

Symantec NetBackup™ Release Notes

Release 7.6.0.3

Maintenance Release

Document Version 3



Symantec NetBackup™ Release Notes

Documentation version: 7.6.0.3

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Technical Support

Symantec Technical Support maintains support centers globally. Technical Support's primary role is to respond to specific queries about product features and functionality. The Technical Support group also creates content for our online Knowledge Base. The Technical Support group works collaboratively with the other functional areas within Symantec to answer your questions in a timely fashion. For example, the Technical Support group works with Product Engineering and Symantec Security Response to provide alerting services and virus definition updates.

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About Symantec Operations Readiness Tools

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

Access SORT from the following webpage:

<https://sort.symantec.com/netbackup>

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

- Installation and Upgrade Checklist
Use this tool to create a checklist to see if your system is ready for a NetBackup installation or an upgrade. This report contains all the software and the hardware

compatibility information specific to the information provided. The report also includes product installation or upgrade instructions, as well as links to other references.

- Hot fix and EEB Release Auditor
Use this tool to find out whether a release that you plan to install contains the hot fixes that you need.
- Custom Reports
Use this tool to get recommendations for your system and Symantec enterprise products.
- NetBackup Future Platform and Feature Plans
Use this tool to get information about what items Symantec intends to replace with newer and improved functionality. The tool also provides insight about what items Symantec intends to discontinue without replacement. Some of these items include certain NetBackup features, functionality, 3rd-party product integration, Symantec product integration, applications, databases, and the OS platforms.

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

- Page through the contents of the help similar to a book
- Look for topics in the index
- Search the help with the search option

Contacting Technical Support

Customers with a current support agreement may access Technical Support information at the following URL:

www.symantec.com/business/support/

Before contacting Technical Support, make sure you have satisfied the system requirements that are listed in your product documentation. Also, you should be at the computer on which the problem occurred, in case it is necessary to replicate the problem.

When you contact Technical Support, please have the following information available:

- Product release level
- Hardware information
- Available memory, disk space, and NIC information
- Operating system

- Version and patch level
- Network topology
- Router, gateway, and IP address information
- Problem description:
 - Error messages and log files
 - Troubleshooting that was performed before contacting Symantec
 - Recent software configuration changes and network changes

Licensing and registration

If your Symantec product requires registration or a license key, access our technical support Web page at the following URL:

www.symantec.com/business/support/

Customer service

Customer service information is available at the following URL:

www.symantec.com/business/support/

Customer Service is available to assist with non-technical questions, such as the following types of issues:

- Questions regarding product licensing or serialization
- Product registration updates, such as address or name changes
- General product information (features, language availability, local dealers)
- Latest information about product updates and upgrades
- Information about upgrade assurance and support contracts
- Information about the Symantec Buying Programs
- Advice about Symantec's technical support options
- Nontechnical presales questions
- Issues that are related to CD-ROMs, DVDs, or manuals

Support agreement resources

If you want to contact Symantec regarding an existing support agreement, please contact the support agreement administration team for your region as follows:

Asia-Pacific and Japan customercare_apac@symantec.com

Europe, Middle-East, and Africa semea@symantec.com

North America and Latin America supportsolutions@symantec.com

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About NetBackup 7.6.0.3

This chapter includes the following topics:

- [About the NetBackup 7.6.0.3 release](#)
- [About NetBackup Late Breaking News](#)
- [About NetBackup third-party legal notices](#)

About the NetBackup 7.6.0.3 release

Symantec is pleased to announce the release of NetBackup 7.6.0.3. This maintenance release resolves many of the known issues that affected previous versions of NetBackup and its associated options. In addition, this release introduces several enhancements to NetBackup 7.6 that improve and expand its capability to protect mission-critical data and applications in physical and virtual environments.

The *NetBackup Release Notes* document is meant to act as a snapshot of information about a version of NetBackup at the time of its release. Old information and any information that no longer applies to a release is either removed from the release notes or migrated elsewhere in the NetBackup documentation set.

Note: Some of the functionality that was introduced in NetBackup 7.5.0.6 and 7.5.0.7 was not present in version 7.6. That functionality has been restored beginning in NetBackup 7.6.0.2 and provides full upgrade parity with all releases in the NetBackup 7.5 line. If you are running NetBackup 7.6, Symantec recommends that you upgrade to at least NetBackup 7.6.0.2 to ensure that you have the latest features and product fixes. For background information about this issue, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH210461>

See “[About new enhancements and changes in NetBackup](#)” on page 13.

About EEBs and release content

NetBackup 7.6.0.3 incorporates fixes to many of the known issues that affected customers in previous versions of NetBackup. Some of these fixes are associated with the customer-specific issues that have been documented in the form of Titan or Salesforce.com (SFDC) cases. Several of the customer-related fixes that were incorporated into this release were also made available as emergency engineering binaries (EEBs).

Listings of the EEBs and Etracks that document the known issues that have been fixed in NetBackup 7.6.0.3 can be found on the Symantec Operations Readiness Tools (SORT) website and in the [NetBackup Emergency Engineering Binary Guide](#).

See “[About Symantec Operations Readiness Tools](#)” on page 62.

See “[About NetBackup release content](#)” on page 45.

About NetBackup appliance releases

The NetBackup appliances run a software package that includes a preconfigured version of NetBackup. When a new appliance software release is developed, the latest version of NetBackup is used as a basis on which the appliance code is built. For example, NetBackup Appliance 2.6 is based on NetBackup 7.6. This development model ensures that all applicable features, enhancements, and fixes that were released within NetBackup are included in the latest release of the appliance.

The NetBackup appliance software is released at the same time as the NetBackup release upon which it is based, or soon thereafter. If you are a NetBackup appliance customer, make sure to review the *NetBackup Release Notes* that correspond to the NetBackup appliance version that you plan to run.

Appliance-specific documentation is available at the following location:

<http://www.symantec.com/docs/DOC2792>

About NetBackup Late Breaking News

For the most recent NetBackup news and announcements, visit the NetBackup Late Breaking News website at the following location:

<http://www.symantec.com/docs/TECH74904>

Other NetBackup-specific information can be found at the following location:

go.symantec.com/nb

About NetBackup third-party legal notices

NetBackup products may contain third-party software for which Symantec is required to provide attribution. Some of the third-party programs are available under open source or free software licenses. The license agreement accompanying NetBackup does not alter any rights or obligations that you may have under those open source or free software licenses.

The proprietary notices and the licenses for these third-party programs are documented in the *NetBackup Third-party Legal Notices* document, which is available at the following website:

<http://www.symantec.com/about/profile/policies/eulas/>

New features, enhancements, and changes

This chapter includes the following topics:

- [About new enhancements and changes in NetBackup](#)
- [NetBackup 7.6.0.3 new features, enhancements, and changes](#)
- [NetBackup 7.6.0.2 new features, enhancements, and changes](#)

About new enhancements and changes in NetBackup

In addition to new features and product fixes, NetBackup releases often contain new customer-facing enhancements and changes. Examples of common enhancements include new platform support, upgraded internal software components, interface changes, and expanded feature support. Most new enhancements and changes are documented in the *NetBackup Release Notes* and the NetBackup compatibility lists.

Note: The *NetBackup Release Notes* only lists the new platform support that begins at a particular NetBackup version level at the time of its release. However, Symantec routinely backdates platform support to previous versions of NetBackup. You should refer to the NetBackup compatibility lists for the most up-to-date platform support listings.

See [“About the NetBackup 7.6.0.3 release”](#) on page 10.

See [“About NetBackup compatibility lists and information”](#) on page 58.

NetBackup 7.6.0.3 new features, enhancements, and changes

The following list contains some of the new features, enhancements, and changes that can be found in NetBackup starting in version 7.6.0.3:

- Windows Server 2012 R2 support for the following:
 - Master server and media server
 - OpsCenter server
 - BMR server
 - Windows Storage Server (media server)
 - Symantec Cluster Server powered by Veritas (SFVHA)
 - Microsoft Cluster Server (supported on Windows Server 2012 R2; not supported on Windows Server 2012)
 - MSDP Client Direct
 - SAN client

Note: Support requires a special full installation package.

See [“Special full installation packages for NetBackup server and client on Windows 8.1/Server 2012 R2”](#) on page 23.

- FT media server support for Red Hat Enterprise Linux (RHEL) 6.5
- Support for Microsoft Exchange 2013 and SharePoint 2013, including support for Granular Recovery Technology (GRT)
- Support for Microsoft SQL Server 2014 on Windows Server 2008/2008 R2/2012/2012 R2
- Support for IBM Domino 9.0.1 on Windows Server 2012 R2
- Hyper-V policy support for single file recovery functionality on Windows Server 2012 R2 Update 1
- Support for VDDK 5.5 Update 1
- Bare Metal Restore (BMR) support for the following platforms:
 - Windows Server 2012 R2 boot server and client
 - Windows 8.1 client
 - Oracle Enterprise Linux (OEL) 5.9 client

- RHEL 6.5 boot server and client
- RHEL 5.10 boot server and client

NetBackup utility enhancements

NetBackup 7.6.0.3 includes improvements to the `NBCC`, `NBCCA`, and `nbsu` utilities. The improvements to `NBCC` and `NBCCA` include enhancements and high-priority fixes that improve the end-user experience. These fixes help the NetBackup Support organization identify NetBackup catalog and database consistency issues. Enhancements to `nbsu` in version 1.7.1 include improvements to diagnostic data collection and the diagnosis of issues with NetBackup.

Using Query Builder to speed up a search for specific vApps

To speed up the search for VMs in a large VMware vCloud Director environment, you can use Query Builder rules in the NetBackup policy to search specific vApps. For instructions, see the following Symantec document:

<http://www.symantec.com/docs/HOWTO99923>

A new BMR user prompt has been added to choose between multiple kernel levels

An additional user prompt has been added to let you choose the appropriate kernel when you create a Bare Metal Restore (BMR) shared resource tree (SRT) for a Linux client using operating system installation media that have multiple kernels.

For example, the following prompt is displayed when you create an Oracle Linux 6.4 client:

```
Choose appropriate SRT kernel version for your SRT :
```

```
1. vmlinuz-2.6.39-400.17.1.el6uek.x86_64
2. vmlinuz-2.6.32-358.el6.x86_64
Enter your selection [1] :
```

In the example, the default kernel selection is the Oracle Linux UEK kernel (`vmlinuz-2.6.39-400.17.1.el6uek.x86_64`) and gets added in the SRT by default. However, you may need to select a different kernel depending on your requirements. In this example, you must select the Red Hat Enterprise Linux (RHEL) kernel (`vmlinuz-2.6.32-358.el6.x86_64`) when an SRT is created for Oracle Linux 6.4 running on a Windows 2008 R2 Hyper-V VM.

New default configuration parameters in the MSDP pd.conf file

Symantec changed the values of two configuration parameters in the **Media Server Deduplication Pool** `pd.conf` file. The following are the parameters and their new values:

```
MAX_LOG_MBSIZE = 100
RESTORE_DECRYPT_LOCAL = 1
```

NetBackup status code: 4243

Message: Insufficient space available on datastore

Explanation: VMware datastore(s) do not contain adequate space to perform a snapshot operation.

Recommended action: Free some space on the datastore(s) and retry the operation.

NetBackup status code: 2821

Message: Hyper-V policy restore error

Explanation: On a Hyper-V restore operation, a connectivity issue between the Hyper-V host and the media server causes `bptm` to fail to write to the socket.

Recommended Action: Try the following:

- Update the NIC drivers and firmware if necessary.
- Ensure that the network hardware between the media server and the client operates properly.
- Add NetBackup processes and directories to the Antivirus Exclusion List since antivirus applications may close the established socket.
- Increase TCP resiliency on the Windows hosts (master servers, media servers, and clients) by setting the `TcpMaxDataRetransmissions` registry key to a value of 10. The default value is 5.

More information is available from Microsoft about the

`TcpMaxDataRetransmissions` registry key:

msdn.microsoft.com/en-us/library/aa915651.aspx

Click [here](#) to view technical notes and other information in the Symantec knowledge base about this status code.

NetBackup 7.6.0.2 new features, enhancements, and changes

The following list contains some of the new features, enhancements, and changes that can be found in NetBackup starting in version 7.6.0.2:

- Fix for the OpenSSL "Heartbleed" vulnerability in NetBackup and NetBackup appliances
- New Amazon Simple Storage Service (S3) region support
- New configuration option for NetBackup OpsCenter scheduled reports
- New option in the Backup, Archive, and Restore dialogs to select a media server during a restore
- Support for Hyper-V Server 2012 R2, including support for file-level Granular Recovery Technology (GRT) and the vhdx virtual hard disk format
- Support for VMware VDDK 5.5 with vSphere 5.5 and vCloud Director 5.5
See "[NetBackup for VMware operational notes](#)" on page 38.
- Support for Oracle 12c
See "[NetBackup for Oracle operational notes](#)" on page 29.
- NetBackup Fibre Transport (FT) media server support for SLES 11 SP3
- Bare Metal Restore (BMR) support for the following platforms:
 - Windows 8/Server 2012 boot server and client
 - Solaris 11.1 boot server and client
 - SUSE 11 SP2 boot server and client
 - SUSE 11 SP3 boot server and client
 - Red Hat Enterprise Linux (RHEL) 6 on Xen virtualization
 - The xvda disk format for Oracle Enterprise Linux on Oracle VM

OpenSSL Heartbleed vulnerability to NetBackup and NetBackup appliances

NetBackup and the NetBackup appliances use the OpenSSL cryptography library that contains the CVE-2014-0160 vulnerability (also known as the "Heartbleed" security bug). The effect of this vulnerability in NetBackup is limited to telemetry and the NetBackup Plug-in for VMware vCenter (vCenter plug-in). Symantec has fixed this vulnerability starting with the NetBackup 7.6.0.2 and NetBackup Appliance 2.6.0.2 releases.

If you use the vCenter plug-in, Symantec recommends that you take the following precautionary actions after upgrading to NetBackup 7.6.0.2 or later:

- On the vCenter plug-in virtual appliance:
 - 1 Change the virtual appliance local account password.
 - 2 If you have explicitly enabled the SSH daemon (`sshd`), you should regenerate a new key pair.

- Alternatively, you can reinstall the virtual appliance and upload the NetBackup master server token again.

For updated information about this issue and how it might affect your NetBackup environment, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH216555>

About the Amazon Simple Storage Service (S3) region support

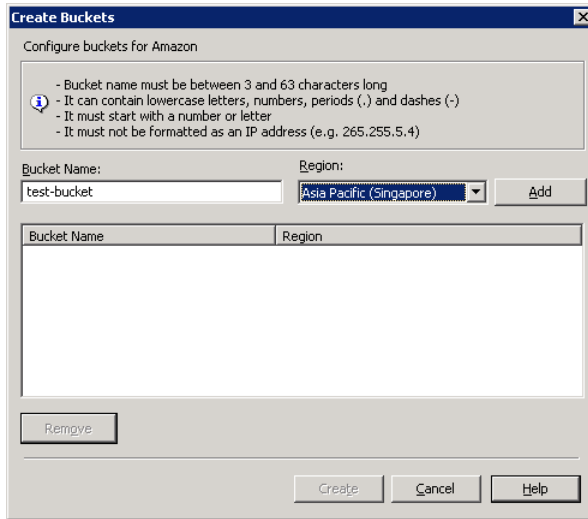
Beginning with the 7.6.0.2 release, NetBackup 7.6 supports Amazon cloud storage in all of its provided regions. By default, NetBackup uses the US Standard region for Amazon cloud storage.

Support for Amazon regions other than US Standard requires the following release levels:

- NetBackup 7.5 media servers must run NetBackup 7.5.0.6 or later.
- NetBackup 7.6 media servers must run NetBackup 7.6.0.2 or later.

When you configure a NetBackup disk pool for Amazon, you can select the region in which to create the Amazon storage bucket. The following dialog box appears when you click the **Add** button on the **Select Volumes** panel of the **Disk Pool Configuration Wizard**:

Figure 2-1 Configure buckets for Amazon dialog box



NetBackup writes your backups to that region’s cloud and does not route the traffic through the main Amazon Web Service hosts in the United States.

The following are the requirements for bucket names in regions other than the US Standard region:

- Bucket names must be at least 3 and no more than 63 characters long.
- Bucket names must be a series of one or more labels. The labels can contain lowercase letters, numbers, and dashes. Each label must start and end with a lowercase letter or a number. Use a single period (.) to separate adjacent labels, as in the following example: `gold.backups.bucket1`.
- Bucket names must not be formatted as an IP address.

New nbdevconfig command option (-config)

Beginning with the 7.6.0.2 release, the `nbdevconfig` command includes a new option (`-config`) to specify regions other than US Standard in which to create buckets. Use this option with the `-createdv` option to specify the Amazon bucket. The following is the format and description of the option:

```
-config region:region-url
```

The `region-url` must be one of the following:

`ap-northeast-1` Asia Pacific (Tokyo)

<code>ap-southeast-1</code>	Asia Pacific (Singapore)
<code>ap-southeast-2</code>	Asia Pacific (Sydney)
<code>eu-west-1</code>	European Union (Ireland)
<code>sa-east-1</code>	South America (Sao Paulo)
<code>us-west-1</code>	US West (Northern California)
<code>us-west-2</code>	US West (Oregon)

If the `region-url` string does not exactly match the notation, the bucket is created in the US Standard region. If this option is omitted, the bucket is created in the US Standard region.

Configuring OpsCenter scheduled reports for faster report generation

When you export or email a scheduled tabular report, 1000 records are fetched at a time from the database when the report generates. For large databases (0.5 million rows of data, for example) it can take several hours for the scheduled reports to generate.

Starting with NetBackup OpsCenter 7.6.0.2, you can configure a new page size setting to help reduce the time it takes to generate scheduled reports.

To configure the page size setting

- 1 Open the `report.conf` file at the following location:

Windows	<code><INSTALL_PATH>\Symantec\OpsCenter\server\config</code>
UNIX	<code><INSTALL_PATH>/SYMCOpsCenterServer/config</code>

- 2 Add the following parameter: `report.export.pageSize`

For example:

```
report.export.pageSize = 20000
```

Note: Setting any value higher than 50000 for the `report.export.pageSize` parameter is not recommended and can lead to memory issues.

Note: This setting is not applicable for manually-exported reports.

3 Stop all of the OpsCenter Server services using the following command:

Windows `<INSTALL_PATH>\OpsCenter\server\bin\opsadmin.bat
stop`

UNIX `<INSTALL_PATH>/SYMCOpsCenterServer/bin/opsadmin.sh
stop`

4 Start all of the OpsCenter Server services using the following command:

Windows `<INSTALL_PATH>\OpsCenter\server\bin\opsadmin.bat
start`

UNIX `<INSTALL_PATH>/SYMCOpsCenterServer/bin/opsadmin.sh
start`

New Media Server option for restoring to an alternate location

The NetBackup Backup, Archive, and Restore dialogs include a new restore option called **Media Server**. You can use this option to select a media server that has access to the storage unit that contains the backup image. An example of such an environment is a Media Server Deduplication Pool (MSDP) with multiple media servers.

Note: If the storage unit that contains the backup image is not shared with multiple media servers, this option is grayed out.

Operational notes

This chapter includes the following topics:

- [About NetBackup 7.6.0.3 operational notes](#)
- [NetBackup installation and upgrade operational notes](#)
- [NetBackup administration and general operational notes](#)
- [NetBackup Accelerator operational notes](#)
- [NetBackup Bare Metal Restore operational notes](#)
- [NetBackup database and application agent operational notes](#)
- [NetBackup documentation notes](#)
- [NetBackup for NDMP operational notes](#)
- [NetBackup OpsCenter operational notes](#)
- [NetBackup Replication Director operational notes](#)
- [NetBackup virtualization operational notes](#)

About NetBackup 7.6.0.3 operational notes

NetBackup operational notes describe and explain important aspects of various NetBackup operations that may not be documented elsewhere in the NetBackup documentation set or on the Symantec Support website. The operational notes can be found in the *NetBackup Release Notes* for each version of NetBackup. Typical operational notes include known issues, compatibility notes, and additional information about installation and upgrade.

The NetBackup 7.6.0.3 maintenance release is based on the 7.6 release. Therefore, many of the NetBackup 7.6 operational notes and known issues that have not yet

been addressed in the 7.6 maintenance line are likely to still apply to version 7.6.0.3. Symantec recommends that you also review the *NetBackup Release Notes* for version 7.6 in addition to version 7.6.0.3 to ensure that you receive the necessary operational information.

Operational notes are often added or updated after a version of NetBackup has been released. As a result, the online versions of the *NetBackup Release Notes* or other NetBackup documents may have been updated post-release. You can access the most up-to-date version of the documentation set for a given release of NetBackup at the following location on the Symantec Support website:

<http://www.symantec.com/docs/DOC5332>

See “[About related NetBackup documents](#)” on page 69.

NetBackup installation and upgrade operational notes

NetBackup can be installed and upgraded in heterogeneous environments using a variety of methods. NetBackup is also compatible with a mixture of servers and clients that are at various release levels in the same environment. This topic contains some of the operational notes and known issues that are associated with the installation, upgrade, and software packaging of NetBackup 7.6.0.3.

See “[About NetBackup release types and versioning](#)” on page 55.

Special full installation packages for NetBackup server and client on Windows 8.1/Server 2012 R2

Master and media server support on Windows Server 2012 R2 begins with NetBackup 7.6.0.3. However, NetBackup server installations on this platform require a special full installation package. Symantec has provided full installation packages for both server and client. These packages bring a NetBackup server or client directly to version 7.6.0.3 without the need to first install any previous versions of NetBackup 7.6.

Table 3-1 NetBackup 7.6.0.3 installation and upgrade packages available for Windows

NetBackup 7.6.0.3 Windows package	Compatible Windows OS
NB_7.6.0.3.winnt.x64.Server.Win2012R2.exe Special full server installation package	*Required* for NetBackup 7.6 master and media server installations on Windows Server 2012 R2

Table 3-1 NetBackup 7.6.0.3 installation and upgrade packages available for Windows *(continued)*

NetBackup 7.6.0.3 Windows package	Compatible Windows OS
NB_7.6.0.3.winnt.x64.Client.Win2012R2.exe Special full client installation package	Compatible only with new installations of the NetBackup client on Windows 8.1/Server 2012 R2 *Recommended* for new client push installations of NetBackup on Windows 8.1/Server 2012 R2 because of the following issue: http://www.symantec.com/docs/TECH222231
NB_7.6.0.3.winnt.x64.exe NB_7.6.0.3.winnt.x86.exe Traditional maintenance packages (patches)	Compatible with all supported Windows client and server platforms except master and media server installations on Windows Server 2012 R2

For more information about supported Windows platforms, refer to the NetBackup compatibility lists on the Symantec Support website:

<http://www.symantec.com/docs/TECH59978>

Notes about the NetBackup 7.6.0.3 full installation package for Windows

- The special full NetBackup 7.6.0.3 packages have the same installation requirements and relative binary sizes as NetBackup 7.6 GA. Refer to the *NetBackup Installation Guide* and the *NetBackup Upgrade Guide* for complete installation instructions.
- Until the next full media release, the NetBackup 7.6.0.3 server full installation package provides the only supported method for installing a base level of NetBackup server software on Windows Server 2012 R2.

Additional steps required for AIX

The installation or upgrade of NetBackup 7.5 or NetBackup 7.6 may stop responding on some versions of AIX. This problem is the result of changes in the AIX operating system to `vswprintf`. The changes break the undefined behavior in the `libACE` component that shipped with the MSDP package. This problem is found on:

- AIX 6.1 TL9
- AIX 7.1 TL3

More information is available.

<http://www.symantec.com/docs/TECH214505>

NetBackup administration and general operational notes

NetBackup provides a complete, flexible data protection solution for a variety of platforms. The platforms include Windows, UNIX, and Linux systems. In addition to a standard set of data protection features, NetBackup can also utilize several other licensed and non-licensed components to better protect a variety of different systems and environments. This topic contains some of the general operational notes and known issues that are associated with the administration of NetBackup 7.6.0.3.

The backup script path field is not active for an automatic backup schedule

When you configure an MS-SQL-Server policy with the **Backup Policy Configuration Wizard** and select the **Backup Type**, the field to specify the backup script path is not active after you select **Automatic Backup**. This issue only affects the NetBackup-Java Administration Console.

For more information and workarounds for this issue, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH222312>

NetBackup Accelerator operational notes

NetBackup Accelerator increases the speed of full backups. The increase in speed is made possible by change detection techniques on the client. The client uses the change detection techniques and the client's current file system to identify the changes that occurred since the last backup. This topic contains some of the operational notes and known issues that are associated with NetBackup Accelerator in version 7.6.0.3.

Accelerator backups for VMware intermittently fail with an incorrect checksum error

Accelerator backups for VMware intermittently fail with status code 84 and an `incorrect checksum` error when you use the hotadd transport method on a Windows proxy.

Further information and potential workarounds for this issue can be found at the following location on the Symantec Support website:

<http://www.symantec.com/docs/TECH222588>

NetBackup Bare Metal Restore operational notes

NetBackup Bare Metal Restore (BMR) automates and streamlines the server recovery process, making it unnecessary to reinstall operating systems or configure hardware manually. This topic contains some of the operational notes and known issues that are associated with BMR in NetBackup 7.6.0.3.

Support notes

- NetBackup 7.6.0.2 Windows x86-32 clients cannot be used as Virtual Instance Converters (VICs) for BMR physical to virtual (P2V) conversions. Note that NetBackup 7.6.0.2 uses VMware VDDK 5.5 libraries, which do not support the Windows x86-32 bit platform.
- BMR does not fully support the Resilient File System (ReFS) for the Windows 8/Server 2012 line of releases.

For Windows 8/Server 2012, ReFS-formatted client volumes are restored back as NTFS-formatted volumes with data files recovered. The following message displays during a prepare-to-restore operation:

```
The configuration contains volume(s) with ReFS file system.
```

Note: ReFS-formatted client volumes are restored back as NTFS-formatted volumes with data files recovered.

- Legacy Restore is not supported on Windows 8/Server 2012 and later.

A PIT restore of a replicated BMR image within an alternate domain may fail

When a Bare Metal Restore (BMR) image is replicated to an alternate NetBackup domain using Auto Image Replication, attempts to perform a point in time (PIT) restore of that image within the alternate domain may fail.

For more information and workarounds for this issue, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH218244>

Inconsequential message may appear during BMR recovery of an RHEL client that has RAID1 volumes

During a Bare Metal Restore (BMR) recovery of a Red Hat Enterprise Linux (RHEL) client that has RAID1 volumes configured, you may receive the following message on the client screen:

```
INFO: task mdadm:<pid> blocked for more than 120 seconds
```

You can safely ignore this message. The message is the result of the `mdadm` utility taking longer than expected. However, the utility eventually finishes and the restore completes successfully.

An extra step is required after restoring a Windows client with EFI boot system

Restoring Windows clients with EFI boot system is currently only supported using the Fast Restore SRT option and not with the Legacy Restore option. However, to restore the EFI boot system using Fast Restore SRT during BMR client recovery, you must temporarily change the boot manager to BIOS. At the end of the recovery process during the first boot, change the boot manager back to UEFI mode.

NetBackup database and application agent operational notes

NetBackup offers several methods of protecting various database and application technologies, such as Oracle, SQL, and Exchange. This topic contains some of the operational notes and known issues that are associated with the protection of database technologies in NetBackup 7.6.0.3.

NetBackup for Exchange and NetBackup for SharePoint operational notes

NetBackup for Exchange Server and NetBackup for SharePoint Server extend the capabilities of NetBackup to include online backups and restores of Exchange and SharePoint databases. This topic contains some of the operational notes and known issues that are associated with NetBackup for Exchange and NetBackup for SharePoint in NetBackup 7.6.0.3.

Support notes

- The SharePoint 2013 site template "Community Site" is not supported with SharePoint 2013 restores that use Granular Recovery Technology (GRT).

- With SharePoint 2013 backups that use GRT, a redirected restore to a file system is not supported.
- The SharePoint 2013 site template "Product Catalog" is not supported with SharePoint 2013 restores that use GRT.

Non-default themes are not restored with the site collection

When you restore a site collection for SharePoint, any non-default theme you applied is not restored with the site collection. You must reapply the theme manually after the restore. This limitation does not affect restores of sub sites.

Web Parts do not retain their formatting

Web Parts on the home page of the site collection and subsite do not retain their formatting when you restore with Granular Recovery Technology (GRT) at the site collection and subsite level.

Dependent items of blog posts are not restored

For SharePoint 2013, dependent items of blog posts (including comments and images) are not restored with restores that use Granular Recovery Technology (GRT).

Attempts to restore an Exchange 2010 Public Folder item to a subfolder can fail with a status 5

If you attempt to restore an Exchange 2010 Public Folder item to a subfolder that has not been previously created, the restore fails with a status 5. The following error appears in the progress log:

```
MNR - error writing file: %1
```

Use one of the following workarounds to resolve this issue:

- Retry the restore operation. NetBackup receives an error when it attempts to create the new subfolder. However, the subfolder is created. A second restore attempt to the same subfolder location will be successful.
- Create the subfolder manually before you attempt the restore. If the subfolder exists, the restore will be successful.

Restores between Public Folders and private mailboxes can fail with status 5

For Exchange 2010, the following situations cause a restore to fail with a status 5:

- Restores of a private mailbox item to a Public Folder
- Restores of a Public Folder item to a private mailbox

In the `ncfgr` log, the following error appears:

```
EWS Failed to get mailbox properties
```

NetBackup for Microsoft SQL Server operational notes

NetBackup for SQL Server extends the capabilities of NetBackup for Windows to include backups and restores of SQL Server databases. These capabilities are provided for a Windows client using either a UNIX or Windows NetBackup master server. This topic contains some of the operational notes and known issues that are associated with NetBackup for Microsoft SQL Server in NetBackup 7.6.0.3.

SQL Server log truncation can fail during VMware backups of SQL Server

SQL Server transaction log truncation may fail during VMware backups of SQL Server if a database name contains special characters or if the `%TEMP%` directory path is too long. During SQL Server log truncation, the NetBackup for SQL Server agent creates a temporary log backup. This backup specifies the current user's configured `%TEMP%` directory and database name as part of the destination backup device. SQL Server limits the path that can be used for backup devices to 259 characters. Under certain circumstances the SQL Server agent may generate a backup device that is longer than 259 character and cause log truncation to fail.

The following conditions can cause failure:

- A configured `%TEMP%` directory that is longer than 259 characters.
- When the combined length of the database name and `%TEMP%` directory path is longer than 259 characters.
- The database name contains any special characters that are percent encoded in the backup device name.

One workaround for this issue is to configure the `%TEMP%` directory so that the path is substantially shorter than 259 characters long.

NetBackup for Oracle operational notes

NetBackup integrates the database backup and recovery capabilities of the Oracle Recovery Manager (RMAN) with the backup and recovery management capabilities of NetBackup. This topic contains some of the operational notes and known issues that are associated with NetBackup for Oracle in NetBackup 7.6.0.3.

Support notes

- Script-based Block-Level Incremental (BLI) Backups without Oracle Recovery Manager (RMAN) are not supported for Oracle 12c.

NetBackup debug log files are not created for Oracle 12c on Windows

A situation can occur during backup and restore jobs of Oracle 12c for Windows where no debug log files are created in the `dbclient` and `bpdbsbora` folders.

In the Oracle 12c release, an Oracle user can be a Windows built-in account (`LocalSystem` or `LocalService`) or a standard Windows user account. This issue is the result of security permissions for standard (non-administrator) Windows user accounts.

If a standard (non-administrator) Windows user account is used, the Oracle user may not have the proper privileges to write to the `dbclient` and `bpdbsbora` folders. To work around this issue, change the Windows security permissions of the `dbclient` and `bpdbsbora` folders to give the Oracle user **Full control** permissions.

For more information, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH52446>

To use the NetBackup SAN Client to protect Oracle on Windows, the Oracle user must have administrator privileges

Starting with Oracle Database 12c Release 1 (12.1), Oracle Database on Windows supports the use of Oracle Home User. The Oracle Home User is specified at the time of Oracle Database installation and is used to run the Windows services for the Oracle home. The Oracle Home User that is used to run Windows services is similar to the Oracle user for Oracle Database on Linux.

For more information, refer to the Oracle document "Supporting Oracle Home User on Windows" at the following location:

http://docs.oracle.com/cd/E16655_01/win.121/e10714/oh_usr.htm

To use NetBackup SAN Client, make sure to select **Use Windows Built-in Account** during Oracle Database installation. Making this selection enables the Windows services for the Oracle home to run as `LocalSystem` or `LocalService`.

Upgrade of an Oracle database causes instance information saved by NetBackup to become invalid

Upgrade of an Oracle database causes instance information for the upgraded database to become invalid. If this instance is associated with one or more current NetBackup for Oracle Intelligent Policies, run-time failures can occur. The issue occurs when an Oracle database is upgraded to a new version. The new version is likely to have a different ORACLE_HOME, ORACLE_SID, or Oracle User. If any of these values have changed, the existing instance information in the NetBackup instance repository and in the current Oracle Intelligent Policies becomes invalid. When the discovery service (`nbdisco`) polls the clients again, it discovers the database as a new instance. Consequently, there is no way to associate the new instance to the old instance.

This issue is not version-specific and applies to each of the following valid Oracle upgrade paths:

- Oracle 10 to version 11
- Oracle 10 to version 12
- Oracle 11 to version 12

For more information about the valid Oracle upgrade paths, review the following documentation on the Oracle Support website:

<http://www.oracle.com/technetwork/database/upgrade/upgrading-oracle-database-wp-12c-1896123.pdf>

Workaround: When an existing Oracle database is upgraded and the ORACLE_HOME, ORACLE_SID, or Oracle User are modified, remove the existing instance in the instance repository. After the existing instance is removed, update the instance repository with the new instance information. Make sure to update any policies with the newly-discovered instances.

NetBackup for SAP operational notes

NetBackup for SAP integrates the database backup and recovery capabilities of SAP with the backup and the recovery management capabilities of NetBackup. This topic contains some of the operational notes and known issues that are associated with NetBackup for SAP in NetBackup 7.6.0.3.

SAP HANA database recovery fails with a name server error

When you attempt to recover a SAP HANA database backup from the SAP HANA Studio interface, the recovery can fail with the following error message:

```
Failed: start of nameserver failed.
```

This issue occurs when you attempt to recover a backup from the multiple database backups that are taken along with some intermittent log backups.

For more information about this issue, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH223358>

NetBackup documentation notes

Symantec provides a full set of technical documentation that covers the installation, administration, and management of each component of NetBackup. The documentation set is published in several forms including guides (print and PDF), online topics, and the built-in NetBackup software Help system. New documentation is published at each release depending on the release type. This topic contains some of the corrections and other notes that are associated with specific NetBackup documentation since the last time it was published.

See [“About NetBackup release types and versioning”](#) on page 55.

See [“About related NetBackup documents”](#) on page 69.

NetBackup Commands Reference Guide notes

This topic contains some of the documentation corrections and notes that are associated with the *NetBackup Commands Reference Guide* in the latest version of the document.

Inaccurate example for the nbstl command

In the *NetBackup Commands Reference Guide*, Example 3 in the "Examples" topic for the `nbstl` command contains the following inaccurate command:

```
# nbstl LCPolicy -dc Gold -uf 0,1,2 -residence DskStU,TpSTU,__NA__  
-pool NetBackup,DLP_Pool1,__NA__ -managed 0,0,0 -rel 6,12,1
```

The command should include the `-add` option and should include `-r1` as an option instead of `-rel`. The corrected command is as follows:

```
# nbstl LCPolicy -add -dc Gold -uf 0,1,2 -residence  
DskStU,TpSTU,__NA__ -pool NetBackup,DLP_Pool1,__NA__ -managed 0,0,0  
-r1 6,12,1
```


NetBackup for Microsoft SharePoint Server Administrator's Guide notes

This topic contains some of the documentation corrections and notes that are associated with the *NetBackup for Microsoft SharePoint Server Administrator's Guide notes* in the latest version of the document.

Incorrect statement of support for Veritas Cluster Server

The NetBackup 7.6 and 7.5 versions of the *NetBackup for Microsoft SharePoint Server Administrator's Guide* incorrectly stated support for Veritas Cluster Server (VCS) in the topic titled "Requirements for installing the SQL back-end servers in a cluster".

As of NetBackup 7.5, the SharePoint Agent no longer supports protection of SharePoint farms with a clustered SQL Server backend on a Veritas Cluster Server.

NetBackup 7.1.0.4 is the last version to support VCS with the SharePoint Agent. For more information, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH216356>

NetBackup Status Codes Reference Guide notes

This topic contains some of the documentation corrections and notes that are associated with the *NetBackup Status Codes Reference Guide* in the latest version of the document.

Additional action for status codes 25 and 50

If index jobs fail when you use the NetBackup Search feature, use the `nbsetconfig` command to increase the `max_timeout` parameter of the `VNET_OPTIONS`. For example:

```
# nbsetconfig VNET_OPTIONS = 300 3600 200 40 3 1 30 5 1793 32 0 0
```

The `max_timeout` is the first parameter in the series (300).

NetBackup for VMware Administrator's Guide notes

This topic contains some of the documentation corrections and notes that are associated with the *NetBackup for VMware Administrator's Guide* in the latest version of the document.

Incomplete information about hotadd transport mode

The topic "Notes on the hotadd transport mode" in the *NetBackup for VMware Administrator's Guide* for version 7.5 and 7.6 contains incomplete information about the hotadd transport mode. The topic should have identified disk signature collisions as a cause of a VM restore problem when VMs in the backup are clones of the backup host.

Complete information about this issue can be found under "Hotadd backup issues caused by Windows disk signature collisions" in the following NetBackup compatibility document:

<http://www.symantec.com/docs/TECH127089>

Inaccurate statement for SAN connection recommendation

In the topic "Performance recommendations for Instant Recovery for VMware," the *NetBackup for VMware Administrator's Guide* for version 7.6 contains the following inaccurate statement about SAN connections:

- A SAN connection from the NetBackup media server and its disk storage unit to the ESX host.

The bulleted statement should be corrected to read:

- A SAN connection from the NetBackup media server to its disk storage unit.

NetBackup Plug-in for VMware vCenter Guide notes

This topic contains some of the documentation corrections and notes that are associated with the *NetBackup Plug-in for VMware vCenter Guide* in the latest version of the document.

Step missing for enabling web services in regard to the Microsoft Cluster Service

For enabling web services for the NetBackup plug-in for vCenter, the *NetBackup Plug-in for VMware vCenter Guide* omits a step regarding the Microsoft Cluster Service (MSCS). If the NetBackup master server is in an MSCS cluster, you must verify the domain user configuration.

For updated instructions, see the following Symantec online topic:

<http://www.symantec.com/docs/HOWTO92103>

NetBackup for NDMP operational notes

NetBackup for NDMP is an optional NetBackup application. It enables NetBackup to use the Network Data Management Protocol (NDMP) to initiate and control backups and restores of Network Attached Storage (NAS) systems. This topic contains some of the operational notes and known issues that are associated with NetBackup for NDMP in NetBackup 7.6.0.3.

NDMP backups can fail with status code 106 when you use a wildcard

NDMP backups fail with status code 106 (`invalid file pathname found, cannot process request`) when you use a wildcard (*) to specify a folder or a volume in a backup selection for a NetApp cDOT version 8.2 filer that is configured in node scope mode (NSM). For example, an NDMP backup policy with the following backup selection for a cDOT filer fails:

```
/vol/MyVolume/myDir*
```

To work around this issue, do not use wildcard characters to specify folder or volumes in backup selections of NDMP backup policies for cDOT filers.

NetBackup OpsCenter operational notes

NetBackup OpsCenter is a web-based software application that helps organizations by providing visibility into their data protection environment. By using NetBackup OpsCenter, you can track the effectiveness of backup operations by generating comprehensive reports. This topic contains some of the operational notes and known issues that are associated with OpsCenter in NetBackup 7.6.0.3.

Note: OpsCenter is a convergence of NetBackup Operations Manager (NOM) and Veritas Backup Reporter (VBR) and is available in the following two versions: Symantec NetBackup OpsCenter and Symantec NetBackup OpsCenter Analytics. Starting with NetBackup 7.0, NOM has been replaced with OpsCenter. If your current NetBackup environment includes NOM or VBR, you must first upgrade to OpsCenter 7.0 or 7.1 before you can upgrade to a later version of OpsCenter.

For more information about upgrading OpsCenter, refer to the *NetBackup OpsCenter Administrator's Guide*.

The NetBackup Disk Pool Size vs. Percentage Full report may show incorrect data

OpsCenter's NetBackup Disk Pool Size vs. Percentage Full report may show incorrect data when OpsCenter does not have disk pool size data for one or more days.

This issue occurs because the report calculates disk pool sizes every day and shows the average values in report. Missing data for any day that falls within the selected report time frame generates incorrect average data.

OpsCenter reports display IP addresses for some VMs

OpsCenter reports display IP addresses for some of the listed virtual machines (VMs). OpsCenter tries to alias these IP addresses with their respective VM names and host names when that information is available. For this aliasing to reflect in the reports, OpsCenter services need to be restarted. Please note that if a VM's name and host name are not available in the OpsCenter database, then that VM's IP will still appear in the reports.

OpsCenter displays incorrect OS level for Windows Server 2012 R2

NetBackup OpsCenter displays an incorrect operating system for a Windows Server 2012 R2 master server host. Instead of Windows Server 2012 R2, OpsCenter displays "Windows Server 2012" in the **Operating System** column under **Settings > Configuration > NetBackup**.

The hold operation in the OpsCenter Search functionality may fail

The hold operation in the NetBackup OpsCenter **Search & Hold** functionality may fail if there are retired NetBackup master servers present in OpsCenter.

This issue may occur when the following are true:

- You create and run search criteria for NetBackup backup images in OpsCenter.
- A master server that you have added in OpsCenter and subsequently retired in NetBackup is included in the search results.

If you try to run the hold operation, the operation fails and the following error is displayed under **Hold error details**:

```
Master Server Not Connected
```

Issues accessing an OpsCenter Server from the remote OpsCenter View Builder on a Windows computer

If you use a remote OpsCenter View Builder on a Windows computer that does not host the OpsCenter database, you may encounter database connection issues.

This problem can arise in any of the following scenarios:

- When the network name and the host name of the OpsCenter Server do not match
- When the OpsCenter Server host and the remote View Builder host are in different domains

To work around this issue, do the following:

1. Add the OpsCenter Server host name to the View Builder's `etc/hosts` file.
2. Add the View Builder host name to the OpsCenter Server's `etc/hosts` file.

Note: Ensure that you add both the short name and the fully qualified domain name (FQDN) of the host to the `etc/hosts` file.

NetBackup Replication Director operational notes

Replication Director is the implementation of NetBackup OpenStorage-managed snapshots and snapshot replication, where the snapshots are stored on the storage systems of partnering companies. Replication Director uses an OpenStorage plug-in on the media server to communicate with the disk array (through the storage server) and to make requests to move data. The OpenStorage partner also hosts a software plug-in that allows communication between NetBackup and the disk array. This topic contains some of the operational notes and known issues that are associated with Replication Director and its associated plug-ins in NetBackup 7.6.0.3.

NetApp Plug-in for Symantec NetBackup operational notes

The NetApp Plug-in for Symantec NetBackup (NBUPugin) is the software plug-in that allows communication between NetBackup and the NetApp disk arrays. This topic contains some of the NetBackup-related operational notes and known issues that are associated with the NBUPugin in NetBackup 7.6.0.3. More information about the NBUPugin can be found in the [NetApp Plug-in for Symantec NetBackup Release Notes](#) on the NetApp Support website.

The NBUPugin can crash if there are more than 270 qtrees on the filer

In versions before NetApp Plug-in for Symantec NetBackup (NBUPugin) 1.1, problems can arise if a large number of qtrees are used in the NetBackup policy **Backup Selections** list. The NBUPugin can crash if there are more than 270 qtrees on the filer.

To resolve the problem, upgrade to the latest version of the NBUPugin, available from the NetApp Support website.

NetBackup virtualization operational notes

NetBackup offers several methods of protecting virtual environments. The two primary virtualization technologies that NetBackup can protect are VMware and Hyper-V, although NetBackup can protect other virtualization technologies as well. This topic contains some of the operational notes and known issues that are associated with the protection of virtualization technologies in NetBackup 7.6.0.3.

NetBackup for VMware operational notes

NetBackup for VMware provides backup and restore of the VMware virtual machines that run on VMware ESX servers. Additionally, the NetBackup plug-in for VMware vCenter (vCenter plug-in) allows the vSphere Client to monitor virtual machine backups and recover a virtual machine from a backup. This topic contains some of the operational notes and known issues that are associated with NetBackup for VMware and the vCenter plug-in in NetBackup 7.6.0.3.

Support notes

- VMware VDDK 5.5 does not support the hotadd transport mode with SATA virtual disks.

To back up SATA virtual disks, use a different transport mode (not hotadd).

Note: If the SATA disks are in SCSI, iSCSI, or FC-connected storage arrays, hotadd is supported.

For more information about this issue, refer to the VMware VDDK 5.5 release notes at the following location:

<https://www.vmware.com/support/developer/vddk/vddk-550-releasenotes.html>

- VMware vSphere 5.5 uses the Space Efficient Virtual Disk (SEsparse) for snapshots of disks that are larger than 2TB. VDDK 5.5 however does not support backup or restore of SEsparse disks with host-based file transport.

Note: Replication Director for VMware requires host-based file transport. As a result, Replication Director for VMware cannot support vmdk files that are larger than 2TB.

To back up vmdk files that are larger than 2TB, use NetBackup for VMware without Replication Director.

For more information about this issue, refer to the VMware VDDK 5.5 release notes at the following location:

<https://www.vmware.com/support/developer/vddk/vddk-550-releasenotes.html>

A restored VM may not boot up or its file system(s) may not be accessible

A restored VM may not boot up or its file system(s) may not be accessible in the following case:

- The VM's guest operating system is Windows 8,
- The VM is restored from a block-level incremental backup image,
- And the restore uses the hotadd transport mode.

As a result of a VMware issue in VDDK 5.5.x, the Windows NTFS Master File Table on the restored VM may be corrupted. Symantec has opened a VMware support request (14479923705) for this issue.

As a workaround, use a different transport mode to restore the VM (not hotadd).

The Enable Publishing catalog property prevents the restore of a vApp template

An issue in vCloud Director 5.5 prevents the restore of a vApp template when you use the NetBackup **Capture vApp as a template** option. If the vCloud Director "Enable Publishing" option was set for the catalog that contains the vApp template, the restore fails with status code 1. (In the vCloud Director user interface, "Enable Publishing" is under Catalog Properties, on the External Publishing tab.)

As a workaround, do the following: After the restore job finishes with status 1, right-click the vApp template in the vCloud Director interface and select **Add to Catalog**. This option is the equivalent of NetBackup's **Capture vApp as a template** option.

Changed boot settings may prevent a VM from powering on

If the VM's default boot settings had been changed, the restored VM may not power on correctly. For more details and a workaround, refer to the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/HOWTO95250>

Selecting ports for the vCenter plug-in to ensure proper functionality

When you install the vCenter plug-in, you are asked to specify port numbers for the vCenter server and for the vCenter plug-in web server. In most cases, the default ports (443 and 9445 respectively) are available and allow the plug-in to function correctly. If you select a port that another service requires, the plug-in may not operate correctly. For example, the Secure Shell (ssh) network service default port is 22. If you select port 22 for the plug-in web server and a user enables ssh on the plug-in virtual appliance, a conflict occurs. As a result, the plug-in may malfunction.

During plug-in installation, accept the default port numbers, or select a non-standard port that other services do not require.

Backups of VMware Windows Server 2008 R2 VMs may fail with status code 156

Because of a Microsoft Volume Shadow Copy Service (VSS) error, backups of VMware Windows Server 2008 R2 VMs may fail with status code 156 (snapshot error encountered). The `install_path\NetBackup\logs\bpfis` log may contain a message similar to the following:

```
12:08:50.920 [20787] <2> onlfi_vfms_logf: INF - VMware_freeze:  
FTL - VMware error received: An error occurred while quiescing the  
virtual machine. See the virtual machine's event log for details.
```

The event logs of the virtual machine may contain the following message:

```
The guest OS has reported an error during quiescing. The error code  
was: 5 The error message was: 'VssSyncStart' operation failed:  
Unspecified error (0x80004005)
```

To fix this problem and create a successful backup, do the following:

- Update VMware Tools on the VM to the latest version.
- Update the ESX server to the latest version.

For more information on this issue, refer to the following VMware Knowledge Base article:

http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2006849

NetBackup for Hyper-V operational notes

NetBackup for Hyper-V provides snapshot-based backup of the virtual machines that run on various versions of Windows Server. This topic contains some of the operational notes and known issues that are associated with NetBackup for Hyper-V in NetBackup 7.6.0.3.

Support notes

- Hyper-V off-host backup is not supported in NetBackup 7.6.0.3.

Restoring a VM may fail if the CSV is a reparse point that is specified as the restore destination

If a Hyper-V VM is on a Cluster Shared Volume (CSV), restoring the VM may fail if the CSV is a reparse point that is specified as the restore destination. NetBackup may incorrectly assume that the restore destination is not large enough to contain the VM, and the restore does not start.

For further information and workarounds, refer to the following NetBackup compatibility document on the Symantec Support website:

<http://www.symantec.com/docs/TECH127089>

The Backup, Archive, and Restore interface may list Hyper-V snapshot files when you browse to restore VM files

For virtual machines (VMs) on a Windows Server 2012 R2 Hyper-V server, the Backup, Archive, and Restore (BAR) interface may list Hyper-V snapshot files when you browse to restore VM files. In some cases, the data in the snapshot file is not application-consistent and the file should not be restored.

For information about how to identify the snapshot file and whether to restore it, see the following tech note on the Symantec Support website:

www.symantec.com/docs/HOWTO95063

For a successful backup of a VM that shares CSV volumes, the VM must use CSV volumes only

Windows Server 2008 R2 introduced Hyper-V Cluster Shared Volumes (CSV). CSV allows clustered virtual machines to share volumes.

For a successful backup of a VM that shares CSV volumes, the VM must use CSV volumes only. If a local disk (not a shared CSV volume) is added to the VM, the backup fails with status code 156 (`snapshot error encountered`).

Reconfigure the VM to use CSV volumes only, and retry the backup.

Resolved operational notes

This chapter includes the following topics:

- [About resolved operational notes](#)
- [NetBackup for VMware resolved operational notes](#)

About resolved operational notes

Resolved operational notes represent the operational notes that are set to be removed from the *NetBackup Release Notes*. When an operational note is resolved, it gets documented in the resolved operational notes section along with a description of the resolution and the release version in which it was resolved. Resolved operational notes are documented in the *NetBackup Release Notes* through at least one single-dot release.

An operational note is resolved in several ways. A note is most commonly resolved by a bug fix or a new feature that is incorporated into NetBackup. However, operational notes are sometimes resolved with other documentation or workarounds. In all cases, each resolved operational note includes a description of the resolution and the release version in which it was resolved.

NetBackup for VMware resolved operational notes

[Table 4-1](#) describes the resolutions to some of the previously-documented operational notes and known issues that are associated with NetBackup for VMware and the vCenter plug-in.

For information about some of the unresolved operational notes and known issues that are associated with NetBackup for VMware and the vCenter plug-in in NetBackup 7.6.0.3:

See [“NetBackup for VMware operational notes”](#) on page 38.

Table 4-1 NetBackup for VMware resolved operational notes

Original operational note	NetBackup version that introduces resolution	Resolution
See “Issue using the hotadd transport mode to back up vmdk files that are 2 TB or larger” on page 44.	7.6.0.3	NetBackup 7.6.0.3 incorporates VMware VDDK 5.5 U1, which contains the fix for this issue.
<ul style="list-style-type: none"> VMware vSphere 5.5 adds support for vmdk files that are larger than 2TB. When you restore these files, select a datastore of the following type: VMFS-5, or possibly NFSv3 (support for NFSv3 depends on your NAS vendor). Do not select a datastore of type VMFS-3 or NFSv2. <p>For more information about this issue, refer to the VMware VDDK 5.5 release notes at the following location: https://www.vmware.com/support/developer/vddk/vddk-550-releasenotes.html</p>	7.6.0.3	NetBackup 7.6.0.3 incorporates VMware VDDK 5.5 U1, which contains the fix for this issue.

Issue using the hotadd transport mode to back up vmdk files that are 2 TB or larger

Note: This issue is resolved in NetBackup 7.6.0.3.

See [“NetBackup for VMware resolved operational notes”](#) on page 43.

A problem in VMware’s VDDK 5.5 prevents use of the hotadd transport mode to back up vmdk files that are 2 TB or larger. The backup fails but the job status may report successful completion.

To back up vmdk files that are 2 TB or larger, use a different transport mode (not hotadd).

The following VMware article contains more information about this issue:

<http://kb.vmware.com/kb/2068424>

NetBackup release content

This appendix includes the following topics:

- [About NetBackup release content](#)

About NetBackup release content

Each release of NetBackup incorporates fixes to several known issues that affected previous versions of NetBackup. Some of these fixes are associated with the customer-specific issues that have been documented in the form of Titan or Salesforce.com (SFDC) cases. Several of the customer-related fixes that are incorporated into each release are also made available as emergency engineering binaries (EEBs).

Listings of the Etracks and EEBs that document the known issues that have been fixed in NetBackup 7.6.0.3 can be found on the Symantec Operations Readiness Tools (SORT) website using the NetBackup Hot Fix and EEB Release Auditor widget, and in the [NetBackup Emergency Engineering Binary Guide](#).

See “[About Symantec Operations Readiness Tools](#)” on page 62.

NetBackup installation requirements

This appendix includes the following topics:

- [Required operating system patches and updates for NetBackup](#)

Required operating system patches and updates for NetBackup

NetBackup server and client installations are only supported on a defined set of operating systems (OSs) that are listed in the NetBackup compatibility lists. Most OS vendors provide patches, updates, and service packs (SPs) for their products. The best practice of NetBackup Quality Engineering is to test with the latest SP or update level of the OS when a platform is tested. Therefore, NetBackup is supported on all vendor GA updates (n.1, n.2, etc.) or SPs (SP1, SP2, etc.). However, if a known compatibility issue exists on a specific SP or updated OS level, this information is identified in the compatibility lists. If no such compatibility issues are noted, Symantec recommends that you install the latest OS updates on your servers and clients before you install or upgrade NetBackup.

The compatibility lists include information about the minimum OS level that is required to support a minimum NetBackup version in the latest major release line. In some cases, new releases of NetBackup may require specific vendor OS updates or patches. [Table B-1](#) includes the OS updates and patches that are required for NetBackup 7.6.0.3. However, this information may sometimes change in between releases. The most up-to-date required OS patch information for NetBackup 7.6.0.3 and other NetBackup releases can be found on the Symantec Operations Readiness Tools (SORT) website.

Note: An OS vendor may have released a more recent update or patch that supersedes or replaces a patch that is listed in [Table B-1](#). The OS patches that are listed here and in SORT should be considered at the minimum patch level that is required to install and run NetBackup. Any OS updates, patches, or patch bundles that supersede or replace those listed in [Table B-1](#) are supported unless otherwise specified. Symantec recommends that you visit the Support website of your particular OS vendor for their latest patch information.

See [“About NetBackup compatibility lists and information”](#) on page 58.

See [“About Symantec Operations Readiness Tools”](#) on page 62.

vPars is a Virtual Partitions product that enables you to run multiple instances of HP-UX simultaneously on one hard partition by dividing that hard partition further into virtual partitions.

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3

Operating system type and version	Patch	Notes
AIX 6.1	AIX 6.1 TL5 SP2 (6100-05-02-1034)	NetBackup requires the AIX 6.1 TL5 SP2 (6100-05-02-1034) Maintenance Pack as a minimum. (Higher patch levels should also work.) You can use the <code>oslevel -s</code> command to verify what Maintenance Pack level you have installed.
	AIX run-time libraries 9.0.0.3 or later	The run-time libraries need to be at 9.0.0.3 or later. You may need to restart after you change to version 9.0.0.3.
HP-UX	COMPLIBS.LIBM-PS32	If you install AT on an HP-UX platform, this patch is required.
HP-UX IA-64	Networking.NET-RUN: /usr/lib/libip6.sl	
	Networking.NET-RUN-64: /usr/lib/pa20_64/libip6.1	
	Networking.NET-RUN-64: /usr/lib/pa20_64/libip6.sl	
	Networking.NET2-RUN: /usr/lib/hpux32/libip6.so	

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 (continued)

Operating system type and version	Patch	Notes
	Networking.NET2-RUN: /usr/lib/hpux32/libip6.so.1	
	Networking.NET2-RUN: /usr/lib/hpux64/libip6.so	
	Networking.NET2-RUN: /usr/lib/hpux64/libip6.so.1	
	Networking.NET2-RUN: /usr/lib/libip6.1	
HP-UX PA-RISC	Networking.NET-RUN: /usr/lib/libip6.sl	For HP-UX PA-RISC platforms, this fileset is required.
	Networking.NET-RUN-64: /usr/lib/pa20_64/libip6.1	For HP-UX PA-RISC platforms, this fileset is required.
	Networking.NET-RUN-64: /usr/lib/pa20_64/libip6.sl	For HP-UX PA-RISC platforms, this fileset is required.
	Networking.NET2-RUN: /usr/lib/libip6.1	For HP-UX PA-RISC platforms, this fileset is required.
HP-UX 11.11	PHSS_32226	This patch is a LIBCL patch.
	PHSS_37516	Contains fixes for the following: <ul style="list-style-type: none"> ■ QXCR1000593919: purifyplus dumps core in PA32 ■ QXCR1000589142: dld crash in LL_new_descendent_list when the aCC application is exiting. ■ QXCR1000746161: dlsym() hangs ■ QXCR1000593999: dld emits assert messages for chatr +mem_check enabled 64-bit executables
	PHSS_26946	This patch is necessary to enable any C++ run-time code to work properly.
	PHSS_27740	This patch is a libcc cumulative patch.
	PHSS_26560	This patch contains a linker tools cumulative patch.

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 (continued)

Operating system type and version	Patch	Notes
	PHSS_32864	That is a recommended critical patch from HP that is required for successful NetBackup client backups.
	PHKL_26233	This patch enables HP-UX 11.11 mmap() to use large files from 2GB to 4GB.
	PHSS_35379	That is a recommended critical patch from HP that is required for successful NetBackup client backups.
	PHCO_29029	That is a recommended critical patch from HP that is required for NetBackup to use VxSS.
	PHSS_24045	Allow POLL_INTERVAL to be set to zero in /var/stm/config/tools/monitor/dm_stape.cfg. That disables the dm_stape monitor within the Event Monitoring System. Symantec recommends that you upgrade to IPR0109.
	PHSS_30970	This patch can cause problems with the programs that have the setuid bit set. Hewlett-Packard's IT resource center website contains information about this patch. www1.itrc.hp.com
	PHCO_35743	S700_800 11.11 libc cumulative patch The above patch has dependency on the following patches: <ul style="list-style-type: none"> ■ PHCO_31923 (critical patch): s700_800 11.11 libc cumulative header file patch ■ PHKL_34805 : 700_800 11.11 JFS3.3 patch; mmap
HP-UX 11.23	PHCO_33431	Symantec recommends that all customers running 11.23 install this patch. That applies to HP PA-RISC only because HP Itanium has moved to 11.31.
	PHSS_34858	That is a recommended critical patch from HP that is required so that dlopen works properly.

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 (continued)

Operating system type and version	Patch	Notes
	PHKL_31500	That is a recommended critical patch from HP that NetBackup requires, particularly when you attempt to run NetBackup with NetBackup Access Control (NBAC).
	PHSS_37492	Contains fixes for the following: <ul style="list-style-type: none"> ■ QXCR1000593919: purifyplus dumps core in PA32 ■ QXCR1000589142: dld crash in LL_new_descendent_list when the aCC application is exiting. ■ QXCR1000746161: dlsym() hangs ■ QXCR1000593999: dld emits assert messages for chatr +mem_check enabled 64-bit executables
HP-UX 11.31	QPK1131 (B.11.31.1003.347a) patch bundle	This patch bundle is required for NetBackup media server support. It is an HP-UX March 2010 patch bundle.
Solaris 10 SPARC 64-bit (server and client)	Update 4 (08/07) and newer	The server is supported on Update 4 (08/07) and newer.

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 *(continued)*

Operating system type and version	Patch	Notes
	Recommended patch set - dated June 2011 or newer	<p>Symantec recommends that you download the patch set dated June 2011 (or newer) from the Oracle Support website.</p> <p>https://support.oracle.com</p> <p>The patch set contains the following minimum recommended patches:</p> <ul style="list-style-type: none"> ■ 118777-17 (SunOS 5.10: Sun GigaSwift Ethernet 1.0 driver patch) ■ 139555-08 (Kernel patch with C++ library updates). ■ 142394-01 (Internet Control Message Protocol (ICMP) patch) ■ 143513-02 (Data Link Admin command for Solaris (DLADM) patch) ■ 141562-02 (Address Resolution Protocol (ARP) patch) <p>The following patches are for Solaris 10 SPARC with NXGE cards:</p> <ul style="list-style-type: none"> ■ 142909-17 (SunOS 5.10: nxge patch) ■ 143897-03 (Distributed Link Software patch) ■ 143135-03 (Aggregation patch) ■ 119963-21 (Change Request ID - 6815915)

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 (continued)

Operating system type and version	Patch	Notes
Solaris 10 x86-64	Recommended patch set - dated 12/28/2011 or newer	<p>Symantec recommends that you download the patch set dated 12/28/2011 (or newer) from the Oracle Support website.</p> <p>https://support.oracle.com</p> <p>The patch set contains the following minimum recommended patches:</p> <ul style="list-style-type: none"> ■ 118778-15 (SunOS 5.10_x86: Sun GigaSwift Ethernet 1.0 driver patch) ■ 139556-08 (Kernel patch with C++ library updates) ■ 142395-01 (SunOS 5.10_x86: ICMP patch) ■ 143514-02 (SunOS 5.10_x86: Data Link Admin command for Solaris patch) ■ 147259-02 (SunOS 5.10_x86: Aggregation patch) ■ 142910-17 (SunOS 5.10_x86 kernel patch to include NXGE fixes) ■ 143136-03 (SunOS 5.10_x86: Aggregation patch) ■ 119964-21 (Change Request ID - 6815915)
Windows XP x86-32	KB936357	Microsoft microcode reliability update.
Windows XP x86-64	KB928646	Hot fix for hangs of connection attempts by PBX.
Windows Vista x86-32	KB936357	Microsoft microcode reliability update.
	KB952696	Contains the necessary updates to ensure that you can back up encrypted files.
Windows Vista x86-64	KB936357	Microsoft microcode reliability update.
	KB952696	Contains the necessary updates to ensure that you can back up encrypted files.
Windows Server 2003 x86-32 (SP1 & SP2)	KB883646	Microsoft Storport hot fix.
	KB913648	Contains the necessary updates to run Volume Shadow Copy.
	KB936357	Microsoft microcode reliability update.

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 (continued)

Operating system type and version	Patch	Notes
Windows Server 2003 x86-32 (SP2)	KB971383	TCP/IP protocol driver triggers a disconnect event randomly. Required for master and media servers.
Windows Server 2003 x86-64 (SP1 & SP2)	KB883646	Microsoft Storport hot fix.
	KB913648	Contains the necessary updates to run Volume Shadow Copy.
	KB928646	Hot fix for hangs of connection attempts by PBX.
	KB936357	Microsoft microcode reliability update.
Windows Server 2003 x86-64 (SP2)	KB971383	TCP/IP protocol driver triggers a disconnect event randomly. Required for master and media servers.
Windows Server 2008 x86-32	KB952696	Contains the necessary updates to ensure that you can back up encrypted files.
Windows Server 2008 x86-64	KB952696	Contains the necessary updates to ensure that you can back up encrypted files.
Windows Server 2008 (SP2)	KB979612	Hot fix to improve TCP loopback latency and UDP latency
Windows Server 2008 R2	KB2265716	Hot fix for when a computer randomly stops responding. Note that this patch is also contained in Windows Server 2008 R2 SP1.
	KB982383	Hot fix for a decrease in I/O performance under a heavy disk I/O load. Note that this patch is also contained in Windows Server 2008 R2 SP1.
	KB983544	Update for the "Modified time" file attribute of a registry hive file. Note that this patch is also contained in Windows Server 2008 R2 SP1.

Table B-1 Required operating system patches and updates for NetBackup 7.6.0.3 *(continued)*

Operating system type and version	Patch	Notes
	KB979612	Hot fix to improve TCP loopback latency and UDP latency Note that this patch is also contained in Windows Server 2008 R2 SP1.

NetBackup compatibility requirements

This appendix includes the following topics:

- [About NetBackup release types and versioning](#)
- [About compatibility between NetBackup versions](#)
- [About NetBackup compatibility lists and information](#)
- [About NetBackup end-of-life notifications](#)

About NetBackup release types and versioning

Symantec maintains a policy by which NetBackup can deliver various release levels to accommodate customer needs. This topic defines the various release types and the version number schemes that are associated with each type.

The NetBackup family of software and appliance products uses the following release types and version number schemes:

- A major release is the first in a series of releases. This release type contains new features, enhancements, platform support, and a complete set of the latest product documentation.
- A minor release is a single-dot release that follows a major release, for example 2.6 or 7.6. This release type contains much of the same requirements as a major release. It contains a smaller set of new features and enhancements, new platform support, and a complete set of the latest product documentation.
- A software update release is a double-dot release, for example 2.6.1 or 7.6.1. This release type may contain a few new features and enhancements along

with many product fixes. Only those documents that are applicable to the new features or enhancements are updated and republished.

- A maintenance release is a triple-dot release, for example 2.6.0.2 or 7.6.0.2. This release type is primarily comprised of a number of fixes that are developed to address issues in major, minor, and software update releases. It may also contain a small number of new features, enhancements, and platform support. The only documentation that is provided for this release type is a readme text file and a new version of the *NetBackup Release Notes*. Both files are online-only and are made available on the Symantec Support website.

Note: NetBackup versions 2.6.1 and 7.6.1 are used in this topic as examples. These versions of NetBackup do not exist at the time of this topic's publication.

About compatibility between NetBackup versions

Note: The statements that are made in this topic do not override Symantec's standard End of Life and End of Support Life policies. Once a NetBackup version reaches its End of Support Life, no release of that product version is supported in any configuration.

Symantec recommends that you review the NetBackup End of Support Life information available online.

<http://www.symantec.com/docs/TECH74757>

You can run mixed versions of NetBackup between master servers, media servers, and clients. This back-level support lets you upgrade NetBackup one server at a time, which minimizes the effect on overall system performance.

For compatibility between major versions, the latest available release of NetBackup is compatible with media servers and clients that run a release of NetBackup that is up to one major version behind. However, this compatibility ceases to be supported in any configuration once the previous major version has reached its End of Support Life.

The master server within a NetBackup environment must be at a version level that is equal to or greater than the version levels of the media servers and clients within that environment. However, NetBackup offers the flexibility of an environment where the clients and the media servers run different triple-dot releases than the master server. For example you can upgrade a media server or client to version 7.6.0.2 in an environment where the master server is running version 7.6 GA. Symantec

recommends that you keep your entire NetBackup environment up-to-date with the latest maintenance (triple-dot) releases.

See [“About NetBackup release types and versioning”](#) on page 55.

NetBackup does not support any scenario where a media server or client runs a minor release version or software release update version that is higher than that of the parent server. For example:

- If a master server is at version 7.6, then the media servers and clients cannot be at a single-dot version level that is higher than 7.6, such as 7.7.
- If a master server is at version 7.6, then the media servers and clients cannot be at a double-dot version level that is higher than 7.6, such as 7.6.1.
- If a master server is at version 7.6.1, then the media servers and clients cannot be at a double-dot version level that is higher than 7.6.1, such as 7.6.2.

Note: NetBackup versions 7.6.1, 7.6.1.1, 7.6.2, and 7.7 are used in this topic as examples. These versions of NetBackup do not exist at the time of this topic's publication.

[Table C-1](#) shows the various compatibility schemes that are supported with the current NetBackup product line.

Table C-1 Release compatibility for the NetBackup product line

NetBackup master server	NetBackup media server	NetBackup client
7.6	7.0	7.0
7.6	7.0.1	7.0, 7.0.1
7.6	7.1	7.0, 7.0.1, 7.1, 7.1.0.x
7.6	7.1.0.x	7.0, 7.0.1, 7.1, 7.1.0.x
7.6	7.5	7.0, 7.0.1, 7.1, 7.1.0.x, 7.5, 7.5.0.x
7.6	7.5.0.x	7.0, 7.0.1, 7.1, 7.1.0.x, 7.5, 7.5.0.x
7.6	7.6	7.0, 7.0.1, 7.1, 7.1.0.x, 7.5, 7.5.0.x, 7.6, 7.6.0.x
7.6	7.6.0.x	7.0, 7.0.1, 7.1, 7.1.0.x, 7.5, 7.5.0.x, 7.6, 7.6.0.x

Note: Support for the NetBackup 6.x product line has ended as of October, 2012. See [“About NetBackup end-of-life notifications”](#) on page 60.

Other NetBackup mixed version compatibility notes

The following list includes additional compatibility details you should take into consideration:

- The NetBackup catalog resides on the master server. Therefore, the master server is considered to be the client for a catalog backup. If your NetBackup configuration includes a media server, it must use the same NetBackup version as the master server to perform a catalog backup.
- All NetBackup components (server, client, and console) on an individual system must be at the same version.
- The backup images that are created under an older version of NetBackup are recoverable with newer versions.

For more information about NetBackup compatibility, refer to the following tech notes on the Symantec Support website:

- NetBackup compatibility with the NetBackup appliances:
<http://www.symantec.com/docs/TECH136970>
- NetBackup version compatibility:
<http://www.symantec.com/docs/TECH29677>

About NetBackup compatibility lists and information

The *NetBackup Release Notes* document contains a great deal of the compatibility changes that are made between NetBackup versions. However, the most up-to-date compatibility information on platforms, peripherals, drives, and libraries can be found on the Symantec Operations Readiness Tools (SORT) for NetBackup website.

See [“About Symantec Operations Readiness Tools”](#) on page 62.

For NetBackup, SORT provides an Installation and Upgrade Checklist report as well as the ability to collect, analyze, and report on host configurations across your environments. In addition, you can determine which release contains the hot fixes or EEBs that you may have installed in your environment. You can use this data to assess whether your systems are ready to install or upgrade to a given release.

NetBackup compatibility lists

In addition to SORT, Symantec has made available a variety of compatibility lists to help customers quickly reference up-to-date compatibility information for

NetBackup. These compatibility lists can be found on the Symantec Support website at the following location:

<http://www.symantec.com/docs/TECH59978>

The following items describe each of the compatibility lists that are available:

- ***NetBackup Enterprise Server and Server 7.x OS Software Compatibility List***
 This list contains information about the operating system (OS) level and the version that is required to be compatible with a NetBackup master server or media server. It also describes the OS level and the version that is required to be compatible with a NetBackup client. Predecessors and successors to the documented operating system levels may function without difficulty, as long as the release provides binary compatibility with the documented operating system. This list contains compatibility information about several NetBackup Enterprise features, including the following:
 - NetBackup Enterprise server and client
 - Bare Metal Restore (BMR)
 - NetBackup Access Control (NBAC)
 - Network Data Management Protocol (NDMP)
 - NetBackup OpsCenter
 - NetBackup SAN media server and SAN client
 - Fibre Transport (FT) media server
 - NetBackup Media Server Deduplication Option
 - File system compatibility
 - NetBackup virtual system compatibility
 - NetBackup Media Server Encryption Option (MSEO)

NetBackup compatibility for a platform or OS version requires platform vendor support for that product. The platform compatibility lists that NetBackup maintains are subject to change as vendors add and drop platforms or OS versions.
- ***NetBackup Enterprise Server and Server 7.x Hardware Compatibility List***
 This list includes information for compatible drives, libraries, virtual tape devices, robot-types, fibre-channel HBAs, switches, routers, bridges, iSCSI configurations, and encryption devices. Other compatibility information includes the following:
 - NetBackup appliances
 - AdvancedDisk arrays
 - OpenStorage (OST) solutions

- Tape drives
- Fibre Transport media server host bus adapters (HBAs)
- Virtual tape libraries (VTLs)
- Network Data Management Protocol (NDMP) devices
- Tape libraries
- Encryption and security solutions
- *NetBackup 7.x Database and Application Agent Compatibility List*
This list contains the most current compatibility information for the database agents and application agents that are supported on specific operating systems and CPU architectures.
- *NetBackup 7.x Snapshot Client Compatibility List*
This list contains the most current server and client snapshot compatibility information, sorted by arrays, agents, operating systems, and VSS providers.
- *NetBackup 7.x Cluster Compatibility List*
This list contains the most current compatibility information for the cluster types and versions that are supported on specific operating systems and CPU architectures.
- *Statement of support for the importing of Backup Exec images in NetBackup 7.x using the Backup Exec Tape Reader*
- *Support for NetBackup 7.x in virtual environments*
This list contains the most current compatibility information for NetBackup in virtual environments.

About NetBackup end-of-life notifications

Symantec is committed to providing the best possible data protection experience for the widest variety of systems: platforms, operating systems, CPU architecture, databases, applications, and hardware. Symantec continuously reviews NetBackup system support. This review ensures that the proper balance is made between maintaining support for existing versions of products, while also introducing new support for the following:

- General availability releases
- Latest versions of new software and hardware
- New NetBackup features and functionality

While Symantec continually adds support for new features and systems, it may be necessary to improve, replace, or remove certain support in NetBackup. These

support actions may affect older and lesser-used features and functionality. The affected features and functionality may include support for software, OS, databases, applications, hardware, and 3rd-party product integration. Other affected items may include the products that are no longer supported or nearing their end-of-support life with their manufacturer.

Symantec provides advance notification to better help its customers to plan for upcoming changes to the support status of the various features in NetBackup. Symantec intends to list older product functionality, features, systems, and the 3rd-party software products that are no longer supported in the next release of NetBackup. Symantec makes these support listings available as soon as possible with a minimum of 6 months where feasible before major releases.

Using SORT

Advance notification of future platform and feature support including end-of-life (EOL) information is available through a widget on the Symantec Operations Readiness Tools (SORT) for NetBackup home page. The NetBackup Future Platform and Feature Plans widget on the SORT for NetBackup home page can be found directly at the following location:

<https://sort.symantec.com/nbufutureplans>

NetBackup end-of-support-life (EOSL) information is also available at the following location:

https://sort.symantec.com/eosl/show_matrix

See “[About Symantec Operations Readiness Tools](#)” on page 62.

About changes in platform compatibility

The NetBackup 7.6.0.3 release may contain changes in support for various systems. In addition to using SORT, you should make sure to review the *NetBackup Release Notes* document and the NetBackup compatibility lists before installing or upgrading NetBackup software.

See “[About new enhancements and changes in NetBackup](#)” on page 13.

See “[About NetBackup compatibility lists and information](#)” on page 58.

About SORT for NetBackup Users

This appendix includes the following topics:

- [About Symantec Operations Readiness Tools](#)
- [Recommended SORT procedures for new installations](#)
- [Recommended SORT procedures for upgrades](#)

About Symantec Operations Readiness Tools

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

Access SORT from the following webpage:

<https://sort.symantec.com/netbackup>

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

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

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

- **Custom Reports**

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

- **NetBackup Future Platform and Feature Plans**

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

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

- Page through the contents of the help similar to a book
- Look for topics in the index
- Search the help with the search option

Recommended SORT procedures for new installations

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

Table D-1

Procedure	Details
Create a SymAccount profile on the SORT webpage	See "To create a SymAccount profile on the SORT page" on page 64.
Create generic installation reports	See "To create a generic installation checklist" on page 64.
Create system-specific installation reports	See "To create a system-specific installation report for Windows" on page 65. See "To create a system-specific installation report for UNIX or Linux" on page 66.

To create a SymAccount profile on the SORT page

- 1 In your web browser, navigate to:
<https://sort.symantec.com/netbackup>
- 2 In the upper right corner, click **Register**.
- 3 Enter the requested login and contact information:

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

- 4 Click **Submit**.
- 5 When you receive your login information, you can log into SORT and begin uploading your customized information.

To create a generic installation checklist

- 1 In your web browser, navigate to:
<https://sort.symantec.com/netbackup>
- 2 Find the **Installation and Upgrade Checklist** widget.

3 Specify the requested information

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

4 Click **Generate Checklist**.

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

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

To create a system-specific installation report for Windows

- 1 Go to the SORT website:
<https://sort.symantec.com/>
- 2 Select **SORT > SORT for NetBackup**
- 3 In the **Custom Reports Using Data Collectors**, select the **Data Collector** tab.
- 4 Select the radio button for **Graphical user interface** and download the correct data collector for your platform.

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

- 5 Launch the data collector after it finishes downloading.

- 6 On the **Welcome** screen, select **NetBackup** from the product family section and click **Next**.
- 7 On the **System Selection** screen, add all computers you want analyzed. Click **Browse** to see a list of computers you can add to the analysis. Symantec recommends starting the tool with an administrator or a root account.
- 8 When all systems are selected, review the **System names** section and click **Next**.
- 9 In the **Validation Options** screen, under **Validation options**, select the version to which you plan to upgrade.
- 10 Click **Next** to continue
- 11 The utility performs the requested checks and displays the results. You can upload the report to My SORT, print the results, or save them. Symantec recommends that you upload the results to the My SORT website for ease of centralized analysis. Click **Upload** and enter your My SORT login information to upload the data to My SORT.
- 12 When you are finished, click **Finish** to close the utility.

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

- 1 Go to the SORT website:
<https://sort.symantec.com/>
- 2 Select **SORT > SORT for NetBackup**
- 3 Change to directory that contains downloaded utility.
- 4 In the **Custom Reports Using Data Collectors**, select the **Data Collector** tab.
- 5 Download the appropriate data collector for your platform.

The data collector is OS-specific. To collect information about Windows computers, you need the Windows data collector. To collect information about UNIX computers, you need the UNIX data collector.
- 6 Run `./sortdc`

The utility performs checks to confirm the latest version of the utility is installed. In addition, the utility checks to see it has the latest data. The utility then lists the location of the log file for this session.
- 7 If requested, press **Enter** to continue.
- 8 Select the **NetBackup Family** at the **Main Menu**.

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

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

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

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

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

The progress of the utility is displayed to the screen.

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

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

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

The progress of the utility is displayed to the screen.

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

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

Recommended SORT procedures for upgrades

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

Table D-2

Procedure	Details
Create a SymAccount profile on the SORT webpage	See "To create a SymAccount profile on the SORT page" on page 64.

Table D-2 (continued)

Procedure	Details
Create a system-specific upgrade report	See "To create a system-specific installation report for Windows" on page 65. See "To create a system-specific installation report for UNIX or Linux" on page 66.
Review the future platform and feature plans. Review the hot fix and emergency engineering binary release auditor information.	See "To review future platform changes and feature plans" on page 68. See "To review hot fix and emergency engineering binary information" on page 68.

To review future platform changes and feature plans

- 1 In your web browser, navigate to:
<https://sort.symantec.com/netbackup>
- 2 Find the **NetBackup Future Platform and Feature Plans** widget.
- 3 Click **Display Information**.
- 4 Review the information provided
- 5 Optional - sign in to create notification - Click **Sign in and create notification**.

To review hot fix and emergency engineering binary information

- 1 In your web browser, navigate to:
<https://sort.symantec.com/netbackup>
- 2 Find the **NetBackup Hot Fix and EEB Release Auditor** widget.
- 3 Enter the hot fix or emergency engineering binary (EEB) information.
- 4 Click **Search**.
- 5 The new page shows a table with the following columns:

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

Other NetBackup documentation and related documents

This appendix includes the following topics:

- [About related NetBackup documents](#)
- [About NetBackup release notes documents](#)
- [About NetBackup administration documents](#)
- [About NetBackup installation documents](#)
- [About NetBackup configuration documents](#)
- [About NetBackup troubleshooting documents](#)
- [About other NetBackup documents](#)

About related NetBackup documents

Note: All references to UNIX also apply to Linux platforms unless otherwise specified.

Symantec releases various guides and technical manuals that relate to NetBackup software. These documents are published for new versions of NetBackup based on release type.

See [“About NetBackup release types and versioning”](#) on page 55.

Unless otherwise specified, the NetBackup documents can be downloaded in PDF format from the following location:

<http://www.symantec.com/docs/DOC5332>

Note: Symantec assumes no responsibility for the correct installation or use of PDF reader software.

About NetBackup release notes documents

The following release notes documents are published for NetBackup software:

- *NetBackup Release Notes*
This document contains a great deal of assorted information about particular releases of NetBackup for both UNIX and Windows platforms. This information includes, but is not limited to, new features, platform compatibility changes, patch requirements, documentation corrections, and known issues. This document also contains any operational notes that may not be found elsewhere in the NetBackup manuals or the online Help.
- *NetBackup Emergency Engineering Binary Guide*
This document contains listings of some of the known issues that were identified, fixed, and available to NetBackup customers in the form of an Emergency Engineering Binary (EEB). It also lists a certain number of the issues that were fixed in a given release, but that may not have resulted in an EEB.

About NetBackup administration documents

The following administrator guides are published for NetBackup software:

- *NetBackup Administrator's Guide, Volume I*
This guide explains how to configure and manage NetBackup on a UNIX or Windows server. This guide describes the NetBackup interfaces and how to configure hosts, storage devices and media, storage lifecycle policies (SLPs), backups, replication, and monitoring and reporting.
- *NetBackup Administrator's Guide, Volume II*
This guide explains additional configuration and interface options for NetBackup. This guide also contains reference topics and information about NetBackup licensing.

About administration of NetBackup options

The following administrator guides for NetBackup options are published for NetBackup software:

- *NetBackup AdvancedDisk Storage Solutions Guide*
This guide explains how to configure, manage, and troubleshoot the NetBackup AdvancedDisk storage option. This guide describes how to use the disk storage that is exposed to NetBackup as a file system for backups.
- *NetBackup Bare Metal Restore Administrator's Guide*
This guide explains how to install, configure, and manage NetBackup Bare Metal Restore (BMR) boot servers and clients to automate and streamline the server recovery process.
- *NetBackup Cloud Administrator's Guide*
This guide explains how to configure and manage NetBackup to back up and restore data from cloud Storage as a Service (STaaS) vendors through Symantec OpenStorage.
- *NetBackup Deduplication Guide*
This guide explains how to plan, configure, migrate, monitor, and manage data deduplication in a NetBackup environment using the NetBackup Media Server Deduplication Option.
- *NetBackup OpenStorage Solutions Guide for Disk*
This guide describes how to configure and use an intelligent disk appliance in NetBackup for backups.
- *NetBackup for VMware Administrator's Guide*
This guide describes how to configure NetBackup to perform such functions as off-host backups of VMware virtual machines that run on VMware ESX servers.
- *NetBackup Plug-in for VMware vCenter Guide*
This guide explains how to install and use the NetBackup vCenter plug-in to monitor virtual machine backups and restore virtual machines.
- *NetBackup for Hyper-V Administrator's Guide*
This guide explains how to configure and manage snapshot-based backup policies for the virtual machines that run on Windows Hyper-V servers.
- *NetBackup for NDMP Administrator's Guide*
This guide explains how to install, configure, and use NetBackup for Network Data Management Protocol (NDMP) to initiate and control backups and restores of Network Attached Storage (NAS) systems.
- *NetBackup SAN Client and Fibre Transport Guide*

This guide describes how to set up, configure, and manage the NetBackup SAN Client feature to use the Fibre Transport method for high-speed client backups.

- *NetBackup Search Administrator's Guide*
This guide explains how to install, configure, and use NetBackup Search to index backups, edit and save queries, search across multiple domains, and perform search actions in NetBackup OpsCenter.
- *NetBackup Snapshot Client Administrator's Guide*
This guide explains how to install, configure, and use NetBackup Snapshot Client to enable a variety of snapshot-based features, including integration with VMware, Hyper-V, and Replication Director.
- *NetBackup Replication Director Solutions Guide*
This guide describes how to implement NetBackup OpenStorage-managed snapshots and snapshot replication, where the snapshots are stored on the storage systems of partnering companies.
- *NetBackup Vault Administrator's Guide*
This guide explains how to install, configure, and use NetBackup Vault to automate selection and duplication of backup images for off-site media storage.
- *NetBackup Vault Operator's Guide*
This guide explains how to use NetBackup Vault to vault media as part of two major task areas: Administration and operation. Some of the described tasks include procedures for sending tapes off site, receiving tapes on site, and running reports on off-site media and vault jobs.
- *NetBackup OpsCenter Administrator's Guide*
This document describes how to use the NetBackup OpsCenter user interface to provide reporting, monitoring, and alerts for NetBackup and its agents and options.
- *NetBackup OpsCenter Reporting Guide*
This guide explains how to use NetBackup OpsCenter to generate and use comprehensive business-level reports to track the effectiveness of data backup and archive operations.

About administration of NetBackup database agents

The following administrator guides for NetBackup database agents are published for NetBackup software:

- *NetBackup for DB2 Administrator's Guide*
This guide explains how to install, configure, and use the NetBackup for DB2 database agent.
- *NetBackup for Enterprise Vault Agent Administrator's Guide*

This guide explains how to install, configure, and use the NetBackup for Enterprise Vault agent to protect Symantec Enterprise Vault configuration information and archived data.

- *NetBackup for Informix Administrator's Guide*
This guide explains how to install, configure, and use the NetBackup for Informix agent to back up and restore the Informix databases that are on a UNIX NetBackup client.
- *NetBackup for Lotus Notes Administrator's Guide*
This guide explains how to configure and use the NetBackup for Lotus Notes agent to back up and restore Lotus Notes databases and transaction logs on NetBackup clients.
- *NetBackup for Microsoft Exchange Server Administrator's Guide*
This guide explains how to configure and use the NetBackup for Exchange Server agent to perform online backups and restores of Microsoft Exchange Server.
- *NetBackup for Microsoft SQL Server Administrator's Guide*
This guide explains how to configure and use the NetBackup for Microsoft SQL Server agent to back up and restore Microsoft SQL Server databases and transaction logs.
- *NetBackup for Microsoft SharePoint Server Administrator's Guide*
This guide explains how to configure and use the NetBackup for SharePoint Server agent to back up and restore the SharePoint databases that are on a Windows NetBackup client.
- *NetBackup for Oracle Administrator's Guide*
This guide explains how to configure and use the NetBackup for Oracle agent to back up and restore the Oracle databases that are on a NetBackup client.
- *NetBackup for SAP Administrator's Guide*
This guide explains how to configure and use the NetBackup for SAP agent to back up and restore SAP and SAP HANA databases that are on a NetBackup client.
- *NetBackup for Sybase Administrator's Guide*
This guide explains how to configure and use the NetBackup for Sybase agent to back up and restore Sybase databases that are on a NetBackup client.

About NetBackup installation documents

The following installation documents are published for NetBackup software:

- *NetBackup Upgrade Guide*

This guide is provided to help assist you plan and accomplish your upgrade of NetBackup software. This guide is updated periodically to provide you with the most up-to-date information.

- *NetBackup Installation Guide*
This guide explains how to install NetBackup server, client, and administrative software on UNIX and Windows platforms.
- *NetBackup LiveUpdate Guide*
This guide explains how to set up a NetBackup LiveUpdate server to provide a policy-driven method of distributing NetBackup software releases within your environment.

About NetBackup configuration documents

The following configuration guides for NetBackup options are published for NetBackup software:

- *NetBackup Device Configuration Guide*
This guide describes how to set up and configure the operating systems of the storage device hosts you use for NetBackup servers.

About NetBackup troubleshooting documents

The following troubleshooting guides are published for NetBackup software:

- *NetBackup Troubleshooting Guide*
This guide provides general troubleshooting information and explains the various troubleshooting methods that can be used for NetBackup products and features.
- *NetBackup Status Codes Reference Guide*
This guide provides a complete list of the status codes for NetBackup, Media Manager, device configuration, device management, and robotic errors. Each status code listing includes an explanation and the recommended actions.

About other NetBackup documents

The following documents are published for NetBackup software:

- *NetBackup Commands Reference Guide*
This guide contains detailed information on the commands that run on UNIX systems and Windows systems, including all of the NetBackup man page commands.
- *NetBackup Clustered Master Server Administrator's Guide*

This guide provides information on how to install and configure a NetBackup master server in a cluster.

- *NetBackup in Highly Available Environments Guide*
This guide discusses various methods for using NetBackup in highly available environments and provides guidelines for protecting NetBackup against single points of failure.
- *NetBackup Security and Encryption Guide*
This guide provides information about on how to secure NetBackup using access control, enhanced authorization and authentication, and encryption.
- *NetBackup Network Ports Reference Guide*
This guide provides a reference to NetBackup network ports, including master server and media server ports, client ports, default ports, and other ports that NetBackup uses.
- *NetBackup Getting Started Guide*
This guide provides a high-level description of preinstallation information that is related to this release of NetBackup. The guide also includes descriptions of the NetBackup media kit, the NetBackup Electronic Software Distribution (ESD) images, and the NetBackup license key requirements.
- *NetBackup Backup, Archive, and Restore Getting Started Guide*
This guide provides basic information about backup and restore procedures for new users of NetBackup. These procedures include how to back up, archive, and restore files, folders or directories, and volumes or partitions that reside on a computer.
- *NetBackup Third-party Legal Notices*
This document contains proprietary notices for the Third-Party Programs and the licenses for the Third-Party Programs, where applicable, that pertain to the Symantec NetBackup and OpsCenter products.