tru64, AIX, Red Hat and SuSE Linux, and Windows platforms. For the Windows platform, installation is done using the **Install Java Administration Console** option in the NetBackup Windows installation GUI. Refer to Chapter 2 (Platforms Supporting the NetBackup Administration Consoles for UNIX) of this document for the supported versions of these platforms.

21. Access Management always available in the NetBackup Administration Console

With the NetBackup Access Control feature in this release, there is a new node in the NetBackup Administration Console titled Access Management. If not using this new feature and authorizing nonroot users for various administrator capabilities via the GUI's Capabilities Authorization functionality, you will still see this node in the console's tree for any master or media server that is being administered. This behavior is expected, albeit inconsistent when restricting nonroot user's per users authorization

in the `auth.conf` file. The Access Management capability has to be configured and when not, all users will see an appropriate informative message in the right hand pane of the GUI when accessing it.

Note NetBackup Access Control was not available until the first maintenance update of NetBackup 5.0.

- 22.** An Invalid username error could indicate an invalid password or username.

The Windows platform API does not delineate between invalid passwords and invalid usernames. The following error message could mean either an invalid password or invalid username. This error is received when attempting to login to the GUI's application server on a Windows host.

```
Unable to login, status: 503
Invalid username
```

- 23.** Multiple `bpjava` processes per instance of the console

For increased performance and support for better multi-tasking ability in the console, you will see multiple `bpjava` processes on the host specified in the login dialog. The number will vary depending on the tasks attempted in the console.

Activity Monitor

- 1.** Daemon tab of Activity Monitor does not show `visd` or `nbd bd`

Daemons relevant to only GDM and the Advanced Reporter (`visd`, `nbd bd` and `ar dbd`) do not appear in the Activity Monitor daemons tab.

- 2.** Deleting large number of jobs

When deleting a large number of jobs, do not leave the Activity Monitor node or close the NetBackup Administration Console while any of the deleted jobs are still visible in the Jobs tab. If Activity Monitor is shut down by leaving the Activity Monitor node or by closing the NetBackup Administration Console while jobs are being deleted, some of the jobs may not be deleted.

- 3.** The following message will be displayed if you stop the `bpdbm` daemon on the relevant server when Activity Monitor is active.

```
The connection to server <server_name> was broken.
```

```
Please leave Activity monitor, resolve the problem then reenter
Activity Monitor.
```



The reason this message occurs is that stopping the `bpdbm` daemon will also stop the `bpjobd` process. Upon successful startup of `bpdbm` (which will start `bpjobd`), you can use the refresh button on the toolbar to refresh the Activity Monitor job data. The refresh button is only available upon lost communications with the job daemon, `bpjobd`.

File System Analyzer & Storage Migrator

1. The File System Analyzer and Storage Migrator utilities of the NetBackup-Java Administration Console will only be available upon specifying the root account in the console's login dialog. Nonroot usage of these utilities is not supported.

NetBackup Management

The following subsections contain issues that apply to specific features associated with NetBackup Management in the NetBackup Administration Console.

Host Properties

1. Configuring 3.4 clients via Host Properties is supported except for Virus Scan related properties. NetBackup no longer supports automatic virus scanning.

Backup, Archive, and Restore

1. On the Task Progress tab, the Status column of the Tasks Performed list may be empty or all jobs listed with status of In Progress. When the `DISALLOW_SERVER_FILE_WRITES` option is set in the `bp.conf` file, this status column is blank. You can check the status of the task by selecting it to be displayed in the progress log file in the bottom area of the Task Progress section.
2. The end date/time for searching backups is initially set to midnight of the current day. If the application is left open over multiple days, the end date needs to be updated in order to see backups that have occurred after the initial end date.
3. The Backup, Archive, and Restore interface does not run locally on the following clients in NetBackup 5.1, however, you can use `bp` instead of this interface.
 - ◆ HP-UX- IA64 (Itanium) HP-UX 11.23
 - ◆ Intel 64-bit/Linux SuSE SLES 8.0
 - ◆ Intel 64-bit/Linux Linux Red Hat 3.0

Media

The following items are known limitations with features associated with the Media and Device Management portion of the NetBackup Administration Console.

1. It is recommended that you move only one volume or volume group at a time.
2. Administering media servers of a server that is the target of a “change server” operation in the console requires the server specified in the console login dialog be in the server list of all the relevant media servers.

NetBackup Cluster Support

VERITAS recommends that you follow the installation and configuration instructions provided in the NetBackup documentation set included in your package. For more information on configuring NetBackup in a cluster environment, refer to the *NetBackup High Availability Systems Administrator's Guide*.

1. Do not use the old UNIX VCS NetBackup agent with NetBackup 5.1. Instead, use the UNIX VCS agent that is provided with this release. This agent is installed automatically by default.
2. The Activity Monitor in NetBackup Administration Console for Windows is not displaying services after a Windows Cluster failover. The Activity Monitor connects to the cluster and displays the services of the active node. At the time of the failover, this connection to the service manager becomes invalid. To get a new connection to the cluster server, which will then display the services running on the now active node, perform a **Refresh All** action from the **View** menu in the NetBackup Administration Console after a failover.

3. When adding a node to an existing NetBackup Group in an MSCS cluster, the Server registry entry on the existing nodes is not updated to contain the newly added node name.

The registry entry `HKLM\SOFTWARE\VERITAS\NetBackup\Config\Server` on each node in the NetBackup Group should contain all the node names that NetBackup can run on.

4. Additional commands are required to properly freeze and unfreeze NetBackup in a SunCluster. This is due to Sun bug #5017826. When NetBackup is started under pmf with automatic restarts enabled, pmf will intervene if the tag dies, irrespective of whether the monitor is enabled or not.

To freeze NetBackup, execute:



```
scrgadm -c -j scnb-hars -y Retry_count=0
scswitch -n -M -j scnb-hars
```

To unfreeze NetBackup, execute:

```
scswitch -e -M -j scnb-hars
scrgadm -c -j scnb-hars -y Retry_count=X
```

Where X is the default `Retry_count` value of 2, or whatever value you specified before installing NetBackup.

Catalog Recovery

1. In the NetBackup Troubleshooting Guide there are procedures for recovering NetBackup catalogs. Prior to starting these procedures, you must do the following for a clustered NetBackup server:

- ◆ VCS

Freeze the NetBackup group

- ◆ MSCS

Offline NetBackup resources

- ◆ SunCluster

Disable monitoring of NetBackup group

- ◆ TruCluster

Offline the NetBackup group and start NetBackup manually (outside of CAA control)

After you have recovered your catalogs you then do the following for a clustered NetBackup server:

- ◆ VCS

Clear any resource faults and bring NetBackup group resources online and unfreeze the group

- ◆ MSCS

Online NetBackup group resources

- ◆ SunCluster

Enable monitoring of NetBackup group

- ◆ TruCluster

Stop NetBackup processes (if any)

Start NetBackup group via CAA

Vault

1. The vltcore Binary File Replaced

The vltcore binary file is no longer included with or necessary for Vault. Previously, vltcore was the process that invoked all the NetBackup commands used by Vault. Now, the functionality provided by vltcore is provided by the vltrun binary file.

2. Vault Operator Access on UNIX.

If you do not configure NetBackup Access Management, you can still set permissions on UNIX systems so that non-root users can use the operational commands in the Vault Operator Menu to inject and eject tapes and generate reports. The most efficient way to accomplish this is to add the users to whom you want to grant access to a single user group, then give that group permission to execute some of the executable files.

Note Giving users access to the Vault Operator Menu also gives them the capability to change report destinations. If you do not want non-root users to view reports and change report destinations, do not give them access to the Vault Operator Menu. For example, you may not want non-root users to see the Recovery Report or to be able to change to whom reports are e-mailed.

Note Giving users special privileges may violate your organization's computer and network security policies and allow access to private information. Check with your system administration or computer security staff to ensure that you are not violating security policies.

- a. Create a UNIX group and add the appropriate users to this group. This group will be referred to as *opsgroup* in the following commands.
- b. Log in to the system on which the NetBackup master server is installed and execute the following commands as *root*:

```
# cd /usr/opensv/volmgr/bin
# chgrp opsgroup vmchange vmquery vmupdate
# chmod 4550 vmchange vmquery vmupdate
# cd /usr/opensv/netbackup/bin
# chgrp opsgroup vltrun
# chmod 4550 vltrun
```



```
# cd /usr/opensv/netbackup/bin/admincmd
# chgrp opsgroup bpimagelist bpimedia bpmedia bpmedialist
# chmod 4550 bpimagelist bpimedia bpmedia bpmedialist
```

- c.** Log in to all systems on which NetBackup media servers are installed that control a robot and execute the following commands as `root`:

```
# cd /usr/opensv/volmgr/bin
# chgrp opsgroup vmchange vmquery vmupdate
# chmod 4550 vmchange vmquery vmupdate
```

- d.** If you are using ACSLS for robotic control, log in to the ACSLS server and modify the `.rhosts` file in the home directory of user `acsss`. The NetBackup installation process should have added an entry to the `.rhosts` file for the NetBackup master server that grants `root` access. Modify that entry to allow all users in the `opsgroup` access to the ACSLS server as user `acsss`:

```
master_server_name root <user1> <user2> . . . <userx>
```

- e.** If you are using ACSLS for robotic control, verify that the user accounts defined for the operations group exist on both the system on which the NetBackup master server is installed and on which the ACSLS server is installed. For simplicity, each user should have the same user ID on both servers. If both servers are using a naming service (such as NIS), you can skip this step.

To verify proper operation, log in as one of the non-root users on the system on which the NetBackup master server resides, start `vltopmenu`, and execute each menu option.

Known Product Limitations

This chapter contains the known product limitations that are applicable to this release of NetBackup. For additional information about known issues with the release, you can refer to Tech Note number 267444 on the VERITAS support web site. This Tech Note will contain the latest information relating to product issues for this release. Here is a link this document, <http://support.veritas.com/docs/267444>.

Note References to UNIX also apply to Linux, unless otherwise stated.

NetBackup Documentation

1. The NetBackup online help for Advanced Client on Windows contains out-of-date information on VERITAS SANPoint Control, as follows:

"Note: Refer to your NetBackup Advanced Client release materials for instructions on downloading and installing SANPoint Control."

The NetBackup 5.1 release materials do not contain instructions on downloading and installing SANPoint Control. For information on SANPoint Control, go to the main VERITAS web site, at <http://www.veritas.com>.

General NetBackup Notes

1. Because of a known issue in VERITAS Storage Foundation 4.0 for Windows, a VSS snapshot backup will fail if some of the files in the Backup Selections list are in Storage Foundation volumes and some are not. For the VSS snapshot method, the files to be backed up cannot be mixed: all must be in Storage Foundation 4.0 volumes, or all must not be in Storage Foundation 4.0 volumes.
2. Backing up real time files is not supported for SGI IRIX xfs.



3. Manually initiating a backup of the NetBackup catalog can fail if backups are in progress.

Backing up the NetBackup catalog can fail if it is manually initiated and backups are in progress. The workaround for this is to initiate these backups when no other NetBackup activity is occurring, or to schedule the backup of the catalog to occur automatically.

4. Files Written count (Current, Previous) in Activity Monitor does not include extra directory entries used for restore file browsing.

When viewing the Files Written count for a job in the Activity Monitor, the value for Current Files Written does not include the extra directory entries (which are used during restore file browsing). The value displayed for Estimated Files Written does include those extra directory entries, and are slightly larger.

5. Large sparse files may not backup or restore properly if Microsoft Windows cannot reserve memory in proportion to the file size (approximately 1MB per 1GB of file space). This means that backup/restore of these items is currently not possible. An appropriate error message is logged which will indicate that the system had insufficient resources to perform the operation.

6. There may be a delay in detecting of loss of connection from a NetBackup Windows master server to a media server.

In certain situations, there can be a delay on a NetBackup Windows master server before it detects that the connection to a media server has been aborted. For example, if a media server goes down while running a backup, there may be a delay on the master server before it detects that the media server is no longer available.

While at first it may appear that there is a problem with the NetBackup Windows master server, this delay is actually a result of a certain TCP/IP configuration parameter on Microsoft Windows called KeepAliveTime that is set to 7,200,000 (two hours, in milliseconds) by default. More information about the KeepAliveTime and other associated TCP/IP configuration parameters on Microsoft Windows may be found in the following Microsoft Knowledge Base articles: Q140325 and Q120642.

The effect of this delay is that NetBackup jobs running on that media server appear to be active for a period of time after the connection to the media server has gone down. In some cases this can result in an undesirable delay before the current backup job fails and is subjected to the normal NetBackup retry logic for execution on a different media server, if one is available.

This delay is especially noticeable when the media server in question is a NetBackup failover media server running in a Microsoft Cluster Server (MSCS) environment. NetBackup relies upon the retry logic of the NetBackup master server to restart NetBackup jobs that were running on the NetBackup failover media server when a failover occurs.

It may be advantageous to modify the `KeepAliveTime` configuration parameter on the NetBackup Windows master server for the reasons described above. However, this must be done using extreme caution because the parameter is a system wide parameter that affects all TCP/IP communications for that system.

Also, it may be advantageous to modify this parameter on Windows media servers that use the failover master server.

7. When running the Device Configuration wizard while administering a media server, all attempts by the wizard to add storage units will fail with an error message that includes the text, `cannot connect on socket`. The workaround for this problem is to run the Device Configuration wizard only when administering a master server. This problem applies only to NetBackup Enterprise Server.
8. When running the Device Configuration wizard while administering a master server, any storage units that are configured will be configured only on the master server being administered, regardless of which media servers are scanned. This can result in storage units being configured on the wrong master server and/or configured on only one master server instead of all that apply. This problem applies only to NetBackup Enterprise Server.

To avoid this problem, run the Device Configuration wizard only when administering a master server and only scan device hosts whose master server is the one currently being administered. If a drive is shared by more than one device host with multiple master servers, you must run the Device Configuration wizard on each of the master servers.

9. The configuration wizard lets you attempt to change device properties when it should fail when running the wizard on a server that is not a NetBackup master server (i.e. a media server). If you want any device changes to be reflected in the configuration of storage units for NetBackup use, you should exit this wizard, change the server being administered to be a NetBackup master server, and rerun the wizard. If you want to proceed without having any device configuration changes reflected in the NetBackup storage unit configuration, you may continue this wizard anyway.
10. Catalog backup jobs started with `-host` option to run on the media servers cannot be killed from the Activity Monitor. If the catalog backup is started on a media server by a vault job, cancelling the vault job from the Activity Monitor will not terminate the catalog backup.
11. Checkpoint Restart is not supported for restores from Backup Exec media. The restore job may be suspended and resumed; however, a resumed restore job will restart at the beginning of the job, since no checkpoints for the restore are available. Failed restore jobs will be in the incomplete state rather than the done state. Like a suspended job, the incomplete jobs may be resumed, but will restart at the beginning of the job.



Installation and Upgrade

1. VERITAS does not support an upgrade from NetBackup 3.4.1 and prior to NetBackup 5.1. VERITAS recommends that the user upgrades from 3.4.1 and prior to a NetBackup 4.5x version first, and then upgrading from that version to NetBackup 5.1.
2. The following errors can occur during Windows NetBackup server and client installation.
 - During NetBackup installation (server or client), a dialog box may appear with an `unspecified error` message from Windows Installer. If this message appears, click **OK** and proceed with the install, which should complete successfully. After completing the installation and configuration, perform a test backup to ensure that NetBackup is working correctly.
 - During NetBackup server installation, the Windows installer may fail and display an `Internal error 2755,995`. If this occurs, execute `instmsiw.exe` in the `x86` directory on the CD-ROM. Ignore any errors it produces. Then, reboot the computer and re-run the installation.
3. During installation of the server on a Windows system, there can be a long delay during the "upgrading databases" portion without the progress bar being updated. Installation should complete successfully.
4. When installing Microsoft Windows clients (both local and remote installs) the client name is written in all lower case to the registry. If the policies on the server do not specify the client names in all lower case, backups fail because the names do not match.
5. For Microsoft Windows clients, if you perform a remote install to a computer in another domain, you may encounter errors stating that the system cannot find the file specified. If you encounter this problem, do the following:
 - a. Ensure both the source and target system are members of the same domain.
 - b. Retry the installation and when prompted, enter the user name, password, and domain of a user with administrative rights on the target system.
6. When upgrading from a NetBackup Server evaluation license key to a permanent NetBackup Enterprise Server product license key on Windows NT or Windows 2000, restart the NetBackup services. Restarting the services will ensure that the Help > About NetBackup menu displays the proper licensing information.



7. Upgrading from NetBackup 4.5

In the NetBackup 4.5 release, the Solaris 7 and 9 client software were the same as the Solaris 2.6 software. Starting in the NetBackup 5.0 release, these clients are separate. This means that after a Solaris 7 or 9 client has been updated to NetBackup 5.1, any add-ons or database extensions that existed on those clients need to be upgraded to the matching Solaris level.

8. Upgrading from NetBackup 4.5FP3

In the NetBackup 4.5FP3 release, the Solaris 7 client software was the same as the Solaris 2.6 software. Starting in the NetBackup 5.0 release, these clients are separate. This means that after a Solaris 7 client has been updated to NetBackup 5.0 or 5.1, any add-ons or database extensions that existed on that client need to be upgraded to the Solaris 7 level.

9. When upgrading from a 4.5 patch level to 5.1, the

HKEY_LOCAL_MACHINE\Software\VERITAS\NetBackup\CurrentVersion\PatchLevel registry key will remain. This key is not used by any NetBackup 5.0 patches, therefore, it should not cause any problems.

10. Starting in NetBackup 5.0 and continued in this release, the names of the NetBackup shutdown scripts were changed. Refer to the *NetBackup Installation Guide for UNIX* for more information.

NetBackup Windows Clients

1. Automatic client installation and update when the client is added to a policy is not supported at this release on the Windows NT NetBackup server.

2. Windows 2003 client, feature Open File Backup

VSS does not allow creating more than one snapshot per volume at a time. This can cause a backup to finish with a status of 1 (some files were not backed up) when multistreaming is used to backup folders or files on the same volume and the backup is using VSS.



NetBackup BE Tape Reader

1. Conversion of Backup Exec on-disk catalogs and ADAMM databases to NetBackup Media Manager volume records and image and .f files is not supported. Backup Exec media will have to be imported using `bpimport` before you can be used with NetBackup 5.1. Refer to the *NetBackup System Administrator's Guide, Volume I* for more details.

Bare Metal Restore for NetBackup

1. If you are running VERITAS Bare Metal Restore for NetBackup, do not upgrade your NetBackup server or clients until you have read and understood the BMR TechNote 263653 located at <http://seer.support.veritas.com/docs/263653.htm>.
2. Releases of Bare Metal Restore (BMR) prior to 4.7 MP1 do not support NetBackup 5.1 on Windows Server 2003.

Localization and Internationalization Issues

1. For Windows installations, the install path must not contain multi-byte characters.
2. For multi-byte file path characters, characters that are specified on one locale may not display correctly in another locale. For instance, if a Solaris client specifies a file name in the ja locale (EUC) and then attempts to display the file with the Backup, Archive and Restore GUI on HP server in the ja_JP.SJIS locale (SJIS), the file name does not display correctly. This is an operating system limitation and cannot be resolved through NetBackup.
3. All English NetBackup Database Agents are supported on localized operating systems, with the condition all paths and filenames do NOT multi-byte characters.

The following NetBackup Database Agents are also supported on a localized operating system and **do** support the use of multi-byte characters in the paths and filenames:

- ◆ NetBackup for SAP on UNIX and Windows
- ◆ NetBackup for MS SQL Server on Windows
- ◆ NetBackup for MS Exchange on Windows
- ◆ NetBackup for Lotus Notes on UNIX and Windows
- ◆ NetBackup for MS SharePoint on Windows

4. The following NetBackup user defined strings must not contain Multi-byte characters:
 - ◆ Host Name (Master Server, Media Server, Media Host, Client)
 - ◆ Policy Name
 - ◆ Policy KEYWORD (Windows Only)
 - ◆ Backup, Archive and Restore KEYWORD (Windows Only)
 - ◆ Storage Unit Name
 - ◆ Storage Unit Disk pathname (Windows Only)
 - ◆ Robot Name
 - ◆ Device Name
 - ◆ Schedule Name
 - ◆ Media ID
 - ◆ Media Group Name
 - ◆ Media Pool Name
 - ◆ Media Description
 - ◆ Vault Policy Names
 - ◆ Vault Report Names
 - ◆ Vault Name
 - ◆ Vault Profile Name
 - ◆ Off-site Volume Group
 - ◆ Volume Database Host
5. Viewing log files with non-ASCII characters in some text editors may make the non-ASCII characters appear as gibberish. While there are some editors that will display the log file correctly, you can use the Backup, Archive and Restore GUI ("Task Progress" tab on UNIX, or the "View Status" display on Windows) to view these files.
6. The English NetBackup-Java Administration Console on a Japanese HP-UX operating system, may need HP-UX Asian font patches that are required to display Asian characters in JAVA SDK 1.4. NetBackup Feature Pack 4.5 FP3 and newer releases have been built with JAVA 1.4. See the HP-UX documentation on Asian fonts for Java 1.4.



If this is a NetBackup upgrade installation, from a pre-NetBackup 4.5 FP3 Japanese installation, you may need to unset the environment variable `JAVA_FONTS`, because it was previously set for Japanese JAVA 1.3 fonts to display on an HP-UX system. JAVA 1.4 will now use the system fonts to display Japanese characters and no longer needs a specific path to other fonts. Perform one of the following two commands.

- ◆ Unset `JAVA_FONTS` in `./dtprofile`, comment-out the following:

```
#export JAVA_FONTS=/usr/lib/X11/fonts/ttfjpn.st/typefaces
```

OR

- ◆ Unset `JAVA_FONTS` on the console type using the following command:

```
unset JAVA_FONTS
```

Database Agents

The following subsections contain known limitations that exist for the following database agents.

DB2 Agent

1. The NetBackup Client GUI does not recognize DB2 version 7, 64-bit databases. DB2 version 7 does not support 32-bit application access of 64-bit databases.

DB2 Agent With the Advanced Client

1. The **Perform block level incremental backups** checkbox in the DB2 policy is not supported in this release.
2. The `bpdb2proxy` command is generated for AIX, however users cannot use this command because it will fail.
3. The ability to back up or restore multiple nodes concurrently is not supported in NetBackup 5.1. To back up or restore a multi-node environment, the user must back up or restore each node individually.
4. You must perform an advanced client backup after making any configuration changes to the database.
5. There is no API available for exclusive database access in DB2 version 7. Users have to be manually disconnected before performing an advanced client restore.

6. Data Mover is not a supported option for the DB2 advanced client environment.

Informix Agent

1. You may encounter issues with the `onsmsync` utility with various versions of Informix. Please contact Informix Support for `onsmsync` related patches.

Lotus Notes Agent

1. Backup of password-protected databases is not supported. Attempting to back up a password-protected database causes the job to suspend indefinitely. The suspension occurs within the Lotus Notes server, and can be avoided by not using password protection.
2. Master initiated Lotus Notes, Point-In-Time restores may fail with a status 12. If the `<install_path>` of the NetBackup master server and the NetBackup client is different, the automatic restore of Lotus transaction log extents during the recovery of the Lotus database will not be able to locate the path to the progress log and will fail.
3. The use of exclude lists for Lotus backups on NetBackup Windows clients has been disabled.

Microsoft Exchange Server Agent

1. For a restore of the Microsoft Key Management Service or Microsoft Site Replication Service, failure to remove the contents of the `kmsdata` or `srsdata` directory prior to initiating the restore may result in a corrupt database, even after a restore status 0.
2. Microsoft Exchange Server with Advanced Client:
 - ◆ Only supports Volume Shadow Copy Service (VSS).
 - ◆ Does not support Instant Recovery Snapshots.
 - ◆ Does not support offhost (alternate client) backups.
 - ◆ Supports the following VSS Providers:
 - ◆ VxVM 4.0 VSS Provider
 - ◆ Windows 2003 default VSS Provider



Microsoft SharePoint Portal Server Agent

1. Compression of SharePoint objects has been disabled for this release. You will be able to specify compression as an attribute of the SharePoint class definition. However, SharePoint objects will not be compressed by the SharePoint client software.

The NetBackup for SharePoint Portal Server agent currently only supports SharePoint version 1.0. The NetBackup for SQL Server agent offers limited support for SharePoint version 2.0. For details, please refer to TechPDF #264854 at the Veritas Support website:

<http://support.veritas.com/docs/264854>

Oracle Agent with the Advanced Client

1. Currently, NAS Snapshot backups of Oracle data files do not use any storage units, however the backups of control files and archived logs require a Media Manager storage unit to be configured. If you want to select a specific storage unit for your control file and archived logs backups, you need to override **Any_available** storage unit in the Application Backup schedule. The NetBackup-Java Administration Console does not enable you to override the **Any_available** storage unit option in the policy or Application Backup schedule. If you need to override the default, **Any_available**, you can do this by using the command line interface, `bpadm`, or by using the NetBackup Administration Console for Windows.

Sybase Agent

1. The initial release of NetBackup 4.5 for Sybase does not support Sybase IQ. This issue still exists for NetBackup 5.1.

Media Manager

1. On UNIX, ejecting tapes through the media access port of the ATL P3000 or Sun StorEdge L11000 robotic library can lead to the error `unable to sense robotic device` (applies only to NetBackup Enterprise Server).

The workaround is to wait until the robot has finished initializing again (checking for media) after the media access port door has been closed, before responding (in the GUI interface) that the tapes have been removed. During testing, the library initialization period for an empty port lasted for 2 minutes, 10 seconds.



2. The mount/unmount feature makes a "system" call to run its callout scripts. In NetBackup 5.1 the *system* call returned the wrong value on a few platforms, when using the `drive_unmount_notify` script; causing NetBackup to down drive(s). If you encounter this type of issue with this feature and you are not using the scripts, then the easiest solution is to rename the scripts or move them from the `/usr/opensv/volmgr/bin/` directory.

To fix this issue in NetBackup 5.1, the shell script `drive_unmount_notify` has been altered and placed in `/usr/opensv/volmgr/bin/goodies/` directory along with the `drive_mount_notify` script. If you have changed this script in any way and would like to retrieve your changes, you must merge your original script with the newly installed script in the `/usr/opensv/volmgr/bin/goodies/` directory. After you complete the merge, place the script in `/usr/opensv/volmgr/bin/` directory.

3. Some libraries implement different functionality for their media access ports. For example, some libraries have front-panel inject/eject features that conflict with NetBackup's use of the media access port (for example, Spectra Logic Bullfrog). Other libraries require front-panel interaction when using the media access port (e.g., Spectra Logic Gator). Make sure you read each library's operator manual thoroughly to gain an understanding of its media access port functionality, or libraries such as these may not work properly with NetBackup's inject/eject features. The Breece Hill Q47 (TLD) is not supported with NetBackup multiple eject and inject.
4. On UNIX, when configuring robotic volumes with a media management New Volumes/Add Volumes interface, volumes are added to the Media Manager volume database, even if an error is reported because one or more volumes were not currently in their specified slots, or if the barcodes on added volumes could not be verified (for some robot types).

The workaround is to use robotic inventory for managing volumes. With robotic inventory, only the volumes actually contained in the robot are configured, and knowledge of slot information is not required.

5. In environments where network traffic or machine load is high, restarting the Media Management Device daemon (UNIX) or Device Manager service (on supported Windows servers) can result in individual robotic daemons not being active. This situation occurs when the daemon/service start occurs too soon after the shutdown, such that the full shutdown of all daemons/services does not complete before the daemons/services are started. This in turn leads to a newly-started daemon/service being terminated by a delayed stop signal.

How do you know if this situation occurs? In the Volume Configuration wizard, at the robot inventory stage, the inventory fails with a message similar to, cannot connect to tldcd on host <hostname>. If you see this message, VERITAS



recommends that you stop the Media Management Device daemon (on UNIX) or Device Manager service (on supported Windows servers), wait at least 20 to 30 seconds, and then restart it.

6. Known Limitations Surrounding Optical Media Support

For the NetBackup 5.1 release, some optical disk media support is limited (applies only to NetBackup Enterprise Server). The following two lists define the limitations as they relate to either the NetBackup-Java Administration Console or the Windows-based GUI.

- ◆ Known optical media support limitations for Java Administration GUI:
 - ◆ No inject or eject capabilities for Single-media access ports. Use the `vmadm` menu interface to perform this function.
 - ◆ The feature, format optical media option, is not available. Use the `vmadm` menu interface or the `tpformat` command to perform this function.

Note For detailed information regarding the use of `vmadm` or `tpformat`, refer to the *NetBackup Media Manager System Administrator's Guide*.

- ◆ Known optical media support limitations for Windows Administration GUI:
 - ◆ Cannot add, update, label, or delete volumes that are optical
 - ◆ No support for moving volume groups. Moves do not recognize optical partners, so if both partners are selected the move may fail.

Use the NetBackup Java Administration Console, `vmadm` menu interface, or media manager commands to perform these functions.
 - ◆ No inject capability for single-media access ports
 - ◆ The feature, format optical media option, is not available. Use the `vmadm` menu interface or the `tpformat` command to perform this function.

7. The following are known limitations with RSM support on Windows 2000 and Windows 2003:

- ◆ NetBackup cannot immediately use the media. RSM media must be manually moved from a robot's physical media list to the NetBackup media pool that corresponds with this device in NetBackup. This must be done **before** NetBackup can use the media (that is, inventory).

For example, when you configure the robot and its drives using the Devices GUI, a NetBackup media pool is created for that robot number with a pool for each supported media type for that drive type. The user must use the Computer

Management application, located in Administrative Tools, to drag and drop the media from the robot's media list to the newly created media pool which corresponds to their media type.

- ◆ At times RSM has problems writing Free Media Labels to a tape. This is because the On Media Identifier Label (OMID) does not match up with what RSM has recorded in its database. The user should eject such media, delete all references to it from RSM and then reinsert into the robot. At this point, RSM considers it new media and updates its database and enables writing a Free Media Label on the media.
 - ◆ Occasional mount time-outs from RSM robots. If RSM has problems trying to mount assigned media, it probably is because (a) the media label is not unique within the library, (b) it is not in the correct NetBackup media pool, (c) RSM had problems writing a Free Media Label (as stated in the previous limitation above), therefore leaving media in an indeterminate state.
 - ◆ Physically DOWN drives may not be DOWN in the Device Monitor. The NetBackup Device Daemons do not scan RSM devices for physical status. Therefore, physical device status changes may have to be manually updated in Device Monitor.
 - ◆ Occasionally the RSM API has characters in its database for the serial number of a device, even though the device is not serialized. This appears to be a bug in RSM and creates problems for NetBackup's Automatic Device Configuration. If the device is enabled in RSM when NetBackup discovers it, the false serial number in RSM's database will be captured by NetBackup in its configuration. Subsequent attempts at Automatic Device Configuration in NetBackup will obtain the real SCSI serial number for the device - which is blank - and it will not match the existing configuration. Therefore, NetBackup may delete the device from its configuration and re-add it with the new serial number, and possibly a new drive name or robot number.
8. Robot inventory may add media with a media type that is not compatible with the drive type (applies only to NetBackup Enterprise Server).

This limitation only applies to TLD or TL8 robots that have no drives configured on the robot control host or are using a multimedia robot (for example, DLT7000 and DLT8000 in the same library).

Example 1: If your TLD robot has DLT2 drives on a host that is not the robot control host and the robot control host has no configured drives in that robot then you must specify DLT2 as the media type on the inventory robot update.

Example 2: If you are using a multimedia robot, you must use barcode rules (see the *NetBackup Media Manager System Administrator's Guide*).

If media are configured with the wrong media type, the media will be unmountable, possibly causing backups to fail.



9. Inventory during installation results in duplicate media IDs when a robot contains media with the barcodes that are more than 6 characters and the last 6 characters are not unique. This is a known operational issue, and as a workaround, the user should choose to use the standard inventory, which includes Media ID Generation Rules, by clicking on the **Advanced** button in the wizard.
10. When using NetBackup media management on Windows, a robot may be selected for robotic inventory when listed with the wrong robot control host, leading to a robotic inventory that fails because it tried connecting to a robotic control daemon or process on the wrong host.
11. The physical inventory utility, `bephyinv`, mounts specified media in a robotic library to determine its contents, and updates NetBackup and Media Manager databases when encountering Backup Exec written media. This utility does not request database changes for media written by NetBackup.
12. The VERITAS implementation using SCSI reserve/release has the following limitations:
 - ◆ SCSI reserve/release is not applicable for NDMP configurations (no reserve command is available).
 - ◆ Third party copy configurations must be configured correctly. To retain reservations of a tape device when doing a third-party copy backup, refer to the description of the `mover.conf` file in the *NetBackup Advanced Client System Administrator's Guide for UNIX and Windows*.
 - ◆ Cluster environments or multi-path environments with fail-over capability may leave devices reserved when fail-over occurs.
 - ◆ Servers that do not have configured Pass-through paths to each tape drive should be used with caution in a multi-initiator environment. The lack of a Pass-through path makes it impossible to issue the SCSI reserve command.
13. Cluster environments or multi-path environments with dynamic path sharing (Tru64 for example) will cause backup and restore failures if the path changes during these operations. If path sharing cannot be eliminated, then the NetBackup SCSI reserve/release function must be disabled.
14. Using the `tpconfig` utility options

The `tpconfig -d` utility option may truncate some data if it exceeds a certain threshold. Please use `tpconfig -l` or `tpconfig -dl` to see the entire field. Some fields that are affected include the Drive Name, and the Drive Path. In addition, `vmoprCmd` may also truncate the Drive Name.

15. Limitations exist with the physical inventory utility.

- ◆ At least one master or media server (hosts where the drives are attached) must be running NetBackup 4.5FP3 or higher.

If the master server is at this version level and one or more media servers are at the NetBackup 4.5 GA level, the utility detects the version of all media servers and only performs inventories on hosts that are at this level. If some of the drives are attached to servers that are not at this version level, then those drives are not used for mounting the media. If none of the media servers are at the required level, the utility will not be able to perform the inventory operation and an error message is displayed.

- ◆ API and optical disk library (ODL) robot types are not supported.
- ◆ There is no way to distinguish between volume records based on the application type.
- ◆ When moving the media from robotic to standalone drives, there is no option to move the media to a specific volume group.
- ◆ Volume database host of the robot must also be at NetBackup 4.5FP3 or higher version level. If you want to inventory robot number 2 and the volume database host of robot 2 is `whale`, then `whale` must be at the NetBackup 4.5FP3 or higher version level.
- ◆ Cleaning Media Handling:

If the media type is specified as a cleaning media type (for example, `4mm_clean` or `dlt_clean`) in the volume record corresponding to the cleaning media in the robot, `vmphyinv` does not attempt to mount the media. The media is skipped and the next media in the list is mounted.

But if there is cleaning media in the tape library and the media type of the corresponding volume record that is found is not a cleaning media type, or if there is no volume record corresponding to the cleaning media in the Media Manager volume database and `vmphyinv` is used with the slot range or list options, `vmphyinv` tries to mount the media continuously until the mount request times out.

- 16.** A long erase should be avoided on SGI servers, because system performance may become degraded during this operation. If you want to test a long erase, VERITAS recommends that you perform a test of this function during an idle time on the server.

- 17.** Multi-LSM, ACSLS Controlled robots can generate a misleading syslog message.

In a multi-LSM environment, if a mount request is issued for a volume that is in an offline LSM, and the drive is in an online LSM, the message in the syslog will state that the drive is in an offline LSM.



18. On AIX systems, that are using ovpass to control robots, the robot will appear to be missing if the robot control daemon has the robot open at the time a remote system is running auto-discovery. The remote system takes control away from the AIX system leaving the global database inconsistent."

To avoid this issue, you should perform your configurations when no backups are running or about to run.

19. Device discovery attempts may cause system reboots when Tru64 5.1b systems are scanned, if non-current operating system patches and HBA driver firmware are used. This can cause the NetBackup Device Configuration Wizard running on a different host to hang. Users of Tru64 5.1b systems should keep current with the latest operating system patch and HBA firmware levels.

Media Manager Cluster Support Limitations

The following limitations have been identified to affect clustering support in Media Manager.

1. Retries on All Failover Events

When failover occurs, any task that is in process needs to be able to recover and continue. Communication needs to be re-established using the new node, and all operations that were in progress need to be retried on the new node.

2. Breaking SCSI Reservations

When fail over occurs in an environment where SCSI Reserve/Release is being used (explicitly in NetBackup, or implicitly in lower-level drivers or hardware), a SCSI reservation will be left on the drive. The drive will remain unusable by other nodes and other hosts until the SCSI reservation is cleared.

3. Failover for Assigned Drives and In-progress Mount/dismount Activity

State information (drive status, mount status, cleaning status, robotic library status, eject/inject status, etc.) is not in a database, as these states are in process memory, which is lost at failover time. On the new node, none of this information will be reestablished by bringing up the daemons/services. The "SSO drive allocation resiliency" feature in NetBackup 5.1 addresses this only for the device allocator (vmd/DA) component for SSO. This alone does not make SSO failover-safe, plus virtually all other Media Manager tasks also remain non-failover friendly.

4. No Transaction Support in All Database Operations

Current tasks include making multiple database operations to reflect one event. For example, scenarios where changes are made by deletion and re-addition, or changes where multiple records are related (such as, optical partner relationships), or where robots are deleted and drives in the robot need also to be deleted.

NetBackup Access Control (NBAC)

The following subsections contain additional information about NBAC such as general notes on how to use this feature, operational notes, and known product issues.

General NBAC Notes

Caution An NBU_Security Admin member can delete all NBAC groups, causing all NBAC-enabled operations to stop and making re-initialization of NBAC security objects necessary.

1. Enhanced Authentication and Authorization is not supported for clustered environments.

2. Do not modify settings in the Access Control properties pane in Host Properties.

The Host Properties interface contains an Access Control properties pane that should not be modified. By modifying settings in this pane and saving those changes, you could be denied access to the NetBackup Administration Console. If you have erroneously modified settings in the Access Control pane and have been denied access to the NetBackup Administration Console, you can perform the appropriate procedure below to regain access to the NetBackup Administration Console.

◆ For UNIX-based systems, you must modify a line in the `bp.conf` file on the master server. Perform the following steps:

◆ Open `/usr/opensv/netbackup/bp.conf` file for editing.

◆ In the `bp.conf` file you will see one of the following lines:

```
USE_VXSS = AUTOMATIC
```

or

```
USE_VXSS = REQUIRED
```

Change whichever line you have in the `bp.conf` file to the following:

```
USE_VXSS = PROHIBITED
```



- ◆ Save this file.
- ◆ Stop and then start the NetBackup daemons.
- ◆ For Windows-based systems, you must edit the registry to modify a specific resource in the Registry Keys.
 - ◆ Select **Start > Run...**
 - ◆ Enter `regedt32` (for Windows 2000 and greater systems) or `regedit` (for Windows NT systems) in the Run window and select **OK**.
 - ◆ Select `HKEY_Local_Machine\Software\VERITAS\NetBackup\CurrentVersion\Config`
 - ◆ Double-click `USE_VXSS`
 - ◆ Change the value to `PROHIBITED` and click **OK**.
 - ◆ Exit the Registry.
 - ◆ Stop and then start the NetBackup services.
- 3. On Windows machines, VERITAS recommends that the user re-boots (the install target) after installing the Authentication (AT) server software.
- 4. On Windows machines, VERITAS recommends that the user re-boots (the install target) after installing the Authorization (AZ) server software.
- 5. The NBAC security credential generated upon login using either the NetBackup-Java Administration Console or NetBackup Console (MFC) GUI's, will by default, expire twenty-four (24) hours after the login has been accomplished, thus disabling further operations. To avoid this issue, use the VxSS client interface (CLI) or the VERITAS Security Services Java GUI to increase the default expiration time.
- 6. When authorization failures occur in an NBAC-enabled configuration, the error message(s) returned to the user may not clearly indicate an authorization failure.
- 7. Some commands are not fully NetBackup Access Control-aware and will not function unless the invocation is done by root/Administrator. This includes the volume manager "tp" commands (for example, `tpautoconf`).
- 8. Per-policy access control is not implemented in the NetBackup 5.1 release.
- 9. The use of NetBackup Database Agents in conjunction with NBAC is not implemented in the NetBackup 5.1 release.
- 10. The `NBU_Operator` group alone does not possess the necessary permissions to inventory a robot.

11. Currently, anyone who belongs to the NetBackup Administration group has the ability to modify the Host Properties, consequently they can change or disable NBAC.
12. On HP-UX, the debug log may show a NON FATAL Unresolved external symbol. This is expected behavior that is caused by mixing C and C++ code on an HP-UX system. This issue does not effect normal NetBackup operation.
13. When adding someone who is not an administrator to the NBU_Admin group, you must set the permissions of the following directory to word readable/writable.

```
/user/opencv/netbackup/logs/user_ops (UNIX)  
<install_path>\NetBackup\logs\user_ops (Windows)
```

Set the permissions of this directory to [0777] for UNIX systems and FULL CONTROL for the user group on a Windows system.
14. Several Windows NetBackup\bin\goodies scripts have not been modified to verify if NBAC credentials are needed. As such, commands that run inside the scripts may fail if a user does not have a credential or has an expired credential. Before you run a Windows .cmd script, verify that you have a valid credential by performing a `bpnbat -login`.
15. NetBackup uses both forward and reverse lookup to determine host name equivalencies. Failure to provide both forward and reverse lookup may result in an inability to communicate in NetBackup systems.

NetBackup Advanced Client

1. FlashBackup support for Solaris 9 is limited.
FlashBackup supports the backup of extended attributes for UFS file system (Solaris 9), however, extended attributes cannot be restored via SFR. Extended attributes can be restored from FlashBackup images only by raw partition restore.
2. Solstice Disk Suite is not supported.
Advanced Client snapshot methods and offhost backup methods perform mapping of the underlying file system and volume structure. This mapping has been verified for the I/O system components listed in the "Snapshot Methods and Requirements" table in the *NetBackup Advanced Client System Administrator's Guide*. The use of other components in the I/O system, such as other volume managers or storage replicators, may result in an unreliable backup. Such configurations are not supported. An example of an unsupported component is a partition (or any other entity) made with Solstice Disk Suite.



3. Circular mount points are not being processed correctly.

When bpfis is given a path that contains a circular mount point, it returns a recursive path from the circular mount points. bpfis should only return the first level of the circular mount point instead of a recursive path.

4. Support for FlashBackup-Windows clients with UNIX servers.

When using a FlashBackup-Windows policy to back up Windows clients, the master and media servers must also be running on Windows or Solaris. Support for FlashBackup-Windows clients with AIX and Linux servers is scheduled in future release of NetBackup.

5. Unique restore features to Instant Recovery snapshots.

There are three restore features unique to Instant Recovery snapshots, listed below. Please note the following restrictions:

- ◆ VxFS_Checkpoint snapshot point in time rollback does not work with VxFS Cluster File System (CFS).
- ◆ File promotion is for VxFS_Checkpoint snapshots of Solaris clients with VxFS 4.0 only. Note that File Promotion is disabled in this release.
- ◆ Point-in-time rollback (image rollback) is for the following:
 - ◆ VxFS_Checkpoint snapshots of Solaris clients (with VxFS 4.0 only)
 - ◆ VxVM snapshots of either Solaris, HP, or Windows 2000 clients

These restore features are described in the *NetBackup for Advanced Client System Administrator's Guide*.

6. For Instant Recovery backups to tape, if the Allow multiple data streams policy option is selected, you will not be able to restore the backup image by means of the Point in Time Rollback feature. However, you can restore from the snapshot image or tape image using a standard restore.

Note Backups from schedules which have the "Instant recovery backups to disk only" attribute set can be restored by means of the Point in Time Rollback feature.

7. Due to limitations in volume name size in VxVM for Windows 2000 3.1, for backup volumes targeted by the VxVM and FlashSnap snapshot methods, VxVM volume names should be limited to 12 characters in order to guarantee that snapshot volume names, which are derived from parent volume names, are unique.

8. The space optimize snapshot method in VxVM 4.0 does not work with offhost backups.

9. Advanced Client VxVM and FlashSnap snapshot methods on Windows 2000 platforms are supported by VERITAS Volume Manager for Windows 2000. To successfully employ these snapshot methods, VERITAS Volume Manager for Windows 2000 version 3.1 or greater must be installed. In addition, Service Pack SP1 should be installed, hot fix HF03 should be installed, and the Volume Manager build level should be 5.31.56.0 or greater. After installing VERITAS Volume Manager for Windows 2000, the build level is reflected in the Windows Registry under the subkey `HKEY_LOCAL_MACHINE\SOFTWARE\VERITAS\Volume Manager 3.1\Version`.

bpadm Interface

1. The new NetBackup 5.0 Advanced Client features have not yet been implemented in the bpadm administration interface. They will be added to bpadm in a future release.
2. Although the bpadm administration interface allows you to select Fastrax as a storage unit type, Fastrax storage units are no longer supported. The Fastrax storage unit option will be removed from bpadm in a future release.

FlashBackup

1. FlashBackup-Windows policies do not back up Windows system-protected files (the System State, such as the Registry and Active Directory).
2. FlashBackup-Windows policies do not support the backup of file names that are in the 8-character plus 3-character format. The 8.3 character format is retained, but the name of the restored file may be different from the original name.
3. FlashBackup-Windows policies do not support the backup of Windows Operating System (OS) partitions (such as C:\). It is possible to specify the partition in the backup policy, and the backup will succeed, but the restore of all Windows System data in the partition cannot be guaranteed.
4. FlashBackup-Windows policies do not support the backup of Windows System database files (such as RSM Database and Terminal Services Database). It is possible to specify a partition in the backup policy that contains these files, and the backup will succeed, but the restore of the data in these files cannot be guaranteed.
5. When restoring a reparse point for a FlashBackup windows policy, the restore will not replace the reparse point or data files under the reparse point unless the reparse point or files are first deleted. Examples of this problem would be:



If a backup is done of a Mount Point Directory, and then the volume is unmounted, a restore of the directory on which the volume was mounted will not actually remount the volume (i.e., restore of the reparse point is not actually done). If, the directory for the mount is first deleted, then the restore of the reparse point will result in the directory being restored with the volume mounted.

If a file is restored that exists on a Mount Point Directory, the file will not actually be restored if it still exists. It is necessary to first delete any files that are to be restored.

This problem exists for all reparse points including RSM.

6. Restoring FlashBackup on windows encrypted files and hard links.

When restoring individual files from FlashBackup on Windows images, if the files being restored are encrypted or are hard links, then it is necessary to have the NetBackup Client Service logged on as administrator. Under services on the control panel, change the log on for the NetBackup Client Services from **Local System Account** to **Administrator**.

NetBackup Advanced Reporter

This section explains known limitations in this release of NetBackup Advanced Reporter.

1. NBAR does not support Windows 64-bit hardware.
2. NBAR does not support upgrading from a standalone configuration to a clustered configuration.

NetBackup Interfaces

General NetBackup Java Interface

1. In the NetBackup-Java Administration Console, adding new pathnames in the NetBackup Catalog Backup window may fail.

If you add a new pathname in the NetBackup Catalog Backup window and click the OK button, the pathname may not be accepted. You can verify this by returning to the NetBackup Catalog Backup window after you have clicked the OK button, and you will see that the pathname you just entered was not saved.

To avoid this limitation and ensure that a new pathname is accepted, perform the following steps.

- a. Right-click on the **Catalog** node in the NetBackup-Java Administration Console, and select the **Configure NetBackup Catalog Backup...** option.
 - b. Click the **Files** tab.
 - c. Click **New**.
 - d. Enter a path and click on a different path that already exists. (You can enter additional paths by repeating steps c and d until all new paths have been entered.)
 - e. Click **OK**.
 - f. Go back to the NetBackup Catalog Backup window and verify that the correct paths are present.
2. A problem exists from the way Tru64 reports the timezone to the Java Timezone class causing the time in the Tasks Performed window to be one hour off from the actual time. To correct this problem, the user can enter the correct settings in to the Adjust Application Timezone dialog, and save this as the default. A persistent file is saved in the user's directory, and is used on subsequent program operations to enable the GUI to use the correct default timezone.
 3. Paint problems in tables with large sets of data viewing with Exceed

There is a Java bug (4642927) that causes table painting problems when the GUI is viewed through Exceed for large data sets, for example, the job table in the Activity Monitor. This bug may cause the GUI display to deteriorate to the extent where it is unusable. Resizing the window causes the GUI to paint correctly. Another workaround involves adding the following to the java command in the jnbSA or jbpSA startup scripts.

```
-Dsun.java2d.pmoftscreen=false
```

This workaround will greatly degrade the performance of the GUI.

Other options to consider are:

- ◆ Install the NetBackup-Java Windows Display Console and use it on the Windows desktop. You can administer any NetBackup server by specifying the server in the login dialog.
- ◆ Install and use the Windows Remote Administration Station to remotely administer your UNIX NetBackup servers.



4. If a non-modal dialog is visible and behind the parent frame and subsequently a modal dialog is made visible, Java moves the original non-modal dialog in front of the parent frame, but behind the newest dialog (a modal dialog requires a response and blocks input to all other dialogs for the application until the response is received). When the modal dialog is hidden, the non-modal dialog is moved back to its original position behind the parent frame.
5. If you enter text into a dialog's text field while either NetBackup Java is busy performing other operations, or while your system is busy, the characters you enter may be transposed in order when displayed in the text field. For example, if you have started the Backup Policy Management Install Client Software operation and it is currently busy installing software, if you then try to perform other operations in Backup Policy Management which require entering text, the characters you enter into the text field may be displayed in the field out of order. You may also notice that response time is slow.
6. On Tru64 platforms, the menu and button mnemonics do not work properly.

Backup Policy Management

1. Remote client software install limitations:
 - ◆ It does not support software install for non-UNIX clients and a small subset of UNIX clients are also not supported. An attempt to install on a UNIX client for which remote install is not supported, results in an Unknown hardware type: hardware type message.
 - ◆ It is enabled only when a master server node is selected, and only if the master server is the server the user logged into when starting NetBackup Java.

NetBackup Remote Administration Console

1. If you use the NetBackup Remote Administration Console to configure any NetBackup host other than the master server, and if the NetBackup host does not contain a SERVER entry for the Remote Administration Console host, the following issues can occur:
 - ◆ Operating System or NetBackup version-specific nodes will not be seen in Host Properties dialog.
 - ◆ The right pane of the NetBackup console will show blank for Operating System and version columns, and the 'Other' for OS Type column.

- ◆ For a NetBackup 5.1 client, the Encryption node will allow configuration of only legacy encryption.

To avoid this issue, add the SERVER entry for the Remote Administration Console host to the host being configured.

Storage Migrator

The Storage Migrator Administration utility does not honor the console's `NBJAVA_CLIENT_PORT_WINDOW` option settings. It will use whatever free local port the operating system provides to connect to its daemon process on the host.

Vault

1. The command line interface for the parsable output from the Vault reports is not published.





NetBackup Features End of Life

The purpose of this chapter is to notify our customer of changes in how VERITAS will support NetBackup features that may affect you. VERITAS will provide notification of one major release before discontinuing support of an item. This section contains a list features that will not be supported as of the next Major Release of NetBackup. For a list of Supported Platforms and Databases that will not be supported at the next major release, refer to, Chapter 2, “Supported Platforms and Peripherals” on page 7.

General NetBackup Features

1. With the next major release of NetBackup, VERITAS will replace all legacy versions of Global Data Manager and NetBackup Advanced Reporter with a new NetBackup management product that will combine many of the same benefits of these two separate products, while adding additional features as well. The current Global Data Manager and NetBackup Advanced Reporter products will continue to be maintained and supported according to established VERITAS Technical Support policies, however no new functionality will be added to these products. Customers will be encouraged to migrate from the legacy versions of Global Data Manager and NetBackup Advanced Reporter to the new NetBackup management product when it is made available with the next major release of NetBackup. While this new product will offer more advanced capabilities, customers should expect that some legacy functionality or historical data may no longer be available following the migration. VERITAS intends to provide a way for customers with active maintenance contracts to convert their licenses from the older products to the new product.
2. With the next major release of NetBackup, VERITAS will replace Intelligent Disaster Recovery (IDR) with the Bare Metal Restore (BMR) product. The BMR option offers an automated system recovery that is best suited for NetBackup. Therefore, VERITAS will drop support for IDR in stages making sure to not alienate any back-level IDR clients still in need of our support. The following list provides more information on the level of support that will be available.
 - ◆ VERITAS will drop support for the IDR client in the next major release of NetBackup.



- ◆ The IDR Server will ship with the next major release of NetBackup to support back-level IDR clients.
 - ◆ VERITAS is projecting that the IDR Server will be decommissioned in two major releases from NetBackup 5.1.
3. VERITAS will no longer support SGI as a master or media server at the next major release of NetBackup. However, support will continue for SGI as a client server.
 4. The `bpclexclude` and `bpplexclude` commands previously located in `/usr/opensv/netbackup/bin/admincmd` have been removed from NetBackup 5.1.
 5. The creation or use of ASCII catalogs will not be supported in the next major release of NetBackup.
 6. VERITAS plans to drop support and remove the following commands from the NetBackup product for the release following the next major release. These commands are: `bpauthorize`, `bpauthsync`, and `vopie_util`.

Client Interface

1. Support of the Motif client interface

At the next major release, NetBackup will no longer include the Motif version of the client interface (`xbp`).

- ◆ The command line interface (`bp`) will continue to be supported. It is available on all UNIX client platforms.
- ◆ The Java client GUI interface (`jbpSA`) will continue to be supported. Refer to the Platforms Supporting the NetBackup Administration Consoles for UNIX subsection for a list of supported platforms.

Terminology End of Life

The items in this section provide notification of various terms that will no longer be used or referenced in NetBackup products after the next major release beyond NetBackup 5.1.

- ◆ At the next major release after NetBackup 5.1, all commands that contain a *cl* will be replaced with *pl*. The following table contains the old command names along side the new name that will replace it.

| Old Command Name | New Command Name |
|-----------------------|-----------------------|
| admincmd/bpclassnew | admincmd/bppolicynew |
| admincmd/bpclclients | admincmd/bpplclients |
| admincmd/bpcldelete | admincmd/bppldelete |
| admincmd/bpclexclude | admincmd/bpplexclude |
| admincmd/bpclinclude | admincmd/bpplinclude |
| admincmd/bpclinfo | admincmd/bpplinfo |
| admincmd/bpcllist | admincmd/bppllist |
| admincmd/bpclsched | admincmd/bpplsched |
| admincmd/bpclschedrep | admincmd/bpplschedrep |
| admincmd/bpclschedwin | admincmd/bpplschedwin |
| admincmd/bpclvalid | admincmd/bpplvalid |
| goodies/cltemplates | goodies/pltemplates |

- ◆ The term *slave server* has been changed to *media server*.





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 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 UNIX*

NetBackup_Install_UNIX.pdf

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

- ◆ *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 UNIX, Volume I*
NetBackup_AdminGuideI_UNIXServer.pdf
Explains how to configure and manage NetBackup on a UNIX server, including managing storage units, backup policies, catalogs, and host properties.
- ◆ *VERITAS NetBackup System Administrator's Guide for UNIX, Volume II*
NetBackup_AdminGuideII_UNIXServer.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 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 UNIX*
MediaMgr_AdminGuide_Unix.pdf
Explains how to configure and manage the storage devices and media on UNIX servers running NetBackup. Media Manager is part of NetBackup.
- ◆ *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 UNIX*
NetBackup_AdminGuide_DB2_Unix.pdf
Explains how to install, configure, and use NetBackup for DB2.
- ◆ *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*
NetBackup_AdminGuide_Encryption.pdf
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 Lotus Notes System Administrator's Guide for UNIX*
NetBackup_AdminGuide_LotusNotes_Unix.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 UNIX 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 UNIX*

NetBackup_AdminGuide_Oracle_Unix.pdf

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

- ◆ *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 UNIX*

NetBackup_AdminGuide_SAP_Unix.pdf

Explains how to install, configure, and use NetBackup for SAP on UNIX.

- ◆ *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 for UNIX*

NetBackup_AdminGuide_Sybase_Unix.pdf

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

- ◆ *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.

Device Configuration Guide - Media Manager

- ◆ *VERITAS NetBackup Media Manager Device Configuration Guide for UNIX and Windows*

MediaMgr_DeviceConfig_Guide.pdf

Explains how to add device drivers and perform other system-level configurations for storage devices and media servers (or SAN media servers) that are supported by NetBackup Media Manager.

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 UNIX*

NetBackup_Commands_UNIX.pdf



Describes NetBackup and Media Manager commands and processes that can be run from a UNIX command line.

- ◆ *VERITAS NetBackup Commands for Windows*

NetBackup_Commands_Win.pdf

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



