

Symantec NetBackup™ Appliance Release Notes

Release 2.6.0.2

NetBackup 52xx



Symantec NetBackup™ Appliance Release Notes

Documentation version: 2.6.0.2

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- Hardware information

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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

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NetBackup Appliance 2.6.0.2 features, enhancements, and changes

This chapter includes the following topics:

- [NetBackup 52xx hardware features](#)
- [About NetBackup Appliance 2.6.0.2 new features, enhancements, and changes](#)
- [NetBackup Appliance 2.6.0.2 new features, enhancements, and changes](#)

NetBackup 52xx hardware features

This release supports the 52xx hardware architectures for the appliance. These architectures run the same software so you can configure them in any of the following modes:

- An appliance master server
- An appliance master and media server
- An appliance media server only

All appliance architectures support the following features and functionalities:

- Dual processor, Quad Core, Intel-based systems.
- Each has a number of hot swap external drives.
- Fibre Channel connectivity that supports external tape drives.

- The base configuration supports a Gigabit Ethernet network.
- High-performance hardware RAID controller.
- The Intel X520 SR2 10 Gb Ethernet card is either standard on the systems or an option.
- Each uses NetBackup as their code base.
- Linux operating system (provided by Symantec).
- Each can run the latest version of NetBackup Appliance software.
- Each supports Media Server Deduplication Pool (MSDP) storage on master and media servers. MSDP offers up to the maximum available storage capacity on a 52xx appliance.

The NetBackup 5220 Appliance contains eight internal storage disk drives with a total formatted storage capacity of 4 TB.

The NetBackup 5230 Appliance contains eight internal storage disk drives that are available in 1-TB and 3-TB storage capacities. The 1-TB disks provide a total formatted storage capacity of 4 TB. The 3-TB disks provide a total formatted storage capacity of 14 TB.

The NetBackup 5220 and 5230 can be used with attached Symantec Storage Shelves for additional storage. A storage shelf can support either 2-TB or 3-TB disk drives, but all drives within a shelf must be the same capacity.

[Table 1-1](#) shows the available, formatted storage capacity of the NetBackup 5220 Appliance, with or without attached storage shelves.

Table 1-1 NetBackup 5220 storage capacity options

Appliance storage drives (TB)	Appliance available storage capacity (TB)	Storage shelf drives (TB)	Storage shelf available storage capacity (TB)	Appliance and one storage shelf available storage capacity (TB)	Appliance and two storage shelves available storage capacity (TB)	Appliance and three storage shelves available storage capacity (TB)	Appliance and four storage shelves available storage capacity (TB)
1	4.55	2	24	28.55	52.55	*	*
1	4.55	3	36	40.55	76.55	112.55	148.55

* If required, 2TB storage drives can be provided.

[Table 1-2](#) shows the available, formatted storage capacity of the NetBackup 5230 Appliance, with or without attached storage shelves.

Table 1-2 NetBackup 5230 storage capacity options

Appliance storage drives (TB)	Appliance available storage capacity (TB)	Storage shelf drives (TB)	Storage shelf available storage capacity (TB)	Appliance and one storage shelf available storage capacity (TB)	Appliance and two storage shelves available storage capacity (TB)	Appliance and three storage shelves available storage capacity (TB)	Appliance and four storage shelves available storage capacity (TB)
1	4.55	2	24	28.55	52.55	*	*
1	4.55	3	36	40.55	76.55	112.55	148.55
3	13.65	2	24	37.65	61.65	*	*
3	13.65	3	36	49.65	85.65	121.65	157.65

* If required, 2TB storage drives can be provided.

NetBackup 5230 hardware features

The following list includes features specifically for the 5230 appliance:

- The deduplication engine provides up to 100 times reduction in storage. The client-side plug-in provides similar levels of bandwidth reduction.
- Due to fingerprinting and RAID redundancy, the overall storage capabilities are not a simple multiplication of the disk size and the total number of disks. A NetBackup 5230 Appliance provides 4 TB (with 1-TB drives) or 14 TB (with 3-TB drives) of storage without added storage shelves. The 5230 appliance ships with zero, one, or two Symantec Storage Shelves. You can add up to an additional two storage shelves. Each storage shelf has a capacity of 24 TB (with 2-TB disks) or 36 TB (with 3-TB disks). The maximum capacity of a 5230 appliance with four attached storage shelves is 158 TB. [Table 1-2](#) shows all available storage configurations of the NetBackup 5230 Appliance, with or without attached storage shelves.
- Supports redundant power modules and fan modules. The 5230 also supports hot swappable disk modules and power modules.
- The system disk drives are external to the chassis. They can be hot-swapped without opening the chassis or shutting down the system. This feature is an improvement over the NetBackup 5220.
- Provides separate out-of-band management network interfaces. You can remotely turn on, turn off, and reset appliances through the network.

Supports remotely configuring and managing the appliances through KVM over IP.

Supports SNMP traps and automatically reports alarms.

Supports reporting the disk information through the out-of-band management channel.

- RAID 1 and RAID 6:
 - Appliance system disks: RAID 1 (software RAID)
 - Storage shelf data storage disks: RAID 6
- The NetBackup 5230 Appliance can be ordered with one, four, or five FC HBA cards already installed. You can order a SAS RAID card to be preinstalled if you plan to use one or more storage shelves. A 10 Gb Ethernet card can also be ordered and preinstalled.
- Rear panel ports:
 - Two SAS ports that are located on a card in one of the PCI riser assemblies. The SAS ports connect to the storage shelf.
 - One 1-Gb/s IPMI management network port.
 - One VGA port.
 - Three USB 2.0 ports.
 - Four 1GE network ports, with link and activity LEDs.
 - Two 10GE network ports, with link and activity LEDs.
- Only one SAS card and one 10 Gb Ethernet can be installed in the six PCI slots. The other slots can be used for additional Fibre Channel connections.

[Table 1-3](#) outlines the differences between the NetBackup 5220 and 5230 Appliances.

Table 1-3 Comparison of NetBackup 5220 and NetBackup 5230 Appliances

Parameter	NetBackup 5220	NetBackup 5230
Cores	4	6
Cache (MB)	12	15
RAID Cache	512 MB	1 GB
Speed (GHz)	2.4	2.0
Turbo Speed (GHz)	2.66	2.5
QPI Speed (GT/s)	5.86	7.2

Table 1-3 Comparison of NetBackup 5220 and NetBackup 5230 Appliances
(continued)

Parameter	NetBackup 5220	NetBackup 5230
System memory (GB)	96	128
Memory Config (DIMMs)	8GB x 12	8GB x 16
Thermal (Watts)	80	95
Data Retention	One Li-ion battery backup unit	Two maintenance-free backup units (MFBU) with Flash and Supercapacitor
PCI add-in card slots	5	6
On-board 10 Gb Ethernet ports	0	2
Additional 10 Gb Ethernet cards in PCI assembly	Yes	Yes
Additional 1 Gb Ethernet cards in PCI assembly	Yes	No

For more information about the hardware architecture of NetBackup Appliances, see the *NetBackup Appliance and Symantec Storage Shelf Product Description* documents.

About NetBackup Appliance 2.6.0.2 new features, enhancements, and changes

In addition to a number of new features, this release offers many enhancements to the issues and improvements from previous NetBackup Appliance releases. Information about the new features, enhancements, and changes in this release of NetBackup Appliance can be found in the following sections of this chapter.

When an appliance is released, the latest version of NetBackup is used as a basis on which the appliance code is built. That ensures that all applicable features, enhancements, and fixes that were released within NetBackup are included in the latest release of the appliance.

This release incorporates fixes to several known issues that existed with the NetBackup 52xx Appliance software. Many of these issues pertain to the customer-specific issues that have been documented in the form of Salesforce.com (SFDC) cases. Many of the fixes that are incorporated into this release are available

as individual engineering binaries and engineering bundles (EEBs). These EEBs were created to address specific customer issues with a previous version of the NetBackup 52xx Appliance software. The engineering binaries and bundles that are included in this release are listed in the *Release content* appendix of this document.

NetBackup 7.6.0.2 is the version of NetBackup software that the NetBackup Appliance 2.6.0.2 release installs. Information about the new features, enhancements, and fixes found in NetBackup 7.6.0.2 can be found in the *NetBackup 7.6.0.2 Release Notes* document on the Symantec Support website:

<http://www.symantec.com/docs/DOC6840>

NetBackup Appliance 2.6.0.2 new features, enhancements, and changes

Note: Some of the functionality that was introduced in NetBackup Appliance 2.5.3 and 2.5.4 was not present in the NetBackup Appliance 2.6.0.1 release. That functionality has been restored for 2.6.0.2. If you are running NetBackup Appliance 2.6.0.1, Symantec recommends that you upgrade to NetBackup Appliance 2.6.0.2 to ensure that you have the latest features and product fixes. Additionally, it is possible to upgrade from 2.5.3 and 2.5.4 directly to 2.6.0.2.

The following list describes the new features, enhancements, and changes in the NetBackup 52xx Appliance 2.6.0.2 release:

- NetBackup 5220 and 5230 appliances now support the addition of up to four Symantec Storage Shelves. A 5220 appliance with four attached storage shelves has a maximum storage capacity of 148 TB. A 5230 appliance with four storage shelves has a maximum capacity of 158 TB.

Note: If you want to use multiple storage shelves with your appliance, make sure that you have both power supplies plugged in.

See “[Installing and connecting an additional Symantec Storage Shelf to an operational NetBackup 52xx appliance](#)” on page 19.

- The `cp-nbu-config` command has been enhanced to allow NetBackup administrators to create and edit a NetBackup touch configuration file in an additional set of directories. In addition to the `/usr/opensv/netbackup/db/config` directory, NetBackup administrators can now create and edit touch files in any of the following directories:

- /usr/opensv/netbackup
- /usr/opensv/netbackup/bin
- /usr/opensv/netbackup/bin/snapcfg
- /usr/opensv/netbackup/db/event
- /usr/opensv/netbackup/db/images
- /usr/opensv/netbackup/db/media
- /usr/opensv/netbackup/ext/db_ext
- /usr/opensv/netbackup/ext/db_ext/db2
- /usr/opensv/lib/ost-plugins
- /usr/opensv/volmgr
- /usr/opensv/volmgr/database
- /usr/opensv/var

For more information on creating a NetBackup touch file, refer to the *NetBackup Appliance Administrator's Guide*.

- With the NetBackup Appliance 2.6.0.2 release, you can now enable and disable VxMS logging from the NetBackup Appliance Shell Menu.
 For more information, see the *NetBackup Appliance Administrator's Guide* or the *NetBackup Appliance Troubleshooting Guide*.
- To streamline the process of resizing storage partitions, NetBackup processes are no longer stopped when you resize a Media Server Deduplication Pool (MSDP) partition. MSDP partition resize operations do not affect any backup jobs that are currently in progress.
- In NetBackup Appliance 2.6.0.x, the Symantec Help Center (or SymHelp) contains content from the Appliance 2.6.0.x documentation and the NetBackup 7.6 Administration Console Help.
 With NetBackup Appliance 2.6.0.2, SymHelp has been enhanced and lets you browse the Appliance and the NetBackup content that is available. Click **Browse** on the left side of the SymHelp console to see the table of contents for Appliance and NetBackup.
 For more information on this functionality, see the *NetBackup Appliance Administrator's Guide*.
- Appliance hardware monitoring has been enhanced to include an additional set of temperature sensors for the Symantec Storage Shelf. In NetBackup Appliance 2.6.0.2, the appliance monitors ten temperature sensors that are located on the storage shelf. You can check the details of all temperature sensors with the

Monitor > Hardware ShowHealth Enclosure Temperature command in the NetBackup Appliance Shell Menu.

- The appliance hardware monitoring has been enhanced for components such as RAID and storage shelves. These enhancements let you:
 - Map the WWID in the RAID details from the **Monitor > Hardware** page to the Disk IDs on the **Manage > Storage** page.
 - Monitor precise temperature of the storage shelves with the addition of the new temperature sensors.
 - Flash the beacon for base disks.
- Hardware monitoring during a BBU relearn cycle has been adjusted to only send an alert when the relearn cycle starts and an alert when the relearn cycle ends. This adjustment is a change from previous releases, when a "RAID 6 in WriteThrough mode" alert was generated every 15 minutes while the relearn cycle was in progress.
- Starting with appliance version 2.6.0.2, the NetBackup 5230 no longer requires a factory-matched Symantec Storage Shelf as the first connected expansion storage unit. This change means that Symantec Storage Shelf units are no longer marked with a yellow label that identifies it is matched to a specific appliance. The *NetBackup Appliance Hardware Installation and Initial Configuration Guide* for version 2.6.0.2 has been updated to reflect these changes. The guide no longer contains references to the yellow labels or matching units for the 5230 appliance.
- The **Manage > Software Updates** page of the NetBackup Appliance Web Console has been updated for better usability. You can now cancel an in-progress online software update from the web console, and you can delete a downloaded software update. The page also now displays the current NetBackup Appliance version.
 For more information on the **Manage > Software Updates** page, see the *NetBackup Appliance Administrator's Guide*.
- For the 2.6.0.2 release, the `Beacon` command has been moved within the NetBackup Appliance Shell Menu. The Beacon command is now located at `Main > Monitor > Beacon` instead of `Main > Support > Beacon`.
- NetBackup Appliance 2.6.0.2 introduces dynamic multi-pathing (DMP) for VMware backups with SAN transport. DMP enhances I/O performance by distributing requests across all available paths. It can also distinguish between active and passive paths to make use of the active paths.
 See the *NetBackup Appliance Administrator's Guide* for more information.

- In NetBackup Appliance 2.6.0.2, you can manually add and implement third-party certificates for Web service support.
For information on this procedure, refer to the *NetBackup Appliance Administrator's Guide*.
- The factory reset operation now includes the option to retain your network configuration. Before you initiate the reset, you can elect to keep the network settings, including IP addresses and DNS configuration.
- As an enhanced security measure, you are now asked to enter a password for a new local user within the Add User procedure. This step ensures that an unauthorized user cannot gain access to the account with the default password.
- NetBackup 5230 appliances shipping in January 2014 and later include grounding studs in case your lab environment has such a requirement. The studs are located on the rear panel of the appliance. You can use standard grounding practices to connect grounding wires to the studs.
- The resize and move partition operations now show the estimated amount of time that is required to complete before they begin. The user has the option to proceed or cancel the operation.
- Due to a security recommendation from third-party software Apache Tomcat, port 8009 has been removed. In addition, the default value of the configuration parameter `autoDeploy` has been changed from `true` to `false`. Apache Tomcat has been updated to version 6.0.37 for NetBackup Appliance 2.6.0.x.
- SNMP (Simple Network Management Protocol) has been enhanced to include partition information. An SNMP trap or alert is now sent if any of the partitions go beyond the given disk-space threshold.
- NetBackup Appliance 2.6.0.2 provides better protection and auditing capabilities with an updated Symantec Critical System Protection (SCSP) agent. The NetBackup Appliance Intrusion Prevention System (IPS) and Intrusion Detection System (IDS) policies have also been updated for this release.
The IPS policy increases security on the appliance operating system and the application stack. It also protects the backed-up data from unauthorized users and programs.
The IDS policy provides real-time monitoring for each user and the processes running on the appliance. It also tracks configuration changes for the core system files and the configuration files that are related to NetBackup.
SCSP protection is offered in unmanaged mode and in managed mode.
 - Unmanaged Mode (default): In unmanaged mode, the appliance is protected and audited without the use of an external SCSP server. The SCSP agent manages the IPS policy and the IDS policy on the appliance. The **Monitor**

> **SCSP Events** page on the NetBackup Appliance Web Console is used to monitor the events on an appliance for any abnormal activity.

- **Managed Mode:** In managed mode, an external SCSP server can be used to communicate with and manage the SCSP agent on the appliance. The external SCSP server can be used to manage multiple appliances. You can download the SCSP server (data center security server), console, and policies from the NetBackup Appliance Web Console. Managed mode is recommended for use only by security administrators or by existing SCSP customers who have in-depth knowledge of SCSP.

As a further security measure, access to the root account through SSH and the maintenance account has been blocked in 2.6.0.2. Access to core components of the appliance has also been blocked. This change improves the overall security of the appliance. One can override the Symantec Intrusion Security Policy to gain access to the root account. However, doing this is not recommended as it puts the system under risk and makes the system vulnerable to an attack. For more information, please refer to the *NetBackup Appliance Security Guide*.

- Starting with NetBackup Appliance 2.6.0.2, you can configure and use the eth0/NIC1 port to run backup jobs. If you decide to use this port for backups, you must configure the remote management (IPMI) port to access the appliance.
- NetBackup Appliance 2.6.0.2 includes the `cp-nbu-notify` utility, which you can use to modify the NetBackup notify scripts like the start and the exit notification scripts. For more information, see the *NetBackup Appliance Administrator's Guide* or the *NetBackup Appliance Security Guide*.

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:

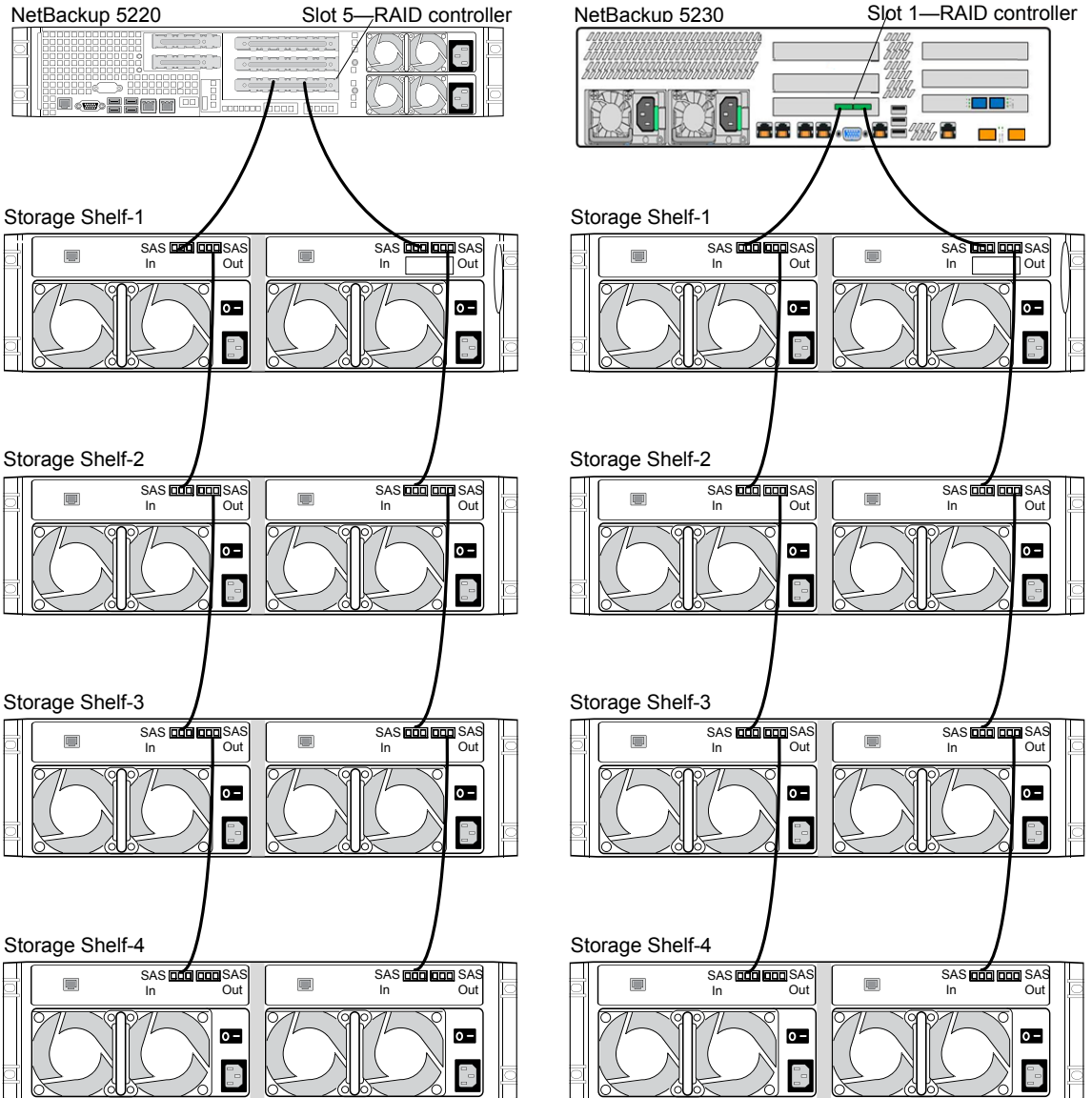
<http://www.symantec.com/docs/TECH216555>

Installing and connecting an additional Symantec Storage Shelf to an operational NetBackup 52xx appliance

Use the following procedure to install and connect an additional Symantec Storage Shelf to an operational NetBackup 52xx appliance.

To install and connect an additional Symantec Storage Shelf to an operational NetBackup 52xx appliance

- 1 Install the new storage shelf units in the rack.
- 2 Locate the SAS cables that are shipped with each storage shelf and connect them as described in the following diagram and text descriptions:



- On the first or the existing storage shelf, in the leftmost I/O module, connect one end of an SAS cable into the SAS_OUT port. The SAS_OUT port is labeled number 2.

Connect the other end of this SAS cable to the SAS_IN port in the leftmost I/O module on the second storage shelf. The SAS_IN port is labeled number 1.

- On the first or the existing storage shelf, in the rightmost I/O module, connect one end of another SAS cable into the SAS_OUT port.
Connect the other end of this SAS cable to the SAS_IN port in the rightmost I/O module on the second storage shelf.
 - To connect a third storage shelf unit, continue the same connection path starting from the second storage shelf.
 - To connect a fourth storage shelf unit, continue the same connection path starting from the third storage shelf.
- 3 Connect the power cables to each new storage shelf and turn on the power to each unit.
- 4 To add the storage space of the new storage shelf units to the system, refer to the *NetBackup Appliance Hardware Installation and Initial Configuration Guide*. See the following topics in Appendix C, Adding a storage shelf to an operational appliance:
- Adding the disk space of additional Symantec Storage Shelf units to an operational NetBackup 52xx appliance from the NetBackup Appliance Web Console
 - Adding the disk space of additional Symantec Storage Shelf units to an operational NetBackup 52xx appliance from the NetBackup Appliance Shell Menu

NetBackup Appliance compatibility

This chapter includes the following topics:

- [About NetBackup Appliance upgrades to version 2.6.0.2](#)
- [About software release types](#)
- [NetBackup Appliance release compatibility](#)
- [About NetBackup Appliance software upgrades](#)
- [About NetBackup Appliance third-party legal notices](#)

About NetBackup Appliance upgrades to version 2.6.0.2

The procedure for appliance upgrades to version 2.6.0.2 is the same as any other appliance upgrade. However, there are changes in the content of this release with regard to upgrades.

[Table 2-1](#) describes the changes in the 2.6.0.2 release with regard to upgrades.

Table 2-1 NetBackup Appliance version 2.6.0.2 changes

Change	Description
Supported upgrade paths	<p>Direct upgrades to 2.6.0.2 are supported as follows:</p> <ul style="list-style-type: none"> ■ NetBackup appliances that currently use versions 2.5 to 2.5.4 <p>Note: If the appliance currently uses version 2.5b, a message may appear at the start of the upgrade that instructs you to upgrade first to the latest available 2.5.x version. You can ignore this message and upgrade directly to 2.6.0.2.</p> <ul style="list-style-type: none"> ■ NetBackup appliances that currently use version 2.6.0.1
NetBackup client packages	<p>Starting with appliance version 2.6.0.2, NetBackup clients are no longer included with NetBackup Appliance release updates. If you want to store clients on the appliance, a separate client package is available to download. The client package is available from the same location as the server release updates and includes the NetBackup Administration Console. Client versions that are stored on the appliance do not have to match the NetBackup version that is currently installed on the appliance.</p>

Table 2-1 NetBackup Appliance version 2.6.0.2 changes (*continued*)

Change	Description
Rollback for upgrade failures	<p>Upgrades from version 2.6.0.1 to 2.6.0.2 can be rolled back to a previous level.</p> <p>Note: Rollback is not supported for upgrades from version 2.5.x to 2.6.0.x.</p> <p>The rollback function works as follows:</p> <ul style="list-style-type: none"> ■ Automatic rollback upon upgrade failure If the upgrade fails, the appliance is rolled back automatically to the pre-upgrade checkpoint. This checkpoint is created automatically when you initiate the upgrade. The appliance configuration settings are exactly the same as before the upgrade attempt. ■ Manual rollback after a successful upgrade If you upgrade the appliance successfully and then decide to revert to the previous version, you can roll back manually to the previous version. All backup data is preserved; however, any configuration settings that were changed after the upgrade are not saved. <p>To roll back the appliance from a failed 2.6.0.2 upgrade, on the Manage Appliance > Restore page, click Rollback Appliance, and select Pre-upgrade checkpoint.</p>

About software release types

Symantec maintains a policy by which NetBackup can deliver various levels of releases to accommodate customer needs. The following list defines the various release types and the version number schemes that are associated with each type. The NetBackup Appliance products use these release types and number schemes.

- A major release is the first in a series of releases. This type of release contains many new features and enhancements.
- A minor release is a single-dot release that follows a major release; for example, 2.6. This release type contains many of the same requirements as a major release. It contains a smaller set of new features and enhancements.
- A software release update is a double-dot release; for example, 2.6.1. This release type contains a few new features and enhancements as well as many product fixes.

- A maintenance release update is a triple-dot release; for example, 2.6.0.2. This release type is primarily comprised of a number of fixes that are developed to address issues in major, minor, and software update releases. This release type may also include a small number of new features and enhancements.

Note: NetBackup Appliance version 2.6.1 is used in this topic as an example. This version of NetBackup Appliance does not exist at the time of this document's publication.

NetBackup Appliance release compatibility

NetBackup appliances enable customers to quickly add an appliance as a media server or client in an existing NetBackup environment.

When an appliance is released, the latest version of NetBackup is used as a basis on which the appliance code is built. That ensures that all applicable features, enhancements, and fixes that were released within NetBackup are included in the latest release of the appliance.

For information about NetBackup compatibility with the NetBackup appliances, see the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH136970>

Symantec NetBackup has always maintained that the master server within an 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. Symantec recommends that you keep your entire NetBackup environment up-to-date with the latest maintenance (triple-dot) releases. However, NetBackup offers the flexibility of an environment where the clients and the media servers are running a different triple-dot release than the master server. For example, you can upgrade a media server or client to version 2.6.0.2 (7.6.0.2) in an environment where the master server is running version 2.6.0.1 (7.6.0.1).

Since the NetBackup catalog resides on the master server, 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. See the *NetBackup Installation Guide* for information about mixed version support.

See “[About software release types](#)” on page 24.

Table 2-2 shows the various compatibility schemes that are supported with the current NetBackup Appliance 2.6 product line. The numbers in parentheses reflect the base NetBackup version level that is applied to that particular version of NetBackup Appliance software.

Note: In new NetBackup Appliance deployments, an appliance master server running version 2.6.0.x does not support adding a new appliance media server that is running version 2.5.1 or earlier. Any new NetBackup appliance media server that you want to add to a version 2.6.0.x appliance master server must be running version 2.5.2 or later.

Table 2-2 NetBackup Appliance 2.6.0.2 release compatibility

NetBackup appliance master server version	NetBackup appliance media server version	NetBackup client version
2.6.0.x (7.6.0.x)	2.6.0.x (7.6.0.x)	7.1, 7.1.0.x, 7.5, 7.5.0.x, 7.6, 7.6.0.x
2.6.0.x (7.6.0.x)	2.5.x (7.5.0.x)	7.1, 7.1.0.x, 7.5, 7.5.0.x
2.6.0.x (7.6.0.x)	2.5 (7.5.0.2)	7.1, 7.1.0.x, 7.5, 7.5.0.x
2.6.0.x (7.6.0.x)	2.0.x (7.1.0.x)	7.1, 7.1.0.x

All NetBackup 52xx appliances can be upgraded to NetBackup Appliance version 2.6.0.2.

Note: If an appliance server is currently at a version earlier than 2.5, you cannot upgrade directly to NetBackup Appliance 2.6.0.2. You must first upgrade to version 2.5, and then upgrade to the 2.6 product line.

About NetBackup Appliance software upgrades

When a software update release is available, Symantec recommends that you install it to make sure that you have the latest product features and fixes.

When you upgrade appliance software, the update release may install an updated version of the operating system, NetBackup, and all appliance interfaces. All services are shut down automatically when the upgrade begins, and then restarted automatically after all updates have been applied.

Note: If an appliance server is currently at a version earlier than 2.5, you cannot upgrade directly to NetBackup Appliance 2.6.0.2. You must first upgrade to version 2.5, and then upgrade to the 2.6 product line.

Symantec recommends that you plan your appliance upgrades in advance to help minimize system down time.

The following describes how you should plan for and perform appliance software upgrades:

- Always schedule upgrades when system activity is at its lowest. Symantec recommends that you suspend all backup and restore operations before starting the upgrade.
- Before you begin a software update, Symantec recommends that you take certain precautions to avoid loss of connectivity. The computer that you use to configure the device should be set up so that it does not go to sleep, shut down, lose power, or otherwise lose its network connection. If you lose connectivity during the installation, the operation fails.
- An appliance master server must always be at an equal or a later version than any appliance media server that is used with it. The only exception to this rule is if Symantec provides a maintenance release to any major, minor, or software update release. A maintenance release version number is identified with four digits (2.x.x.x).
- When you upgrade your appliance, you must only use the software updates that are available for the appliance. An appliance software update is a complete package that consists of updates to the appliance, NetBackup, and the operating system components. Symantec does not support appliance upgrades for any of the individual components separately.
- Appliance master servers must always be upgraded before any appliance media servers are upgraded.
- During an upgrade from NetBackup Appliance 2.5.x to this version of the appliance software, the Media Server Deduplication Pool (MSDP) requires 13% free space to complete the conversion. If you do not have the necessary amount of free space, the upgrade fails.
- An upgrade from 2.5.x to the 2.6 product line takes approximately three hours to complete but can extend beyond that timeframe, depending on the environment. During that time, the appliance can restart several times. This behavior is normal.
- Once the upgrade has started, you must let it run until it has completed.

Note: Symantec recommends that you do not attempt to cancel an upgrade. Otherwise, you may experience unexpected system behavior. For example, backups may fail immediately after a canceled upgrade while the services are restarted. Although this behavior is to be expected, other parts of the system may potentially have been affected.

About NetBackup Appliance third-party legal notices

NetBackup Appliance 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 the software does not alter any rights or obligations 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 *Symantec NetBackup Appliance Third-party Legal Notices* document, which is available at the following website:

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

Operational notes

This chapter includes the following topics:

- [About operational notes for NetBackup Appliance 2.6.0.2](#)
- [New Operational Notes for NetBackup Appliance 2.6.0.2](#)
- [General NetBackup Appliance notes](#)
- [NetBackup Appliance user interface notes](#)
- [Installation and configuration notes](#)
- [Upgrade and rollback notes](#)
- [Reimage and factory reset notes](#)
- [VMware notes](#)
- [Internationalization and localization notes](#)
- [About NetBackup support utilities](#)
- [About working with log files](#)

About operational notes for NetBackup Appliance 2.6.0.2

This chapter contains the topics that explain important aspects of NetBackup Appliance 2.6.0.2 operations that may not be documented elsewhere in the documentation set. This document is posted on the Symantec Support website and may be updated after the GA release of NetBackup Appliance 2.6.0.2. Therefore, Symantec recommends that you refer to the following link to view the latest release information:

<http://www.symantec.com/docs/DOC7156>

Because NetBackup Appliance 2.6.0.2 installs NetBackup 7.6.0.2 software, the operational notes that apply to NetBackup 7.6.0.2 also apply to NetBackup Appliance 2.6.0.2. For more information on the operational notes for NetBackup, refer to the *Symantec NetBackup 7.6.0.2 Release Notes* on the Symantec Support website:

<http://www.symantec.com/docs/DOC6840>

New Operational Notes for NetBackup Appliance 2.6.0.2

Note: If you are already familiar with the Operational Notes for the previous release, you can review this section to see only the newly documented content for this release. You should also check the *Release content* appendix of this document to see the issues that have been resolved for this release.

Note: The notes and the known issues that are documented in this section may also apply to previous releases.

The following list contains the notes and the known issues that are newly documented for this release:

- The following information in the "About Auto Image Replication between NetBackup appliances" section in the *NetBackup Appliance Administrator's Guide* and the online Help for 2.6.0.2 is incorrect:
You cannot perform Auto Image Replication from a 2.5 MSDP to a 2.6 MSDP. To be able to perform Auto Image Replication, you must first upgrade to 2.6 MSDP."
This information has been removed from the latest version of the *NetBackup Appliance Administrator's Guide* for 2.6.0.2. The latest version of the *Administrator's Guide* is posted at the following location:
<http://www.symantec.com/docs/DOC7153>
- Mozilla Firefox can be used to access the NetBackup Appliance console. Only Firefox 21.0 and later versions are supported. If you try to access the NetBackup Appliance using earlier versions of Firefox and reset the password using **Settings > Password**, the page may hang.
- If an authorized user attempts to log in to the NetBackup Appliance Web Console and the login page becomes blank, check the user's permissions. To check the permissions, log in to the web console as another authorized user and check

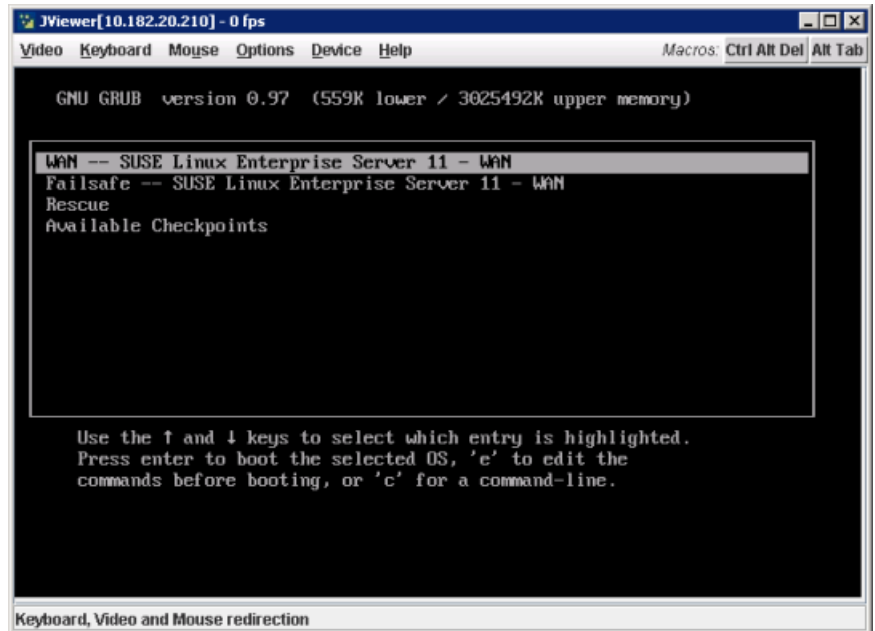
the settings under **Settings > Authentication > User Management**. You can also use the `Main > Settings > Security > Authorization` commands in the NetBackup Appliance Shell Menu. See the *NetBackup Appliance Administrator's Guide* or the *NetBackup Appliance Commands Guide* for more information on setting user permissions.

- For this release of NetBackup Appliance, Replication Director (RD) restores do not support dynamic multi-pathing (DMP) when the appliance is used as a backup or a recovery host.
- If your appliance is not provisioned, the following notification should appear on the NetBackup Appliance Web Console landing page:
“Call Home service is not functional. Please contact Symantec support to verify if the system has been provisioned on Call Home server.”
However, in certain cases, the notification does not appear. If the appliance date and time is not set per Network Time Protocol (NTP), the landing page only shows a notification to update the date and time. If you set the date and time per NTP, the Call Home notification appears.
- If your appliance's Battery Backup Unit (BBU) is in a relearn state, an email alert should be sent to indicate the BBU status. In this release, however, the email alert is not sent.
- If you receive an email stating “No license exists” during the initial configuration of a media server, you can safely disregard the email. The email is sent during host name configuration. The license key file is renamed when it is modified with the new host name, and the alert mechanism cannot locate the license temporarily. When the configuration completes, the license is set correctly. You can check the license key on the **Manage > License** page of the NetBackup Appliance Web Console or with the `Main > Manage > License > List` command in the NetBackup Appliance Shell Menu.
- During a RAID-controller-adapter learn cycle, you should receive two email alerts: one alert when the RAID policy changes from `WriteBack` mode to `WriteThrough` mode, and one alert when the RAID policy changes from `WriteThrough` mode back to `WriteBack` mode. However, in this release, if the BBU is in a failed state, only one email is sent. The second alert is not sent because the policy does not change back to `WriteBack` mode when the cycle is complete.
- Starting with Java 7 update 45, you may receive a warning when you launch the KVM remote console from the appliance IPMI port. The warning states that you do not have proper permissions and prevents appliance access from the IPMI port. For information about how to resolve this issue, refer to the following document:
<http://www.symantec.com/docs/TECH212531>

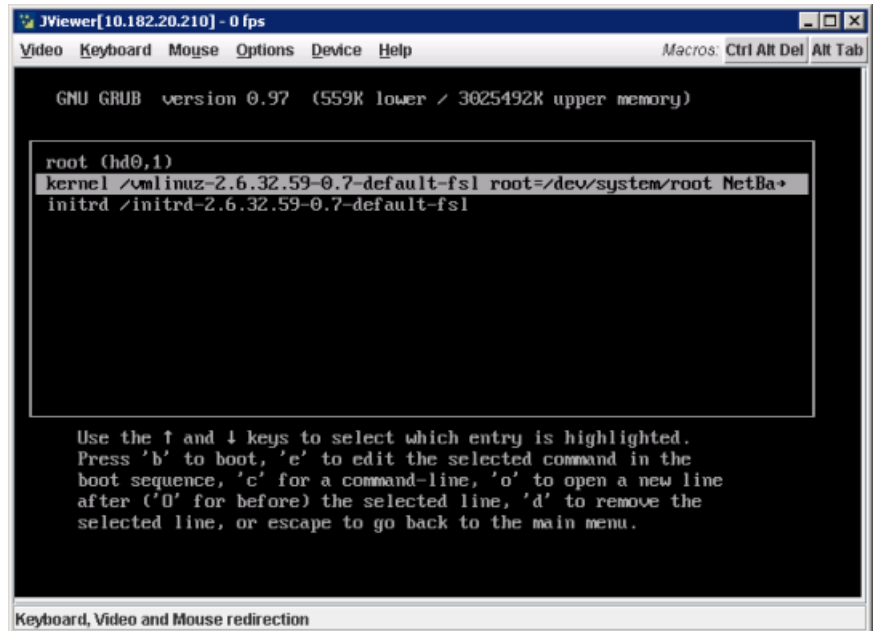
- Make sure to stop all running backup, duplication, or restore jobs before performing a Factory Reset. NetBackup storage objects, storage units, disk pools, and storage servers on the master server that belong to the media server appliance are not cleaned up if a Factory Reset operation is performed while backup, duplication, or restore jobs are still in progress.
- For this release, the `Main > Monitor > NetBackup Jobs Failed` command in the NetBackup Appliance Shell Menu does not display information on some failed jobs. You can use the `Main > Monitor > NetBackup Jobs All` command to check for failed jobs by looking at the status column for each job.
- NetBackup Appliance does not support running any network configuration in the same range as the administrator interface on eth0. If you want to set up a private network in the 192.168.x.x range, you need to specify a non-default IP address for eth0 that is not in the 192.168.x.x range. Use the `Network > IPv4` command in the NetBackup Appliance Shell Menu.
For more information, see the *NetBackup Appliance Command Reference Guide*.
- If you upgrade from NetBackup Appliance 2.6.0.1 to 2.6.0.2, you cannot manage IPMI users through the NetBackup Appliance Shell Menu. To manage IPMI users, use the Symantec Remote Management Interface.
For more information, see the *NetBackup Appliance Administrator's Guide*.
- If the appliance runs a file system check (`fsck`) and the test fails, it asks the user to fix the file system with more advanced `fsck` options. Before you can fix the issue, you may be asked for a root password. In NetBackup Appliance 2.6.0.2 and later, however, the root account is locked. Therefore, do the following to resolve the issue:

Resolving an `fsck` test failure

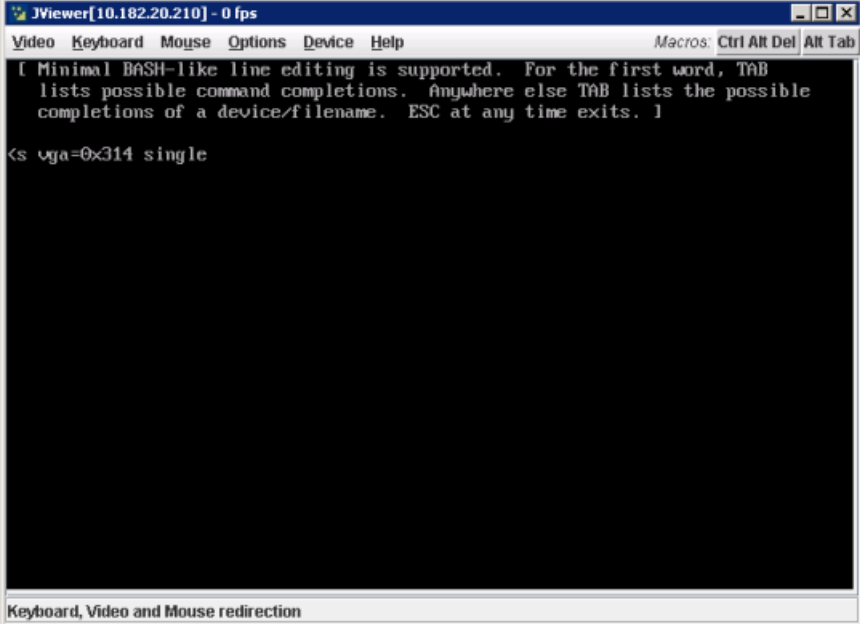
- 1 Restart the appliance.
- 2 When the following GRUB boot screen appears, press `e` to edit the boot commands:



- 3 Select the second line and press **e** again.



- 4 Add the word **single** to the end of the command that appears on the next screen. Press **Enter** and then **b** to boot the system in single-user mode.



The screenshot shows a terminal window titled "JViewer[10.182.20.210] - 0 fps". The window has a menu bar with "Video", "Keyboard", "Mouse", "Options", "Device", and "Help". On the right side of the menu bar, it says "Macros: Ctrl Alt Del Alt Tab". The terminal content is as follows:

```
[ Minimal BASH-like line editing is supported. For the first word, TAB
lists possible command completions. Anywhere else TAB lists the possible
completions of a device/filename. ESC at any time exits. ]

<s vga=0x314 single
```

At the bottom of the window, there is a status bar that reads "Keyboard, Video and Mouse redirection".

- 5 Once the prompt is available, run `fsck` on the affected file system with the `fsck -pv FileSystem` command, where `FileSystem` is the file system that encountered the error.

For example, `fsck -pv /dev/system/log`

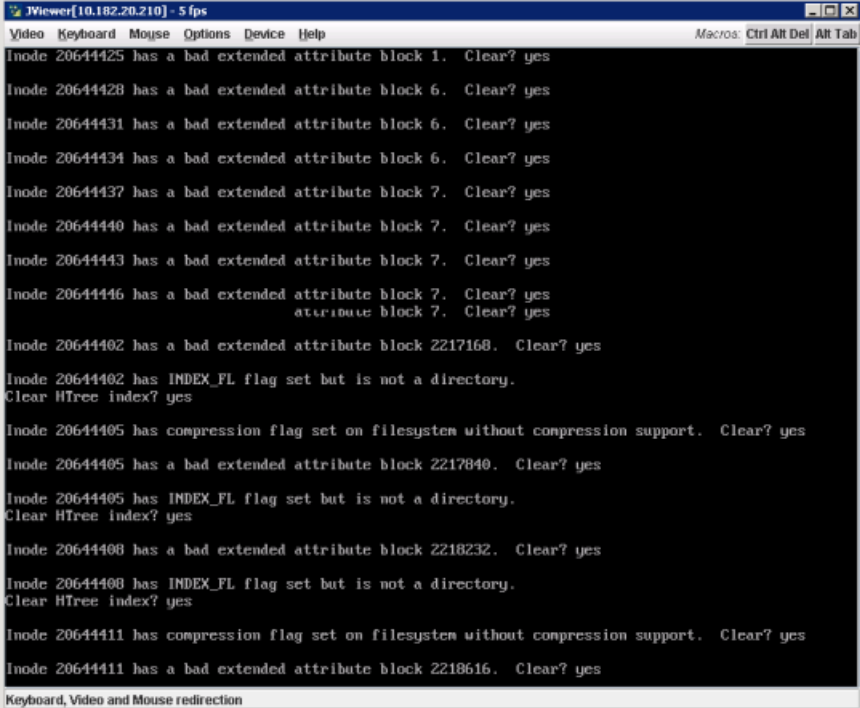
- 6 If the operation fails, the following error message appears:

```
UNEXPECTED INCONSISTENCY; RUN fsck MANUALLY
```

If you encounter this message, run the `fsck -yv FileSystem` command to run `fsck` manually.

For example, `fsck -yv /dev/system/log`

You may see several messages similar to the following:



```
JViewer[10.182.20.210] - 5 fps
Video Keyboard Mouse Options Device Help
Macros: Ctrl Alt Del| Alt Tab

Inode 20644425 has a bad extended attribute block 1. Clear? yes
Inode 20644428 has a bad extended attribute block 6. Clear? yes
Inode 20644431 has a bad extended attribute block 6. Clear? yes
Inode 20644434 has a bad extended attribute block 6. Clear? yes
Inode 20644437 has a bad extended attribute block 7. Clear? yes
Inode 20644440 has a bad extended attribute block 7. Clear? yes
Inode 20644443 has a bad extended attribute block 7. Clear? yes
Inode 20644446 has a bad extended attribute block 7. Clear? yes
attribute block 7. Clear? yes
Inode 20644402 has a bad extended attribute block 2217168. Clear? yes
Inode 20644402 has INDEX_FL flag set but is not a directory.
Clear HTree index? yes
Inode 20644405 has compression flag set on filesystem without compression support. Clear? yes
Inode 20644405 has a bad extended attribute block 2217840. Clear? yes
Inode 20644405 has INDEX_FL flag set but is not a directory.
Clear HTree index? yes
Inode 20644408 has a bad extended attribute block 2218232. Clear? yes
Inode 20644408 has INDEX_FL flag set but is not a directory.
Clear HTree index? yes
Inode 20644411 has compression flag set on filesystem without compression support. Clear? yes
Inode 20644411 has a bad extended attribute block 2218616. Clear? yes

Keyboard, Video and Mouse redirection
```

- 7 When the file system has been repaired, restart the appliance with the `shutdown -r now` command.

General NetBackup Appliance notes

The following list contains the notes and the known issues that relate to the general workings of the NetBackup 52xx appliances:

- During hardware monitoring, a false temperature alert may be sent out. If you encounter a hardware temperature alert, please wait 15 minutes to see if the alert is sent again. If you still get the same error, contact Symantec Support.
- Due to an operating system update, some rpm packages that were available for NetBackup Appliance 2.5.x are no longer available for 2.6.0.1 and later. For a complete list of the affected packages, see the following tech note on the Symantec Support website:
www.symantec.com/docs/TECH213501

NetBackup Appliance user interface notes

The following list contains the notes and the known issues that relate to the NetBackup Appliance Web Console and the NetBackup Appliance Shell Menu:

- The appliance interface cannot be accessed from an IPv6 address.
- During the rollback process after an unsuccessful software update, the NetBackup Appliance Web Console may temporarily display the following status: “The appliance is 2.6.0.2 and not in upgrade state.” In addition, the progress bar shows 100% completion. Please note that this behavior does not mean that the upgrade completed successfully.
The appliance restarts shortly after, but no status update or prompt displays on the web console. Wait for the restart to complete, and you can reconnect to the appliance. More information is available if you run the `UpgradeStatus` command in the NetBackup Appliance Shell Menu during the upgrade.
- The NetBackup Appliance Web Console views OpenLDAP and Active Directory user names as case sensitive, although the NetBackup Appliance Shell Menu does not.
- The `Main > Settings > Security > Authentication > LDAP > Certificate set path name` command in the NetBackup Appliance Shell Menu does not allow any certificate path names that contain dashes. Path names with dashes are allowed in the NetBackup Appliance Web Console.
- The **Deduplication** output of the `Main > Manage > Storage > Show` command on the NetBackup Appliance Shell Menu does not take into account the 4% of storage that is used internally. The output thus shows more storage than is available. The **Deduplication** entry on the appliance email alert shows the correct amount of deduplication storage.
- Multiple email addresses cannot be added for a point of contact from the **Settings > Notification > Registration** page of the NetBackup Appliance Web Console. However, you can add multiple email addresses for the point of contact from the NetBackup Appliance Shell Menu. To add multiple email addresses from

the shell menu, run the `Settings > Alerts > CallHome Registration Email` command and enter multiple email addresses separated using a semicolon.

- The **Monitor > Hardware** page of the NetBackup Appliance Web Console and the `Monitor > Hardware` commands of the NetBackup Appliance Shell Menu show health details of the appliance hardware. In the RAID information table of hardware health details, when the Status of the RAID displays as **Degraded**, the State of the RAID displays as a **Warning**. This behavior is observed during an appliance upgrade from an older version to a newer version. Previously, the RAID status column showed a **Degraded (Rebuilding)** status as an **OK** state. However, it has now been rectified to show the status as **Degraded (Rebuilding)** with a **Warning** state. During the upgrade process, one of the drives is in a failed state, which starts rebuilding after a few minutes. Hence, to indicate the failed status, the RAID state is displayed as **Warning**. Further, you may also see the percentage of the disk that is being rebuilt in the disk information table for the appliance hardware.

Installation and configuration notes

The following list contains the notes and the known issues that relate to the installation and configuration of the appliance:

- In new NetBackup Appliance deployments, an appliance master server running version 2.6 or later does not support adding a new appliance media server that is running version 2.5.1 or earlier. Any new NetBackup appliance media server that you want to add to a version 2.6 appliance master server or later must be running version 2.5.2 or later.
- A client-side deduplication operation may fail with a status error 83. When you configure your appliance, if DNS is used, you must make sure that the network names of all appliances and the master server are DNS-resolvable (fully qualified host name (FQHN) and short name). If DNS is not used, you must make sure that you enter the proper host entries for the appliance that you configure. If you configure your appliance without DNS set and the `/etc/hosts` file does not contain an IP address that resolves to the FQHN mappings, you may receive a status error 83. If the value configured in the `required_interface` variable for the appliance media server is a short name and not a fully qualified host name, the client may not resolve correctly. To work around this issue, ensure that the DNS and the `/etc/hosts` file exist, and both have the host names that are resolvable. For more information about this error condition, see the following tech note on the Symantec Support website:

<http://www.symantec.com/docs/TECH179320>

- When you attempt to copy a software update to the share directory, do not initiate any other commands until the copy finishes. If you run a command during the copy process, you may see that the software update is listed and available. However, if you install that software update, it can fail.
To avoid this situation, do not run any other commands until the copy process completes.

Upgrade and rollback notes

The following list contains the notes and the known issues that relate to upgrades and rollbacks:

- If an appliance server is currently at a version earlier than 2.5, you cannot upgrade directly to NetBackup Appliance 2.6.0.2. You must first upgrade to version 2.5, and then upgrade to the 2.6 product line.
- If the current version of your appliance is 2.5 and you want to upgrade to this version of the appliance software, you must use the NetBackup Appliance Shell Menu to install the software update. You can use the NetBackup Appliance Web Console to download a software update. However, you cannot use the web console to install the upgrade. You must use the shell menu to install a software update.
- During an upgrade from NetBackup Appliance 2.5.x to this version of the appliance software, the Media Server Deduplication Pool (MSDP) requires 13% free space to complete the conversion. If you do not have the necessary amount of free space, the upgrade fails.
- For this release of NetBackup Appliance, the ability to perform a remote upgrade from a master server appliance to a media server appliance is not supported. To upgrade media server appliances to this version of the appliance software, log in to each media server appliance as "admin" and follow the upgrade procedure.
- After an upgrade completes successfully or is rolled back successfully, the system drive rebuild begins automatically. This process typically takes around three or four hours but can take longer depending on the system load. Do not attempt to remove any drives during this time.
If the rebuild process takes significantly longer than expected based on your system load, you may have a bad drive. Contact Symantec Technical Support for assistance.
- If you upgrade an unconfigured 2.5.x appliance to this version of NetBackup Appliance, the upgrade performs a reimage of the appliance rather than an

upgrade. During a reimage of an unconfigured appliance, all configuration settings, such as host name and IP addresses are lost, and the storage is reset.

- When you upgrade an unconfigured appliance from 2.5.x to this version of NetBackup Appliance, the appliance has a factory-install checkpoint. Configured appliances that have been upgraded from 2.5.x only have a post-upgrade checkpoint.

Reimage and factory reset notes

The following list contains the notes and the known issues that relate to the reimage process and the factory reset utility:

- Because NetBackup 5200 Appliances are no longer shipped, Symantec does not support the ability to reimage a 5200 with the 2.6 software release or later. You must reimage the 5200 appliance to a version that is supported, such as 2.5, and then upgrade to the 2.6 line.
- When you perform a reimage of an appliance to this version of NetBackup Appliance, there are some instances where the appliance media role configuration fails during the deduplication disk pool creation. The following message may appear:

```
- [Error] Failed to enable optimized synthetic full backups. This appliance may
not be used for synthetic full backups.
- [Error] Failed to create the NetBackup disk pool 'dp_disk_nbapp145' and
storage unit 'stu_disk_nbapp145' for 'MSDP' storage.
- [Error] Failed to create storage partitions for appliance 'nbapp145'.
Restarting command interface...
```

For a workaround if this error occurs:

See [“Updating the deduplication storage password”](#) on page 40.

Updating the deduplication storage password

The following procedure details how to update the deduplication storage password if a reimage to 2.6.0.2 fails during storage partition creation.

To update the deduplication storage password:

- 1 Log on to the appliance as an administrator and open the NetBackup Appliance Shell Menu.
- 2 Create a NetBackup user account.
- 3 Use the `NetBackupCLI` command and log in to your NetBackup user account.

- 4 Enter the following command: `tpconfig -dsh -stype PureDisk -all_hosts`

The output looks similar to the following:

```
nbapp143:~ # tpconfig -dsh -stype PureDisk -all_hosts
=====
Media Server:                nbapp103
Storage Server:              nbapp103 <PureDisk>
User Id:                     root <PureDisk>
=====
Media Server:                nbapp103
Storage Server:              nbapp143 <PureDisk>
User Id:                     root <PureDisk>
=====
Media Server:                nbapp143
Storage Server:              nbapp143 <PureDisk>
User Id:                     root <PureDisk>
=====
nbapp143:~ #
```

- 5 Enter the following command: `tpconfig -delete -stype PureDisk -storage_server <hostname> -media_server <hostname> -stu_user_id root`

Every media server that has a matching storage server entry for the appliance needs to be updated. For example, if you set up nbapp143 from the example, run the command for nbapp103 and nbapp143.

- 6 Using the example above, you would enter the following commands on nbapp143:

```
#tpconfig -delete -stype PureDisk -storage_server nbapp143
-media_server nbapp103 -sts_user_id root

#tpconfig -delete -stype PureDisk -storage_server nbapp143
-media_server nbapp143 -sts_user_id root
```

- 7 Log on to the appliance as an administrator and open the NetBackup Appliance Shell Menu. Finish the media server role configuration by entering the following command:

```
Appliance > Media <master server>
```

- 8 After the media server is configured successfully, re-add the credentials for the media server that has a matching storage server entry for the appliance. If you do not re-add the credentials, you cannot use the other media servers as deduplication load balancing servers for the re-imaged appliance. You need to obtain the deduplication password to complete this step. Enter the following command and make note of the password:

```
Appliance > ShowDedupPassword
```

- 9 Enter the following command to re-add the credentials for the media server:

```
tpconfig -update -stype PureDisk -storage_server <hostname>  
-media_server <hostname> -stu_user_id root
```

- 10 Using the example above, you would enter the following commands on nbapp143. Enter the deduplication password from Step 8 when prompted for the password.

```
#tpconfig -update -stype PureDisk -storage_server nbapp143  
-media_server nbapp103 -sts_user_id root  
  
#tpconfig -update -stype PureDisk -storage_server nbapp143  
-media_server nbapp143 -sts_user_id root
```

VMware notes

The following list contains the notes and the known issues that relate to VMware:

- Concurrent VM restores may fail if you use the appliance as the restore host on a SAN. If you use the SAN transport mode to restore multiple VMs at the same time, the job status log may contain messages similar to the following:

```
4/19/2012 1:16:14 PM - Error bptm(pid=30649) cannot write  
data to socket, Connection reset by peer  
4/19/2012 1:16:14 PM - Info bptm(pid=30648) EXITING with status 24
```

Symantec has opened a VMware support request on this issue: 12172237605.

- Try the following:
 - On the **Virtual Machines Options** dialog, for the format of the restored virtual disks, select **Thin Provisioning** and retry the restore.
 - If that fails, select **NBD** as the transport mode on the **Recovery Options** dialog and try the restore again.
- The ability to use NetBackup Appliance to retrieve the NetBackup token for use with the NetBackup Plug-in for vCenter is not currently supported without assistance from Symantec Technical Support. To retrieve the NetBackup token,

contact Support and have a representative reference TECH211315 to transfer it for you.

- In this release of NetBackup Appliance, VM Instant Recovery requires a Windows-based VMware recovery host. This host is necessary to identify the objects that are needed to initiate Instant Recovery. The recovery host is not used for any data movement. Any Windows-based system with NetBackup client (physical or virtual) installed in the environment may be used if it has network connectivity to vCenter.

While the VMware recovery host (NetBackup client) must be on Windows, the VMware backup host that made the backup can be on Windows, Linux, or NetBackup Appliance. If the backup host was Linux, you must use the `-vmproxy` option on the `nbrestorevm` command to specify a Windows-based VMware recovery host. For more information, refer to the *Symantec NetBackup for VMware Administrator's Guide*.

Internationalization and localization notes

The following list contains the notes and the known issues that relate to internationalization and localization:

- The NetBackup Appliance Shell Menu user interface cannot input or modify multi-byte characters, and they are not localized to any language for this release.
- Non-English characters are not shown on the NetBackup Appliance Shell Menu user interface after you finish appliance configuration.
This issue occurs when you use the NetBackup Appliance Web Console during the initial configuration of a NetBackup appliance. When you input non-English characters to register your appliance on the **Registration** page, the non-English characters cannot be shown on the shell menu interface.
- If you install the NetBackup-Java Administration Console on a non-English Windows system to administrate the NetBackup server inside a NetBackup appliance, the console can hang when you attempt to log in to the NetBackup server. To avoid this issue, use the following workaround:
 - Modify the `install_path\Java\setconf.bat` file on the Windows system where the NetBackup-Java Administration Console is installed and set the `NBJAVA_FILE_ENCODING` parameter with the proper encoding. Use the same encoding as you previously set on the appliance system with the `SystemLocale` command.
To determine the coding name, refer to the **Canonical Name for java.nio API and java.lang API** column in the *Supported Encodings* document on the following website:
[Oracle Supported Encodings Documentation](#)

For example, if you set a UTF-8 locale like `zh_CN.utf8` or `ja_JP.utf8` on your appliance system, the canonical name for `java.nio` API and `java.lang` API is UTF8.

Uncomment the `SET NBJAVA_FILE_ENCODING` parameter in the `install_path\Java\setconf.bat` file, and specify UTF8 (in this example) as follows:

```
REM SET NBJAVA_FILE_ENCODING=
```

becomes:

```
SET NBJAVA_FILD_ENCODING=UTF8
```

For more information on the `SystemLocale` command, see the *Symantec NetBackup Appliance Command Reference Guide* or the "About the NetBackup Appliance Web Console login page" section in the *Symantec NetBackup Appliance Administrator's Guide*.

About NetBackup support utilities

The NetBackup 52xx provides the following support utilities to help diagnose NetBackup problems:

- [NetBackup Domain Network Analyzer \(NBDNA\)](#)
- [NetBackup Support Utility \(nbsu\)](#)

NetBackup Domain Network Analyzer (NBDNA)

You can run the NBDNA utility on a NetBackup primary or secondary appliance to perform the following tasks:

- Identifying the NetBackup domain configuration to resolve network-related issues
- Identifying the NetBackup performance issues
- Ensuring the behavior with regards to the host name lookup is functional
- Ensuring that the connectivity between NetBackup hosts and the appliance is established and functional based on their role within the NetBackup domain
- Generating the reports that are meant for Symantec Technical Support.

The NBDNA utility provides the following types of information in its output:

```
Running audit as Media Server.
```

```
Collection Version: x.x
```

```
Collection Time: Tuesday, October 7, 2010 at 19:17:11 PM
```

```
NBU Release: NetBackup-SuSE2.6.16 7.0.1.5
```

```
NBU Version: 7.0.1.5
NBU Major Version: 7.0
NBU Minor Version: 1
  NBU Patch Type: GA
  NBU GlobDB Host: "host name"
  Is GlobDB HOST? No
  UNAME:
    Hostname: sample.name.symantec.com
  Host's Platform: Linux
  Perl Architecture: Linux
```

Initialization completed in 14.040101 seconds.

Brief Description of What It Does (for type 1):

-
- 1) Perform basic self checks.
 - 2) Check connectivity to Master (and EMM) server.
 - 3) If SSO configured, get list of media servers sharing devices.
 - 4) Get list of all clients which could send data here for backup.
 - 5) Test NBU ports for basic connectivity between media servers sharing devices.
 - 6) Test NBU ports for basic connectivity between media server and clients it backs up.
 - 7) Perform service level tests for phase 2
 - 8) Capture data for reports; save reports.
 - 9) Save data to report files.
-

Discovering and mapping the NetBackup domain network for analysis by extracting data from current system's configuration.
(To see more details, consider using '-verbose' switch.)

Probing Completed in 4.695464 seconds.

Initiating tests...

COMPLETED. Thank you for your patience.

/log/dna/sample.name.symantec.com.NBDNA.20100907.191711.zip
Archive created successfully!

Return `/log/dna/sample.name.symantec.com.NBDNA.20100907.191711.zip` to Symantec Support upon request.

NetBackup Support Utility (nbsu)

You can use the `nbsu` utility to gather appropriate diagnostic information about NetBackup and the operating system. The *Symantec NetBackup Troubleshooting Guide* describes when you would use this utility, as well as how to run it.

About other support resources

If you need additional assistance with your NetBackup Appliance, contact Symantec Technical Support. Customers with a current support agreement may access Technical Support information at the following URL:

www.symantec.com/business/support/

Information specific to NetBackup Appliance can be found at:

go.symantec.com/nba

About working with log files

As you define and troubleshoot a problem, always try to capture potentially valuable information. NetBackup Appliance has the ability to capture hardware-, software-, system-, and performance-related data. These log files capture information such as how the appliance has been running, whether there are any issues such as unconfigured volumes or arrays, temperature issues, batteries not being found, etc. These log files are stored in specific directories and can be accessed using the following methods:

[Table 3-1](#) lists the methods you can use to access the various appliance logs.

Table 3-1 Viewing log files

From...	Using...	Logs collected..
NetBackup Appliance Web Console	You can use the Collect Log files wizard from the NetBackup Appliance Web Console to collect log files from an appliance.	<ul style="list-style-type: none"> ■ Logs created by the NetBackup Copy Logs tool (<code>nbcplogs</code>) ■ Appliance logs including high availability, hardware, and event logs ■ Operating system logs ■ All logs related to Media Server Deduplication Pool (MSDP) ■ All logs related to the NetBackup Appliance Web Console ■ Diagnostic information about NetBackup and the operating system ■ Hardware and storage device logs
NetBackup Appliance Web Console	You can use the Monitor > SCSP Audit View screen from the NetBackup Appliance Web Console to retrieve the audit logs of an appliance.	NetBackup appliance's audit logs
NetBackup Appliance Shell Menu	You can use the <code>Main > Support > Logs > Browse</code> commands to open the <code>LOGROOT/></code> prompt. You can use commands like <code>ls</code> and <code>cd</code> to work with the appliance log directories and obtain the various logs.	<ul style="list-style-type: none"> ■ NetBackup appliance configuration log ■ NetBackup logs, Volume Manager logs, and the NetBackup logs that are contained in the <code>openv</code> directory ■ NetBackup appliance operating system (OS) installation log ■ NetBackup administrative web user interface log and the NetBackup web server log ■ NetBackup 52xx appliance device logs

Table 3-1 Viewing log files (*continued*)

From...	Using...	Logs collected..
NetBackup Appliance Shell Menu	You can use the <code>Main > Support > Logs > VxLogView Module <i>ModuleName</i></code> commands to access the NetBackup Appliance VxUL (unified) logs. You can also use the <code>Main > Support > Share Open</code> commands and use the desktop to map, share, and copy the VxUL logs.	NetBackup Appliance unified logs: <ul style="list-style-type: none"> ■ All ■ CallHome ■ Checkpoint ■ Commands ■ Common ■ Config ■ CrossHost ■ Database ■ Hardware ■ HWMonitor ■ Network ■ RAID ■ Seeding ■ SelfTest ■ Storage ■ SWUpdate ■ Trace
NetBackup Appliance Shell Menu	You can use the <code>Main > Support > DataCollect</code> commands to collect storage device logs.	NetBackup 5xxx storage device logs
NetBackup-Java applications	If you encounter problems with the NetBackup-Java applications, you can use the scripts in this section to gather the required information for contacting support.	Logs relating to the NetBackup-Java applications

Release content

This appendix includes the following topics:

- [About the current release content](#)
- [About release content conventions](#)
- [NetBackup Appliance 2.6.0.2 release content](#)
- [NetBackup Appliance 2.6.0.2 Emergency Engineering Binary \(EEB\) listing](#)
- [Other known fixes in NetBackup Appliance 2.6.0.2](#)

About the current release content

This release incorporates fixes to several known issues that existed with the NetBackup Appliance software. This section contains a list of Etracks that documents the known issues that have been fixed in this release of NetBackup Appliance.

Note: This chapter contains only the fixes that are exclusive to NetBackup Appliance. The NetBackup Appliance 2.6.0.2 release also contains all of the fixes that are included in NetBackup 7.6.0.2. For a complete listing of the NetBackup 7.6.0.2 Etracks, refer to the *NetBackup 7.6.0.2 Release Notes* on the Symantec Support website:

<http://www.symantec.com/docs/DOC6840>

This NetBackup Appliance 2.6.0.2 release is an upgrade to the NetBackup Appliance 2.6.0.1 release. Refer to the release notes documents on the Symantec Support website to see all of the fixes and enhancements in previous releases:

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

When an appliance is released, the latest version of NetBackup is used as a basis on which the appliance code is built. That ensures that all applicable features, enhancements, and fixes that were released within NetBackup are included in the latest release of the appliance.

NetBackup 7.6.0.2 is the version of NetBackup software that the NetBackup Appliance 2.6.0.2 release installs. Information about the new features, enhancements, and fixes found in NetBackup 7.6.0.2 can be found in the *NetBackup 7.6.0.2 Release Notes* document on the Symantec Support website:

<http://www.symantec.com/docs/DOC7156>

For the latest NetBackup Appliance compatibility information, refer to the *NetBackup Enterprise Server and Server 7.x Hardware Compatibility List* on the Symantec Support website:

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

About release content conventions

The following list describes the conventions used in the subsections that follow this section. Each item listed in the release content subsection describes a feature, enhancement, or fixed issue contained in this release:

- **Etrack Incident**
Notes the Etrack number that targets this release.
- *Associated Primary Etrack*
An additional Etrack number that exists in the incident hierarchy.
- *Associated Service Request Etrack*
The Etrack that is associated with the customer support service request.
- *Description*
Describes a particular issue that has been fixed in this release, as well as additional notes or workarounds. Workarounds can be used instead of applying the patch; however, Symantec recommends the "best practice" of being at the latest available patch level.
- ***Description or **Etrack number*
Describes a critical issue or an issue that can lead to a potential data loss that has been fixed in this release. Please read these issue descriptions carefully. In some cases, a Tech Alert link is provided.

About current release content Etracks

For more information on the Etracks that are listed in this section, or any other service request Etrack, Symantec recommends that you use Symantec Operations Readiness Tools (SORT). To access SORT, go to the following website:

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

NetBackup Appliance 2.6.0.2 release content

The following list contains the known issues that were fixed and that are now included in this release of NetBackup Appliance:

Etrack Incident: 3418001

- Associated Primary Etrack: 3418000
- Associated Service Request Etrack(s): 3415664
- Description:
A case-sensitive server name entry in the `bp.conf` file caused an issue during an upgrade from 2.5.x.

Etrack Incident: 3426670

- Associated Primary Etrack: 3424146
- Associated Service Request Etrack(s): 3422920
- Description:
Upgrades from 2.5.x to 2.6.0.1 that failed in the first stage (before the system was reimaged with the SLES 11 operating system) failed to correctly roll back if the size of the `/log/app_*` file was too large. In 2.6.0.2, only the relevant logs are preserved during the rollback to cut down on the size of the `/log/app_*` file.

Etrack Incident: 3428776

- Associated Primary Etrack: 3426608
- Associated Service Request Etrack(s): 3425524
- Description:
In certain scenarios, it is possible for an appliance that was upgraded from 2.0.x to 2.5.x to have more than the maximum supported size (4 TB) allocated to the catalog partition. In that instance, an upgrade from 2.5.x to 2.6.0.1 failed if the user elected to resize the partition to create the necessary unallocated space for the upgrade. With the 2.6.0.2 software update, the catalog partition is shrunk to at least 4 TB to adhere to the size limit.

Etrack Incident: 3444351

- Associated Primary Etrack: 3441877
- Associated Service Request Etrack(s): 3441795
- Description:

If you created a user account on the appliance that used User ID 0, an upgrade from 2.5.x to 2.6.0.1 failed. The upgrade logs displayed the following message: `No such file or directory`. The 2.6.0.2 software update does not detect an account with User ID 0, and the upgrade is able to proceed.

NetBackup Appliance 2.6.0.2 Emergency Engineering Binary (EEB) listing

The following table contains the known issues that were identified, fixed, and available to customers in the form of an EEB. NetBackup Appliance 2.6.0.2 resolves the issues that were addressed in each of these EEBs. Additional EEBs may have been released since this document was posted. For more information on the Etracks that are listed in this section, or any other service request Etrack, Symantec recommends that you use Symantec Operations Readiness Tools (SORT). To access SORT, go to the following website:

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

Alternatively, if you do not see an EEB that you expected to see in this document, or you require additional information about an issue in this table, contact Symantec Support.

Note: The following table includes only the EEBs that are associated with NetBackup Appliance. For a complete listing of the NetBackup EEBs that were resolved for this release, refer to the *NetBackup 7.6.0.2 Release Notes* on the Symantec Support website:

<http://www.symantec.com/docs/DOC6840>

Table A-1 NetBackup fixedin_app_2.6.0.2 EEB Listing

Etrack Number	EEB Description
3308137	CPU alerts are generated even when there is nothing wrong with the CPU.
3217065	The second object of Simple Network Management Protocol (SNMP) traps is not correct.
3318144	The second object of Simple Network Management Protocol (SNMP) traps is not correct.
3335571	SNMP traps that are sent from a version 2.0.3 5220 appliance to HP OpenView V10.0 are not received correctly.

Table A-1 NetBackup fixedin_app_2.6.0.2 EEB Listing (*continued*)

Etrack Number	EEB Description
3383189	Temperature sensor readings generate warnings even when the temperature is normal.
3353968	The appliance reports a warning message about fan speed even when the fans are functioning normally.
2959979	Corrected some NetBackup Appliance security issues.
2927869	Corrected some NetBackup Appliance security issues.
3451991	MSDP to PDDO duplications fail with a status code 191 when the PureDisk (PDDO) storage pool contains three or more nodes.
3398993	If there is only one Fibre Channel (FC) card on an appliance running version 2.5.4, the commands in the NetBackup Appliance Shell Menu do not display FC information.
3329236	If the HWMON process hangs unexpectedly, it might lead to multiple HWMON instances that are hung on the appliance and putting a hold on resources. Customer backup jobs might not run because of low availability of cpu and memory resources.

Other known fixes in NetBackup Appliance 2.6.0.2

The following list contains additional known issues that were fixed and that are now included in this release of NetBackup Appliance, including issues that were previously listed in the Operational Notes chapter of this document:

- The user was unable to view or change policies on the NetBackup-Java Administration Console, and policies failed with a status code 811. The `nbpem` process and the `nbevtmgr` process also went down. This issue occurred on the appliance when the 192.168.1.1 default address was set to `eth0` and another system on the network had the same internal address.

- During the boot up of an appliance, the following message appeared:

```
mount server reported tcp not available, falling back to udp
```

The error message occurred when the system attempted to start the `nfs` service before the kernel-based `nfs` server (`nfsserver`) was started. The error message was not harmful; after the boot up finished, the `nfs` service and the `nfsserver` service ran correctly.

- If you opened any NetBackup Appliance CIFS shares using NetBackup Appliance, an error could occur when you attempted to log in to the directory.

- If the permission of the NetBackup touch file in your home directory was not set properly before you used the `cp-bu-config` command, you were unable to see the content of the touch file in the `/usr/openv/netbackup/db/config` directory.
- After you canceled a migration job, the logging of the cancelation carried over into the logs of the next successful migration job if the two jobs were started too close together. This behavior resulted in incorrect information displaying for the subsequent job. This issue also affected the information that displayed in the **Manage > Migration Utility > Migration Job Status** tab of the NetBackup Appliance Web Console. The number that was displayed for **images copied** was incorrect.
- In some cases, the Migration Utility did not migrate all of the images that were associated with a multistream backup.
- When the NetBackup Appliance Web Console was used with Internet Explorer 9, the screen appeared distorted because it opened in compatibility mode by default. The console now opens in standard mode by default.
- A few log files disclosed the SMTP password.
- A security vulnerability involving Service Location Protocol (SLP) was discovered and resolved. The SLP service has been removed and no longer listens on port 427.
- A number of unnecessary user IDs existed on the system. These users have been disabled for the 2.6.0.2 release.

The following security issues were resolved in NetBackup Appliance 2.6.0.1 but were not documented in the *2.6.0.1 Release Notes*. These fixes apply to the 2.6.0.1 and the 2.6.0.2 releases. However, if you are running NetBackup Appliance 2.6.0.1 or plan to upgrade to the 2.6 line, Symantec recommends that you upgrade to NetBackup Appliance 2.6.0.2.

- Etrack Incident: 2926519
Description: The `HttpOnly` attribute was added to the NetBackup Appliance Web Console cookies.
- Etrack Incident: 2926522
Description: The Internet browser autocomplete attribute has been set to `off` for sensitive fields like passwords.
- Etrack Incident: 2996242
Description: Some security issues involving commands in the NetBackup Appliance Shell Menu were discovered and resolved.
- Etrack Incident: 3001606
Description: A weak hashing algorithm has been replaced with a more secure algorithm.

- Etrack Incident: 3051636
Description: A cross-site request forgery (CSRF) issue was resolved.
- Etrack Incident: 3068545
Description: A world-writeable file issue was resolved.
- Etrack Incident: 3070118
Description: A world-readable partition issue was resolved.
- Etrack Incident: 3070433
Description: A cross-site scripting vulnerability was fixed.
- Etrack Incident: 3084869
Description: A world-readable file issue was resolved.
- Etrack Incident: 3227135
Description: A log file was found to save a password in clear text. The log file no longer displays the password.
- Etrack Incident: 3240696
Description: A cross-frame scripting vulnerability was fixed.

Related documents

This appendix includes the following topics:

- [About related NetBackup Appliance documents](#)
- [About getting started guides](#)
- [About administrator guides](#)
- [About troubleshooting guides](#)
- [About release notes](#)
- [About other documents](#)

About related NetBackup Appliance documents

The NetBackup Appliance technical manuals for this release can be downloaded from the following website:

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

For the technical manuals that relate to NetBackup, refer to the following website:

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

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

<http://www.adobe.com>

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

About getting started guides

The following getting started guides were released with this version of NetBackup Appliance:

- *Symantec NetBackup Appliance Hardware Installation and Initial Configuration Guide*
This document contains information on how to install and configure a NetBackup appliance.
- *NetBackup Appliance Capacity Planning and Performance Tuning Guide*
This document contains information on how to optimize your backup environment and your NetBackup appliance. It helps you to analyze your backup requirements and design a system that best fits your needs.

About administrator guides

The following administrator guides were released with this version of NetBackup Appliance:

- *Symantec NetBackup Appliance Administrator's Guide*
This document contains information on how to monitor and manage a NetBackup appliance.
- *Symantec NetBackup Appliance Security Guide*
This document describes the security features in NetBackup Appliance and how to use those features to ensure that your appliance environment is secure.

About troubleshooting guides

The following troubleshooting guides were released with this version of NetBackup Appliance:

- *Symantec NetBackup Appliance Troubleshooting Guide*
This document provides troubleshooting information for the NetBackup appliances. It describes how to gather and work with log files and the troubleshooting procedures for a variety of issues. It also provides instructions on how to remove and replace some hardware components.

About release notes

The following release notes documents were released with this version of NetBackup Appliance:

- ***Symantec NetBackup Appliance Release Notes***
This document contains information about the latest release of NetBackup Appliance, such as compatibility with NetBackup, new features, enhancements, and changes. It also contains any operating notes that may not be in the NetBackup Appliance manuals or the online Help.

About other documents

The following guides were also released with this version of NetBackup Appliance:

- ***Symantec NetBackup Appliance Command Reference Guide***
This document contains information on the commands that can be used in the NetBackup Appliance Shell Menu.
- ***Symantec NetBackup Appliance and Symantec Storage Shelf Product Description: NetBackup 5220***
This document contains an overview of the NetBackup 5220 Appliance and the Symantec Storage Shelf, such as layout, cables, and technical specifications.
- ***Symantec NetBackup Appliance and Symantec Storage Shelf Product Description: NetBackup 5230***
This document contains an overview of the NetBackup 5230 Appliance and the Symantec Storage Shelf, such as layout, cables, and technical specifications.
- ***Symantec NetBackup Appliance and Symantec Storage Shelf Safety and Maintenance Guide: NetBackup 5220***
This document contains information on the NetBackup 5220 Appliance and the Symantec Storage Shelf. It contains maintenance and safety information, as well as information on the LED status indicators.
- ***Symantec NetBackup Appliance and Symantec Storage Shelf Safety and Maintenance Guide: NetBackup 5230***
This document contains information on the NetBackup 5230 Appliance and the Symantec Storage Shelf. It contains maintenance and safety information, as well as information on the LED status indicators.
- ***Symantec NetBackup Appliance Third-party Legal Notices***
This document contains information on the third-party software that is used in this release of NetBackup Appliance.