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Global Leader in Software Defined Storage.

NexentaStor
Release Notes 4.0.3 FP3

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Software: NexentaStor

Software Version: 4.0.3 FP3

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Contents

What is New in this Release?

NexentaStor 4.0.3 FP3

NexentaStor 4.0.3 FP3 fixes several specific product issues. The key fixes in this release include:

- SMB bug fixes related to authentication, multi-user clients signing, using out-of-epoch date, connectivity to multi-homed AD servers.

- NFS bug fixes related to authentication cache and kernel panics

- Added chassis management support for the following:
  - Fujitsu JX40
  - 90-bay Supermicro JBOD
  - Besta U90
  - 28-bay Supermicro JBOD

- Security fixes for NTP

- VAAI is disabled by default except for UNMAP.

- Fixed issues related to upgrade from 3.1.x to 4.0.3 FP3.

VAAI Block Changes

To ensure system stability, VAAI Block is disabled in NexentaStor 4.0.3 FP3.

For a new install of NexentaStor 4.0.3 FP3, no special action is needed. NexentaStor 4.0.3 FP3, in a VMWare environment with VAAI support, will disregard VAAI commands and provide normal access to data. Other storage devices in the environment will be able to continue to use VAAI as appropriate.

For an upgrade to NexentaStor 4.0.3, additional steps need to be taken to ensure uninterrupted access to data. Prior to upgrading to NexentaStor 4.0.3 FP3, ensure that no file activity using VAAI to the NexentaStor system is in progress or recently completed. Specifically, you must ensure that no locks on storage on the NexentaStor system are held when the system is upgraded to 4.0.3 FP3. This can be done by disabling VAAI on ESXi hosts consuming NexentaStor storage significantly in advance of the upgrade to NexentaStor 4.0.3 FP3. Retain this configuration for few days to ensure no VAAI lock or VAAI operation is active on the NexentaStor system at the time of upgrade. After upgrading to NexentaStor 4.0.3 FP3, VAAI can safely be enabled for all storage devices in your environment.

To disable VAAI block, log in to the ESXi host and change the configuration.

❖*To disable VAAI block, using an ESXi console:*

1. Connect to the ESXi host.

2. Log in as root.

3. Change the advanced configuration settings by typing:

```
# esxcli system settings advanced set --int-value 0 --option /
DataMover/HardwareAcceleratedMove
```

```
# esxcli system settings advanced set --int-value 0 --option /
DataMover/HardwareAcceleratedInit
```

```
# esxcli system settings advanced set --int-value 0 --option /VMFS3/
HardwareAcceleratedLocking
```

4. Reboot the ESXi server to reflect the VAAI changes.

    For more information on disabling VAAI block using other options, see: http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1033665

Note:	Do not enable VAAI block in NexentaStor 4.0.3 FP3 .

NDMP Changes

From NexentaStor 4.0.3 FP3, `ndmpd` debugging will use the `syslogd` logging system. The default debugging level is `err`, `info` and `debug`. To avoid the log file getting too large, you can turn off the debugging. Based on your requirement, you can also turn on the debugging.

Steps to turn on and turn off the debugging is drafted under the [Known Issues](#) section.

See Also:

- [Default debug-path does not exist](#)

NexentaStor 4.0.3 FP2

NexentaStor 4.0.3 FP2 fixes several issues clustered around specific functional areas. These areas include:

- Seamless upgrades from 3.1.6 to 4.0.3
- SMB 2.1 Improvements
- NFS Improvements
- Ease of Use: Chassis Management

Changes in 4.0.3 FP2

NexentaStor 4.0.3 FP2 is a maintenance release that addresses some of the NexentaStor 4.0.3 and 4.0.3 FP1 issues. This release includes enhancements in the following areas:

- Seamless upgrade from NexentaStor 3.1.6 to 4.0.3

NexentaStor supports seamless upgrades from 3.1.6 to 4.0.3 and beyond. For 4.0 users, upgrading from 4.0.x to 4.0.3 is straightforward without downtime, like any other maintenance upgrade. For 3.1.x users, it is required to upgrade to latest version of 3.1.6 before upgrading to 4.0.3.

- SMB

  • New Domain Controller Locator

  The new Domain Controller Locator uses a more efficient algorithm to determine the optimal Domain Controller. It is no longer necessary to use the `sharectl` option to specify a preferred Domain Controller.

  • AD-style join and IDMU support

  The AD-style join is the preferred method of joining the Active Directory Domain. This enables users to use the IDMU feature in the Identity Mapping Service.

Note:	In NexentaStor 3.1.x, RPC-style join was temporarily set as the default method. Therefore, upgrading from NexentaStor 3.1.x to 4.0.3 may require additional configuration steps. For more information, contact Nexenta Support.

  • Kerberos client authentication

  Added support for Kerberos authentication for Microsoft Windows clients.

- NDMP

  NexentaStor 4.0.3 FP3 NDMP support is certified by Commvault Simpana® 10 and Symantec NetBackup® 7.x for backup and recovery use cases.

- Block target provider

  Addressed several critical issues in iSCSI and FC target provider.

- I/O continuity and fault tolerance enhancements

- Security updates

- NexentaStor vCenter Web Client Plugin

  This is a new plugin that enables you to provision and manage NexentaStor iSCSI LUNs and NFS folders in VMware vCenter Web Client 5.1 or later. The plugin seamlessly integrates into the VMware Web Client User Interface, providing the capability to monitor, snapshot, and clone NexentaStor datasets.

Auto-Sync Changes

The ability to clone datasets from snapshots at destination that were created by auto-services is disabled in NexentaStor 4.0.3 and later versions.

Note:	You may still manually create a snapshot either using NMV or in NMC, and you can clone datasets.

SMB Changes

In NexentaStor 4.0.3 FP2, the file sharing protocol SMB1 is enabled by default. However, you can enable SMB 2.0 in bash.

❖*To enable SMB 2.0 in bash using NMC:*

1. Enter bash using NMC.

2. Type:

```
nmc:/$ option expert_mode=1
nmc:/$ !bash
```

3. Type:

```
# sharectl set -p smb2_enable=true smb
```

Note:	If you are using NexentaStor 4.0.x and performing a minor upgrade to 4.0.3 FP2, SMB 2.0 will be disabled and SMB1 will be enabled by default.
	If you were using SMB1 and want to switch to SMB2, you need to reboot to reflect the changes.

NexentaStor 4.0.3 FP1

NexentaStor 4.0.3-FP1 fixes the Shellshock Bash bug that affects all software that uses the Bash shell and parses values of environment variables.

Discontinued Functionality

Due to lack of customer demand, Nexenta discontinued the WebDAV sharing protocol and its support starting from NexentaStor 4.0.3. For further clarifications, contact support@nexenta.com.

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Determining the Version of the Appliance

NexentaStor 4.0.3 FP3 is the current release of NexentaStor 4.0.3. You may determine the version of the appliance using NMC.

❖To determine the version of the appliance using NMC:

◆Type:

```
nmc:/$ show appliance version
```

System response:

```
NMS version:  40-0-47
NMC version:  40-0-39
NMV version:  40-0-45
Release Date: Jan 20 2015
Operating System: Nexenta/illumos (version 4.0.3-FP3)
```

System Requirements

For system requirements for each environment, refer to the "System Requirements" section in the *NexentaStor Installation Guide*.

List of SMB Supported Client Operating Systems

Network clients can access files on NexentaStor using the Server Message Block (SMB) protocol if NexentaStor can properly authenticate the domain users. When an SMB client connects to a Common Internet File System (CIFS) server, NexentaStor authenticates the user according to the permissions specified in the domain to which NexentaStor is joined and has an active machine account.

The following table describes the versions of Domain Controllers and client Operating Systems that have been successfully tested to work with NexentaStor.

Table 1: SMB Compatibility Matrix

	Windows Server R2 2012	Windows Server 2012	Windows Server R2 2008	Windows Server 2008	Windows Server R2 2003	Windows Server 2003	Workgroup Mode
Windows 2012 R2	X	X	X	X	X	X	X
Windows 8	X	X	X	X	X	X	X
Windows 2012	X	X	X	X	X	X	X

	Windows Server R2 2012	Windows Server 2012	Windows Server R2 2008	Windows Server 2008	Windows Server R2 2003	Windows Server 2003	Workgroup Mode
Windows 2008 R2	X	X	X	X	X	X	X
Windows 7	X	X	X	X	X	X	X
Windows 2008	X	X	X	X	X	X	X
Windows 2003 R2	X	X	X	X	X	X	X
Windows XP	X	X	X	X	X	X	X
Windows 2003	X	X	X	X	X	X	X
Red Hat/ CentOS 6.5	X	X	X	X	X	X	X
Ubuntu 12.04 TLS	X	X	X	X	X	X	X
Mac OS X 10.9.2	X	N/S	N/S	N/S	N/S	X	X

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Upgrading

To upgrade between minor versions of NexentaStor 4.0.x, see: Upgrading Minor Versions of NexentaStor 4.0.x

To upgrade from NexentaStor from 3.1.x to 4.0.x, see About Upgrading from Version 3.1.6 to Version 4.0.3, Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with an Internet Connection, Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with No Internet Connection

Upgrading Minor Versions of NexentaStor 4.0.x

❖*To upgrade NexentaStor 4.0.x to a minor version, type:*

```
nmc:/$ setup appliance upgrade
```

Upgrading from Version 3.1.x to 4.0.3 FP3

Seamless upgrade is a new method of upgrading a NexentaStor appliance version from 3.1.x to 4.0.3 FP3. Upgrading NexentaStor from version 3.1.x to 4.0.3 FP3 is a two-step process.

1. Upgrade to 3.1.6 FP3.

2. Then, upgrade to 4.0.3 FP3.

   See Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with an Internet Connection.

During the upgrade, NexentaStor services and volumes remain available to network clients. The upgrade operation requires system restart. Therefore, it is recommended that the upgrade process be scheduled during a system maintenance window. All NexentaStor services and volumes are not available during the restart.

Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with an Internet Connection

Before you upgrade the NexentaStor appliance from version 3.1.6 FP3 to version 4.0.3 FP3, obtain the license from http://nexenta.com/products/downloads/register-nexentastor and verify that your environment meets the following prerequisites:

• The network interface card is included in the hardware compatibility list for NexentaStor 4.0.x.

• No third-party applications or packages are present on your NexentaStor appliance. You may have third-party packages installed if you changed repository sources on your NexentaStor appliance. The upgrade will result in the loss of components that are not included with the NexentaStor build.

❖*To upgrade from version 3.1.6.x to 4.0.3, using NMC:*

1. If you have not upgraded to NexentaStor 3.1.6 FP3, upgrade to it by typing:

   nmc:/$ `setup appliance upgrade`

   Now you may run the NMC command `setup nexentastor upgrade` to upgrade to 4.0.3 FP3. Running this command will automatically disable the multi-NMS and restart NMS.

2. Upgrade to NexentaStor 4.0.3 FP3 by typing:

   ```
   nmc:/$ setup nexentastor upgrade
   ```

   System response:

   ```
   Proceed to automatically disable multi-NMS and restart NMS?
   ```

3. Type y.

   Multi-NMS is disabled and NMS is restarted.

   System response:

   ```
   The upgrade process may take some time up to 30 seconds to complete.

   Do you know if your hardware has been certified for 4.0.x? (y/n)
   ```

4. Type y if your hardware is listed in the Hardware Certification List (HCL).

   ```
   Upgrade NexentaStor Appliance from version 3 to version 4.
   This process include upgrade kernel, drivers, base system and
   appliance.
   WARNING: We can't guarantee third-party software will continue to work
   properly after upgrade.
   WARNING: The system should be restarted at the end of the process.
   Proceed? (y/n)
   ```

5. Type y.

   System response:

   ```
   NexentaStor is upgrading.
   ```
   During the upgrade, do not switch off or restart the NexentaStor appliance.

6. NexentaStor notifies you about the upgrade process.

   ```
   The first phase of upgrade has completed successfully
   Reboot now to finish upgrade to 4.0?
   ```

7. Continue to use NexentaStor 3.1.6 or reboot to activate NexentaStor 4.1.

   Nexenta does not recommend continuing to work using NexentaStor 3.1.6 after the first stage of the upgrade is completed. You may postpone the restart if you have incomplete archiving tasks. Otherwise, proceed with the reboot. When rebooting, all NexentaStor services and datasets are unavailable for network clients.

8. Verify that syspool is mounted:

   1. In NMV, click **Settings > Appliance**.

   2. In the **Upgrade Checkpoints** pane, click **View**.

   You should see the list of upgrade checkpoints.

Warning:	After you upgrade the volume version, back up your system. Backups created for mirrored pools with earlier volume versions may not be available after the upgrade.

9. Optionally, upgrade NexentaStor volumes to version 28 by typing:

   ```
   nmc:/$ setup volume <volname> version-upgrade
   ```

10. Repeat Step 9 for all NexentaStor volumes.

Note:	To upgrade the HA Cluster plugin, see: *NexentaStor HA Cluster User Guide*.

Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with No Internet Connection

Before you upgrade your appliance with no Internet connection, review Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with an Internet Connection. Verify that your environment meets all prerequisites described in this section.

❖ *To upgrade from Version 3.1.6 FP3 to 4.0.3 FP3 with no Internet connection:*

1. If you are unable to connect to the Internet to upgrade your system, contact support@nexenta.com for the ISO image.

2. Mount or burn the ISO image.

   Complete Step 2 to Step 10 in Upgrading from Version 3.1.6 FP3 to 4.0.3 FP3 with an Internet Connection.

Re-running the Upgrade from Version 3.1.6 FP3 to 4.0.3 FP3 After a Roll Back

Generally, Nexenta does not recommend that you roll back a NexentaStor appliance to version 3.1.6 after the upgrade to 4.0.3 on a production system. If you upgrade the volume version during the upgrade to version 4.0.3, the data and system volumes will be unavailable in version 3.1.6, since volume version 28 is not supported in version 3.1.6.

Rollback and upgrade is somewhat acceptable on a testing system.

During the upgrade, NexentaStor creates a flag file `/volumes/.config/.3_to_4_upgrade`. If you try to run the upgrade after rolling back to version 3.1.6, the upgrade fails.

To re-run the upgrade to version 4.0.3, delete the `/volumes/.config/.3_to_4_upgrade` file and run the `setup nexentastor upgrade` command again.

❖ *To rerun the upgrade from version 3.1.6 to 4.0.3, using NMC:*

1. Log in to bash:

   ```
   nmc:/$ option expert_mode =1
   nmc:/$ !bash
   ```

2. Type:

   ```
   # rm /.config/.3_to_4_upgrade
   ```

3. Exit bash by typing:

```
# exit
```

4. Run:

```
nmc:/$ setup nexentastor upgrade
```

Upgrading from Version 4.0.3, 4.0.3 FP1, 4.0.3 FP2 to 4.0.3 FP3 with an Internet Connection

❖ *To upgrade the appliance to 4.0.3 FP3 from 4.0.3:*

1. Type:

```
nmc:/$ setup appliance upgrade
```

Resolved Issues

NexentaStor 4.0.3 FP3

This section describes the issues fixed in NexentaStor 4.0.3 FP3.

Table 2-1: Resolved Issues in 4.0.3 FP3

Key	Description	Functional Area
NEX-2199	Fixed to display Enclosure Logical IDs	Chassis Management
NEX-2694	Updated metis logic for smc 90 bay jbod to stop creating a pool with two disks from the same tray.	Chassis Management
NEX-2838	Possible to rename the Jbod.	Chassis Management
NEX-2888	Modified Metis logic to understand SMC 90.	Chassis Management
NEX-2895	Stopped JBODs with N/A unit serial number from collecting in any chassis.	Chassis Management
NEX-1555	Added chassis management support for the 90-bay Supermicro JBOD.	Chassis Management
NEX-2011	Added chassis management support for the 28-bay Supermicro JBOD.	Chassis Management
NEX-2010	Added chassis management support for Besta U90.	Chassis Management
NEX-2800	Added chassis management support for Fujitsu Eternus JX40.	Chassis Management
NEX-2495	Fixed `sesctl` to display the unit serial number.	Chassis Management
NEX-2690	Successfully imports span media. Fixed NDMP4 to have record size persistent between mover connections and state transitions.	NDMP
NEX-2947	Fixed the directory entries to not truncate when it is too large.	NDMP
NEX-2911	Fixed NDMPD logging to use syslogd system. Added an option to turn off the debugging. By default it is turned on.	NDMP
NEX-2345	Fixed `nfsauth_cache_get()` to perform faster in NFS operation.	NFS

Table 2-1: Resolved Issues in 4.0.3 FP3

Key	Description	Functional Area
NEX-2949	Fixed system panic due to bad mutex, from `auth_cache` being previously freed.	NFS
NEX-2972	Fixed `nfsauth_access()` to always initialize both ngids and gids.	NFS
NEX-2982	Fixed multiple NTP security vulnerabilities.	NTP
NEX-2892	Fixed NexentaStor losing connectivity to multihomed Active Directory servers.	SMB
NEX-2842	Fixed SMB client authentication failing in `adt_set_user()` with IDMU enabled.	SMB
NEX-2869	Fixed SMB2 signing failing for multi-user clients like Citrix RDS.	SMB
NEX-2894	Allowing the use of date that is outside of the UNIX epoch fails on CIFS.	SMB
NEX-2975	Fixed SMB2 cancel request failing.	SMB
NEX-2976	Fixed SMB2 failing to connect when server requires signing.	SMB
NEX-3012	To eliminate Kernel panics, VAAI is disabled by default except for UNMAP.	VAAI
NEX-2848	Fixed memory leak in the `ZFS_release()` library call path.	ZFS

NexentaStor 4.0.3 FP2

This section describes the issues fixed in NexentaStor 4.0.3 FP2.

Table 2-2: Resolved Issues in 4.0.3 FP2

Key	Description	Functional Area
SUP-621	Fixed the AD issue when an appliance gets a service location error from smbadm that results in package capture showing STATUS_ACCESS_DENIED when trying to open `\lsarpc`.	AD
NEX-2825	SMB2 is disabled by default in this release. You may enable it if required.	CIFS
NEX-2798	Fixed the SMB 1 disconnect after large write attempt.	CIFS
NEX-2705	Revolved issue where in some conditions smbstats may not report correct statistics for reads.	CIFS

Table 2-2: Resolved Issues in 4.0.3 FP2

Key	Description	Functional Area
NEX-2666	Fixed the error while creating nested directory using smb share path in Windows commands line.	CIFS
NEX-2604	Fixed crash when security tab is accessed in Windows Explorer.	CIFS
NEX-2593	Fixed the inability to create a folder with a long file name in SMB2.	CIFS
NEX-2516	Added an option to disable exclusive oplocks.	CIFS
NEX-2107	Addressed issue where SMB2 Notify Change failed to return for directory time change.	CIFS
SUP-933	Fixed Auto-tier to create a snapshot to use as its source by default.	Auto Services
NEX-2634	Addressed issue where sources link for plug-ins could incorrectly point to community edition plug-in repository.	Installation, NMS, Packaging
SUP-898	Fixed nscd being slow when a local file is missing.	NFS
NEX-1687	Revolved issue in saving changes using the NMV for quotas on existing file systems.	NMV
NEX-1673	Fixed the numbering issues related to the diskslots for MD3060e to be in alignment with physical numbering.	Chassis Management
NEX-1974	Added support for more than 16 groups with AUTH_SYS for NFS.	NFS
SUP-755	Revolved a condition where a plugin may fail to install.	NMC/Appliance Management
NEX-2310	Added missing information to a predefined list of volume properties.	NMS
SUP-955	Fixed NMV to show JBOD Slotmap properly.	Chassis Management
NEX-2459	Added option to create IPMI support for chassis management in NexentaStor.	Chassis Management
NEX-2770	Fixed error when attempting to share folder using NFS and CIFS.	NMV
NEX-2750	Fixed the idmapd config parsing code for empty property values.	ID Map

NexentaStor 4.0.3 FP1

This section describes the issues fixed in NexentaStor4.0.3 FP2 FP1.

Table 2-3: Resolved Issues in 4.0.3 FP1

Key	Description	Functional Area
NEX-2658 NEX-2635	Security Update to address vulnerability CVE-2014-6271. This vulnerability CVE-2014-6271 could allow for arbitrary code execution.	Security
NEX-2657 NEX-2642	Security Update to address vulnerability CVE-2014-7169. This vulnerability CVE-CVE-2014-7169 involved bash allowing code execution via specially-crafted environment.	Security

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Known Issues

This section lists all known issues as of NexentaStor 4.0.3 FP3.

Default debug-path does not exist

Description: NEX-3159

Backup fails because of the missing `ndmp` log directory.

Workaround:

After configuring the NDMP, you should create a `ndmp` subdirectory using the following steps:

❖*To create ndmp subdirectory, using NMC:*

1. Log in to bash using NMC.

2. Type:

   ```
   nmc:/$ option expert_mode=1
   nmc:/$ !bash
   ```

3. Create `ndmp` sub directory by typing the following in bash:

   ```
   # mkdir /var/log/ndmp
   # chmod 700 /var/log/ndmp
   # chgrp sys /var/log/ndmp
   ```

From NexentaStor 4.0.3 FP3, `ndmpd` debugging will use the `syslogd` logging system. The default debugging level is `err`, `info` and `debug`. To avoid the log file getting too large, you can turn off the debugging by following these steps:

❖*To turn off the debugging:*

1. Log in to bash using NMC.

2. Type:

   ```
   nmc:/$ option expert_mode=1
   nmc:/$ !bash
   ```

3. Remove `local4.debug` from `/etc/syslog.conf`

4. Restart the system logger by typing:

   ```
   # svcadm restart system-log
   ```

   Debugging is turned off

❖*To turn on the debugging:*

1. Log in to bash using NMC.

2. Type:

```
nmc:/$ option expert_mode=1

nmc:/$ !bash
```

3. Add the following to `/etc/syslog.conf`

    ```
    local4.debug <TAB> /var/log/ndmp.log
    ```

4. Restart the system logger by typing:

    ```
    # svcadm restart system-log
    ```

    Debugging is turned on..

Note:	By default `local4.debug` is turned on and Nexenta recommends to remove it to avoid the log file partition from filling up faster .

Upgrading to 4.0.3-FP3 removes /etc/driver_aliases qlt entries

Description: NEX-3086

During minor upgrade from 4.0.x to 4.0.3 FP3 the FC gets reset to initiator mode, so users must use `/etc/driver_aliases` from pre-upgrade checkpoint and manually reconfigure the FC port to target mode.

Workaround:

❖*To use the* `/etc/driver_aliases` from pre-upgrade checkpoint, using NMC:

1. Type:

    ```
    nmc:/$ show appliance checkpoint
    ```

    System response:

    ```
    rootfs-nmu-013 Jan 30 11:52 2015 rollback No No 4.0.3-FP3
    rootfs-nmu-012 Jan 21 19:28 2015 upgrade Yes Yes 4.0.3-FP3
    rootfs-nmu-011 Dec 22 17:58 2014 upgrade No No 4.0.3-FP2
    rootfs-nmu-010 Dec 22 17:33 2014 rollback No No 4.0.3-FP1
    rootfs-nmu-009 Dec 22 17:33 2014 rollback No No 4.0.3-FP1
    rootfs-nmu-008 Dec 22 17:24 2014 rollback No No 4.0.3-FP1
    ```

2. Log in to bash as the root user:

    ```
    nmc:/$ option expert_mode=1

    nmc:/$ !bash
    ```

3. Copy the `qlt entries` from the pre-upgrade checkpoint.

    Assume that `rootfs-nmu-006` is the pre-upgrade checkpoint.

4. In the bash shell, type:

    ```
    # cd syspool
    # /syspool# ls -al
    ```

    System response:

    ```
    total 9
    drwxr-xr-x 3 root root 3 Jan 30 11:52 .
    ```

```
drwxr-xr-x 28 root root 31 Feb 10 16:01 ..
drwxr-xr-x 3 root root 3 Oct 8 15:59 boot

# /syspool# mkdir /rootfs-nmu-006

# /syspool# mount -F zfs syspool/rootfs-nmu-006 /rootfs-nmu-006

# /syspool# cp /etc/driver_aliases /etc/driver_aliases

# /syspool# cp /rootfs-nmu-006/etc/driver_aliases /etc/driver_aliases

# /syspool# umount /rootfs-nmu-006

# /syspool# rmdir /rootfs-nmu-006
```

❖*To configure FC port to target mode, using NMV:*

1.   Click **Data Management > SCSI Target Plus**.

2.   In the **Fibre Channel** panel, click **Ports**.

3.   Change the FC port mode by selecting the required option in the **Mode** drop-down list.

4.   Confirm the operation by clicking **OK**.

5.   Reboot the NexentaStor appliance.

ntp security changes in 4.0.3-FP3 cause nms-check to go to maintenance every week

Description: NEX-3084

When you perform a seamless upgrade to 4.0.3 FP3, it introduces some configuration change into `/etc/inet/ntp.conf` which prevents the local host from talking to the NTP server.

Workaround:

Edit the configuration file.

❖*To edit the* `ntp conf` *file, using NMC:*

1.   Type:

```
nmc:/$ setup network service ntp-client edit-settings
```

2.   Select `ntp.conf` file

You may edit the `conf` file in the editor.

3.   Type **restrict 127.0.0.1** on the last line of the `conf` file.

4.   Save the changes.

5.   Type **Y** to reread the configuration file.

Joining second cluster node to AD victimizes other node's previous membership

Description: NEX-2897

After upgrading with a cluster, users may need to rejoin the AD domain.

Workaround:

❖ *To rejoin the AD domain, using NMV:*

1. Click **Data Management > Shares**.

2. In the **CIFS Server** panel, click **Join AD/DNS Server**.

3. In the **Manage CIFS Server Settings** window, type the following information:

   • **AD Domain**

   AD domain name need not match the DNS domain

   • **AD Join User**

   Name of a User who is part of the Active Directory Domain Administrators group, with privileges to create new computer objects

   • **AD Join Password**

   Active Directory password for the AD Join User

4. Click **Save**.

Volume creation form works incorrectly on big systems

Description: NEX-2782

Issues with automatic volume creation on large systems.

After seamless upgrade from 3.1.6 FP3 to 4.0.3 FP3, disks are not displayed in Settings> Disks in NMV

Description: NEX-2456

After seamless upgrade from 3.1.6 FP3 to 4.0.3 FP3, disks are not displayed in **Settings > Disks** in NMV.

Workaround:

❖ *To restore the disks links, using NMV:*

1. Click **Settings > Disks**.

2. Click the **Refresh** button.

Disks will appear on the **Summary Information** page.

The NexentaStor build fails to install on IBM servers

Description: NEX-2003

The NexentaStor build fails during installation on an IBM System x3650 M4 server. The server

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goes into maintenance mode.

Workaround

Do not install NexentaStor 4.0.3 FP3 on an IBM System x3650 M4 server.

Error message in NexentaStor Installer during the Installation on a 3GB disk

Description: NEX-976

During the installation using a very small disk (< 4 GB, for example, a small VMDK disk for VM), the NexentaStor Installer may display the following error message:

```
Disk size is too small. Needed at least 1073743872 MB.
```

Workaround:

Install NexentaStor on disk with at least 4 GBs capacity.

Pressing Ctrl+C on the Installer Log screen terminates the screen

Description: NEX-1227

Pressing Ctrl+C on the installer log screen closes the screen.

Workaround:

Ignore the message to press Ctrl+C to refresh.

Selecting Permission to Inherit Results In Enabling All Permissions for a User

Description: NEX-1801

Selecting the **Permissions to inherit** checkbox in the ACL properties for a user assigns all permissions for the selected user. Typically, you do not want to enable all permissions for a user.

Workaround:

❖*To configure the ACL inheritance:*

1. Do not select the **Permissions to inherit** checkbox.

2. Click **More...** and select the following:

    *   Inherit to all newly created files in a directory.

    *   Inherit to all newly created directories in a directory.

Active Directory Member IDs May Remain in the List of Users After NexentaStor Leaves a Domain

Description: RM 13310

After leaving an Active Directory Domain, NexentaStor may retain the IDs of members of the removed

domain.

Workaround:

❖ *To remove the IDs, using NMC:*

1. Log in to bash:

   ```
   nmc:/$ option expert_mode=1
   ```

2. List the local group members by typing:

   ```
   # smbadm show -m
   ```

3. Delete the group members associated with the removed domain:

   ```
   # smbadm remove-member -m MEMBER GROUP
   ```

NMC: Manual Failover Changes Service on an old Active Node to Manual

Description: NEX-813

This is an NMC issue with manual failover process. When performing a manual failover, using NMC, NexentaStor changes the failover mode of the node that is being failed over from Automatic to Manual. This results in the inability of the shared volume service to failback to the original node when it restores.

Workaround:

After performing a manual failover, change the failover mode back to Automatic.

Volume Properties - Read Only Visibility

Description: NEX-1385

Changing the `read-only` property of a volume does not reflect in the output of the following command:

```
nmc:/$ show volume <vol-name> property
```

The property does not change after system reboot.

Note:	The operation works. However, it is not reflected through NMC.

Workaround:

Ignore the NMC output.

Changing the Can Mount Parameter on Folder Returns an Error

Description: NEX-1393

Changing the `Can mount` parameter on a folder results in the following error:

```
Unable to retrieve ACL records folder not mounted?
```

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Workaround:

None

The Show Network Netgroup Command Does not Display Netgroups

Description: NEX-1403

The NMC command `show network netgroup` does not display netgroups.

Workaround:

Use the bash commands `ldaplist` and `getent` to view the list of netgroups.

Incorrect User and User Group Naming

Description: NEX-1407

NexentaStor allows creation of a user or group name that starts with a number or a special character.

Workaround:

Make sure to create user or group names that start with a letter.

Failed to Create an SSH Binding to a Virtual IP Address

Description: NEX-1423

HA-pair SSH binding to additional virtual IP address (VIP) on the same NexentaStor appliance fails.

Workaround:

❖*To create the HA-pair SSH-binding to an additional IP address, using NMC:*

1. Verify the status of SSH bindings:

   ```
   nmc:/$ show network ssh-bindings
   ```

2. Remove the bindings for all VIPs that are not pingable or not SSH-accessible:

   ```
   nmc:/$ setup network ssh-unbind -f vipaddress
   ```

3. Add the removed VIP addresses:

   ```
   nmc:/$ setup network ssh-bind <vip>
   ```

NMS May Cause Memory Issues

Description: SUP-737

NMS may, over time, leak and not reclaim heap memory.

Workaround:

Restart NMS.

Network SSH bindings Do Not Work If NMS Has Incorrect Primary Interface

Description: NEX-1054

Network ssh-bindings do not function correctly if NMS uses an incorrect primary interface.

Workaround:

Verify the primary network interface configuration.

SSH Bindings and HA Cluster

Description: NEX-1342

SSH binding: the hostname property value must comply with the type of binding.

Workaround:

Unbind any existing IP -address-based SSH binding before creating hostname/FQDN-based SSH binding (SSH bindings between two appliances that are designated to become HA nodes of the same HA Cluster).

For example purposes, the following IP address/hostname pair is used:

```
192.168.1.1  host 1
```

❖*To configure the SSH-binding:*

1. View the existing SSH-binding based on IP addresses by typing:

    ```
    nmc:/$ show network ssh-bindings
    ```

    System response:

    ```
    HOST                     PINGABLE   SSH-ACCESSIBLE   IS-APPLIANCE
    root@192.168.1.1           Yes        Yes              Yes
    ```

2. Unbind the existing IP address based ssh-bindings, if any:

    ```
    nmc:/$ setup network ssh-unbind root@192.168.1.1
    ```

3. Create hostname/FQDN-based ssh-binding:

    ```
    nmc:/$ setup network ssh-bind -HA

    Remote appliance hostname : host1
    Remote appliance IP : 192.168.1.1
    Remote user : root
    Remote port : 22
    Super-User password: xxxxxxx
    ```

Settings for Nameserver in /etc/resolv.conf Reset After Reboot

Description: NEX-1360

The nameserver line from `/etc/resolv.conf` is not persistent across reboots if using DHCP.

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Workaround:

In this instance, we attempt to derive DNS server and domain from DHCP and overwrite existing `/etc/resolv.conf` file.

Make the DHCP server reply include the nameservers required for the AD environment.

SSH Bindings and HA Cluster

Description: NEX-1367

Failed to bidirectionally unbind an HA Cluster pair.

Workaround:

If you unbind one of the HA Cluster nodes bidirectionally, you can force the unbind on the other node.

❖*To unbind an HA pair bidirectionally:*

1. Log in to the first HA node.

2. Unbind the node bidirectionally by typing:

    ```
    nmc:/$ setup network ssh-unbind -b root@host2
    ```
3. Log in to the alternate HA node:

    ```
    setup network ssh-unbind -f root@host1
    ```

Issues with SuperMicro® physical View in NMV

Description: RM 13297

When using SuperMicro hardware where the shared JBOD(s) have been manually setup using NMC, and in an HA configuration, the physical view of the JBOD in NMV may display incorrectly on one of the nodes.

Workaround:

Manually configure the shared JBOD(s) using the `setup jbod <jbod_name> model` command on both nodes prior to failover. If the service has already been failed over, run the `setup jbod model` on the node that misses the JBOD physical view.

Issues With sas2ircu When Using More Than 200 Disks In 6 JBODs

Description: NEX-925

Sas2ircu has problems when using more than 200 disks in 6 JBODs.

Workaround:

There is an NMS option that determines the timeout. Set it to 5 minutes or longer. For more information, see `setup appliance property`.

Session Inactivity Timeout

Description: NEX-1330

The NMV Session inactivity timeout (minutes) does not work.

Workaround:

The use of **Login_NMV_Timeout** to restrict session inactivity is not supported.

NMV Allows Specifying Identical Names for CIFS Folders

Description: NEX-1392

NMV allows two folders to have identical share names within the same volume.

Workaround:

When creating a folder, make sure that you assign a unique name to the folder.

Importing a NexentaStor Volume with the Enabled Sharenfs Property Fails

Description: NEX-1465

Importing a pool with the `sharenfs` property set to `on` fails.

Workaround:

From the **Shares** page, deselect NFS and reselect it again. The state of the NFS service is now consistent. However, NMV may still display the error. Ignore the error.

File copy fails

Description: NEX-2487

Copying files from folder to folder on win2k8r2 produces an error message.

Access Based Enumeration partially working in 4.0.3

Description: NEX-2058

When you enable Access Based Enumeration (ABE) for a CIFS share, a user sees only the files and folders he has permission to access. In NexentaStor 4.0.x, ABE fails for both shared directories and shared folders. Any user can see the shared folders that he does not have permission to access.

Workaround:

If your environment requires the use of Access Based Enumeration, do not upgrade your NexentaStor appliance at this time.

Restricting client host access to read-only does not mount CIFS share

Description: NEX-2218

The CIFS share properties page includes incorrect syntax for the Restrict Client Host Access field.

Workaround

The correct syntax includes the @ sign. For example: ro=@ip_address.

Error: incomplete write — retrying on iSCSI LUNs

Description: NEX-252

This is an iSCSI issue when running NexentaStor to NexentaStor. The following error message may be displayed for iSCSI LUNs:

```
incomplete write- retrying
```

Workaround:

Use a standard JBOD configuration from a certified solution or reference architecture.

NexentaStor Confuses DNS and ONC Domain

Description: NEX-1159

Appliance confuses DNS and ONC domain to be the same thing. This may break multiprotocol file sharing configurations where they are required to be different.

Workaround:

- If the AD domain is configured correctly and ONC is not:

    1) In NexentaStor, log in to bash:

        ```
        nmc:/$ option expert_mode =1
        nmc:/$ !bash
        ```

    2) Edit the /etc/defaultdomain by typing:

        ```
        # vi /etc/defaultdomain
        ```

    3) Type the domain name

    4) Set the domain name:

        ```
        # domainname $(cat /etc/defaultdomain)
        ```

    5) Confirm the domain name by typing:

        ```
        # domainname
        ```

- If the ONC domain is configured correctly and DNS is not:

    1) In NMC, log in to bash:

        ```
        nmc:/$ option expert_mode =1
        ```

```
nmc:/$ !bash
```

2) Specify the correct setting in the `resolv.conf` file by typing:

```
# vi /etc/resolv.conf
```

The 4.0.3 FP3 Remote Replication Protocol (RRP) is Only Compatible with Other NexentaStor 4.0.3 FP3 Systems

Description: NEX-403

The Auto-Sync plugin, which is included with the NexentaStor base software, requires the replication destination to be another NexentaStor 4.0.3 FP3 system and is not backwards compatible. This is a result of enhancements to improve the performance of the underlying data transport and to add significant feature/ function capabilities to Auto-Sync.

Workaround:

If you want to replicate data using Auto-Sync between different versions of NexentaStor, use Auto-Sync with the zfs+ssh protocol.

NDMP Backup May not Continue After Inserting a New tape in Symantec NetBackup (NBU)

Description: NEX-837

This is an NDMP backup issue. When a Symantec NetBackup™ job spans tapes, it may fail to recognize the insertion of the new tape. Therefore, the job may halt.

Workaround:

Do not run a backup using NBU that spans tapes.

Command : "run benchmark bonnie-benchmark" is not working as expected

Description: NEX-2357

The `run benchmark bonnie-benchmark` command does not start the benchmark test.

Workaround

The `bonnie-benchmark` plugin is curently being reviewed for consistency in performance reporting. Currently, Nexenta does not recommend that customers install the bonnie plugin.

RSF: Newly added volume is directly going to the Import Failure State

Description: NEX-2380

When adding a newly created shared volume that consists of only two disks to the HA Cluster, the shared volume goes into the Import Failure state.

Workaround

When you create a shared volume for an HA Cluster, add at least four disks to the volume. In the HA Cluster configuration, two volumes are used for heartbeat and the rest for SCSI reservations. If you have only two disks in the shared volume, no disks are available for reservations. Therefore, the HA Cluster service cannot start.

IO Continuity and ZFS Operation Impacted Under Certain Multiple Failure Scenarios

Description: OS-106

IO Continuity issue when performing multiple cable pull, path fails over or manual power fail/re-start operations. This can cause IO to hang in certain cases.

Workaround:

Avoid repeated cable pulls or other negative type testing.

The NFS Service May Enter Maintenance Mode After Changing the Hostname

Description: SUP-783

The NFS service may enter into maintenance mode if you change the hostname. It may also happen during the volume import, if the hostname has changed.

Workaround:

Reboot the NexentaStor appliance after changing the hostname.

Reservation Conflict Panic During Ungraceful HA Failover When Placing SCSI-2 Reservations

Description: NEX-1197

SmrtStor TXA2D20400GA6001 firmware K311 drives do not fully support SCSI-2 reservations.

Workaround:

Do not use SmrtStor TXA2D20400GA6001 firmware K311 drives.

It has been determined that KZ20 firmware has addressed this issue. Remove reservations before upgrading the firmware.

Creating a Volume with the Same Name as a Deleted Volume in the HA Cluster Group Causes Kernel Panic

Description: NEX-1213

During the volume creation, the following error message is displayed:

```
assertion failed: space_map_open() == 0 (0x6 == 0x0), file: ../../common/fs /
zfs/metaslab.c, line: 985
```

The following actions may cause kernel panic:

1) Install two NexentaStor 4.0.3.

2) Create an HA Cluster group.

3) Create a volume called *data*.

4) Add the volume *data* into the HA Cluster configuration.

5) Remove the volume from the HA Cluster.

6) Destroy the volume *data*.

7) Re-Create the volume *data*.

Workaround:

When you re-create a shared volume, assign a new name for the volume.

The mptsas_ioc_task_management Failed to Reset IOC To Recovery

Description: NEX-928

The `mptsas` issue when a ZEUS IOPS drive is seated in a JBOD with what appears to be a bad connection to the backplane. As a result, the drive continuously goes online and offline. Therefore, it triggers a deadlock in `mptsas`.

Workaround:

Ensure that required components are installed and properly configured.

Share Settings are not Retained on NMC/NMV Manual Export

Description:

NexentaStor does not save the share settings and Auto-Sync services when manually exporting a pool from NMC or NMV.

Workaround:

To avoid saving and restoring the share settings, export the pool.

❖*To export the pool, using NMC:*

◆Type:

```
zpool export backuppool
```

Global Headquarters
451 El Camino Real
Santa Clara, California 95050
USA

Nexenta EMEA Headquarters
Camerastraat 8
1322 BC Almere
Netherlands

APAC Headquarters
Room 806, Hanhai Culture Building,
Chaoyang District,
Beijing, China 100020

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