NexentaStor

Release Notes 3.1.6

Date: July 23, 2014

Subject: NexentaStor Release Notes

Software: NexentaStor

Software Version: 3.1.6

Part Number: 7000-nxs-3.1.6-000010-A

Contents

New Features and Enhancements

The following new features and enhancements are included in the NexentaStor release 3.1.6:

- Improved handling of intermittently faulty devices
- Support for Microsoft Server 2012 Cluster™ and Cluster Shared Volumes (CSV)™
- Reduced HA failover times
- Changed the default settings for SCSI reservations

About SCSI Reservation Changes

To ensure reliability of NexentaStor deployments, the default SCSI reservation setting for HA Cluster has been changed. In NexentaStor 3.1.6 the default setting is SCSI-2.

In NexentaStor 3.1.5 the default setting for SCSI reservation is PGR-3. After the upgrade to version 3.1.6, the setting will automatically change to SCSI-2 reservations.

For new deployments SCSI-2 reservation is assigned automatically.

System Requirements

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

VMware Image

The NexentaStor VMware™ Image runs on VMware's hosted products for Microsoft Windows, Mac OS™, and Linux™. The current image is based on NexentaStor 3.1.6. Release Notes are available on the website. For detailed step-by-step instruction on how to deploy NexentaStor, see *NexentaStor Installation Guide*.

Upgrading

Warning:	If you use Cisco UCS C240 M3 server with LSI-9271 RAID controller, we do not recommend that you upgrade to 3.1.6. The upgrade will result in storage devices going offline after the upgrade.

Upgrading with an Internet Connection

Applicable Versions: 3.1.0, 3.1.1, 3.1.2, 3.1.3, 3.1.3.5, 3.1.4, 3.1.4.1, 3.1.4.2, or 3.1.5

To upgrade from 3.1.0, 3.1.1, 3.1.2, 3.1.3, 3.1.3.5, 3.1.4, 3.1.4.1, 3.1.4.2, or 3.1.5 use the NMC command `setup appliance upgrade`.

Upgrading without an Internet connection

Applicable Versions: 3.0.5, 3.1.1, 3.1.2, 3.1.3 or 3.1.3.5, 3.1.4, 3.1.4.1, 3.1.4.2, 3.1.5

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

Upgrading from Earlier Versions of 3.0

Upgrading from 3.0.4 and earlier with an Internet Connection

❖ *To upgrade the appliance to the latest 3.1.6 and ensure all patches are installed:*

1. Type:

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

Upgrading from 3.0.5 with an Internet Connection

❖ *To upgrade the appliance to the latest 3.1.6 and ensure all patches are installed:*

1. Type:

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

Note:	For HA Cluster configurations, it is vital to install the mapmgr patch prior to upgrading to NexentaStor 3.1.6.

For more information, refer to the 060711 Technical Bulletin and Field Information Notice 2011-02 available in the Self-Service Portal.

NexentaStor 3.1.6 Known Issues

mptsas kstat namespace collision during Installer boot

Description: NEX-2276

Due to certain timing and specific sequence of operation in NexentaStor Installer, you may see kernel statistics warning messages when booting from the NexentaStor ISO.

Example:

```
WARNING: kstat_create('unix', 1, 'mpt_sas_nexus_enum_tq'): namespace
collision
```

```
WARNING: kstat_create('mpt_sas', 1, 'fm'): namespace collision
```

Workaround:

The kernel statistics error messages do not affect the installation and system operations. You can safely ignore these messages.

Changes to Auto-Sync using NMV may not take effect

Description: 13278

In NMV, when attempting to change Auto-Sync options, the changes do not take effect.

In some conditions, HA systems failover does not occur when running Auto-Sync

Description: 13366, NEX-315

In some conditions, HA systems when running Auto-Sync, may not failover as expected.

Workaround:

Remove Auto-Sync from each node, and mark the pool as repaired.

The "setup configuration save" and "setup configuration restore" commands do not save and restore iSCSI settings

Description: NEX-1956

The `setup appliance configuration save` and `setup appliance configuration restore` commands do not save/restore iSCSI settings, such as targets, mappings, etc. Only iSCSI Target Portal Group settings are restored.

Workaround:

❖ *To restore iSCSI configuration, using NMC:*

1. Disable multi-NMS:

   ```
   nmc:/$ setup appliance nms property srvpool_cnt_initial -p 0
   ```

2. Restart NMS:

   ```
   nmc:/$ setup appliance nms restart
   ```

3. Restore appliance configuration:

   ```
   nmc:/$ setup appliance configuration restore all
   ```

4. Restart NMS:

   ```
   nmc:/$ setup appliance nms restart
   ```

Unable to install RSF-1 using a MAC client due to terminal type

Description: SUS-73

The EULA is unable to be accepted when using a MAC client due to the terminal type settings.

Workaround:

Change terminal type in `!bash` prior to installing RSF-1.

Issues with SuperMicro® physical view in NMV

Description: 13297

When using SuperMicro hardware where the shared JBOD(s) have been manually setup using NMC, and in an HA configuration, it is possible the physical view of the JBOD within NMV is not correctly displayed on one of the nodes.

Workaround:

Manually configure the shared JBOD(s) using the NMC `setup jbod model` command on both nodes prior to failover. If the service has already been failed over, issue the NMC `setup jbod model` on the node missing the JBOD physical view.

Multi-NMS prohibits use of proxies when upgrading

Description: SUP-542, SUP-561

When upgrading using the NMC command `setup appliance nms property upgrade_proxy` the proxy settings are not honored if Multi-NMS is enabled. Multi-NMS is enabled by default.

Workaround:

❖ *Disable Multi-NMS, using NMC:*

1. Decrease the size of NMS-pool

   ```
   nmc:/$ setup appliance nms property srvpool_cnt_max -p 0 -y
   ```

2. Restart NMS

   ```
   nmc:/$ setup appliance nms restart
   ```

sTec © ZeusRAM™ SAS SSD recommended upgrade of the Firmware to version C023

Description:

STEC ZeusRAM™ SAS SSD firmware version C023 has been certified by Nexenta on 3.1.6 and it is strongly recommended to upgrade to this firmware version.

Upgrade:

Contact sTec for details on how to obtain and upgrade this firmware.

Upgrades from 3.1.3 to 3.1.5 displays error "mandb: cannot open /usr/share/man/man8/pwconv.8"

Description: 11556

When upgrading from 3.1.3 to 3.1.6, errors occurs during the upgrade sequence referencing 'mandb: can't open /usr/share/man/man8/pwconv.8'

The errors are benign and may be safely ignored. These errors are resolved later in the upgrade sequence.

Microsoft Identity Management for UNIX (IDMU) authentication not supported

Description: 13535, SFR-56

If you have previously configured the idmap service to use "idmu" mapping strategy through NMC by typing:

```
nmc:/$ option expert_mode=1
nmc:/$ !bash
# svccfg -s svc:/system/idmap setprop \ config/
  directory_based_mapping = astring: idmu
```

You need to either:

(A) remove this configuration change (reverting to the default "name" based mapping strategy)

(B) delay your upgrade until enhancement #13535 (support idmap config/directory_based_mapping = idmu) is implemented

❖ *To determine whether you have this idmap configuration setting, look for these results in NMC:*

```
nmc:/$ option expert_mode=1
nmc:/$ !bash
# svccfg -s svc:/system/idmap listprop config
```

If you see the below response IDMU is enabled:

```
config/directory_based_mapping astring idmu
```

While we believe this impacts a very small number of existing customers, we are currently working on a solution.

Active Directory member IDs may persist when leaving a domain

Description: 13310

After leaving an Active Directory Domain NexentaStor may retain the ID's of members of the domain.

Workaround:

❖ *To remove the IDs:*

1. Open NMC. At the NMC prompt, type:

```
# option expert_mode=1
# !bash
```

2. List the local group members using the following command in bash, type:

```
# smbadm show –m
```

3. After identifying any group members associated with the removed domain, use the following command to remove them.

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

Running the OVA image with VMware Player, Workstation, and VMware Fusion for Mac

Installing NexentaStor within VMware Player, VMware Workstation, and VMware Fusion for Mac using the OVA image is not supported when using version 3.1.6.

In some conditions, the Confguard plugin does not send Email notifications for changes

Description: 13282

When using the NexentaStor Confguard plugin, which continuously monitors system configuration, in some conditions, it does not send email alerts.

Workaround:

◆ In NMC, type:

```
nmc:/$ setup confguard report send
```

NMV issue when trying to list iSCSI initiator with IQN containing non-ASCII characters

Description: 12866

NMV issue when trying to list iSCSI initiator groups immediately after successfully creating IQN with non-ASCII characters.

Workaround:

Use ASCII characters for the iSCSI initiator IQN.

Upgrade path: Unable to remove mapping entry from zvol 'tank1/zvol_1'

Description: NEX-2208, NEX-2270

This bug affects HA-Cluster deployments only.
You may have issues with `mapmgr` during the upgrade to 3.1.6:

- During the upgrade process symlink `/usr/bin/mapmgr -> /opt/HAC/RSF-1/bin/mapmgr` is replaced with the binary file `/usr/bin/mapmgr`. This results in `nms-comstar` and `rsfmon` using different version of mapmgr which causes RPC issues with block target operations

- During the upgrade the NexentaStor HA Cluster nodes from version 3.1.5 to 3.1.6, the shared volume gets exported. After the upgrade you may be unable to add the shared volume back under cluster control.

Workaround:

To fix this issue you must move mapmgr binary file to the old location and replace the binary file that the upgrade adds to /opt/HAC/RSF-1/bin/mapmgr with a symlink.

❖ *To fix the mapmgr issue:*

1. Log in to bash:

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

2. Move the mapmgr file:

```
# mv /usr/bin/mapmgr /usr/bin/mapmgr.old
```

3. Replace the binary file with symlink:

```
# ln -s /opt/HAC/RSF-1/bin/mapmgr /usr/bin/mapmgr
```

Issues addressed in NexentaStor 3.1.6

The following table describes the issues fixed in this release.

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
NEX-1894	Backported NEX-1857: Added the `pkt_reason` field to the slow-io error detector.	Kernel	Other
NEX-1921	Removed `set sd:sd_io_time = 10` from the `/etc/system` file, the default setting for `sd_io_time` is set to 5.	Packaging	Other
NEX-1930	Fixed kernel panic due to Null pointer dereference.	Kernel	Other
NEX-1938	Backported NEX-1923: Fixed the issue when retiring a device may hang or leave device unusable after bringing it back online.	Kernel	Block I/O Stack
NEX-1939	Backported NEX-1438: Fixed the issue with dell faulting drives because of slow IO.	Kernel	FMA
NEX-1943	Backported OS-253: Fixed the issue with freeing `mdi_pathinfo` in mptsas when devices is retired.	Kernel	Block I/O Stack
NEX-1738	Fixed the issue with SSL binding when using local certificate.	Packaging	NMC
NEX-1844	Backported SUP-867: Fixed panic in `smb_com_locking_andx`.	Protocols	CIFS
NEX-1870	Fixed the 1898 kernel assertion in `zfs_putpage()` raised by `rfs_write()`.	Kernel	Core
NEX-1885	Fixed the issue with NS booting process that results in the error message: `sorry, variable 'zio_min_timeout_ms' is not defined in the 'zfs' module.`	Kernel, Packaging	ZFS
NEX-1899	Backported NEX-478: Added NMS/NMC support for seamless upgrade from 3.x to 4.x.	NMC, NMS	NMS

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
NEX-1900	Backported NEX-646: Fixed the issue with executing the nmc command `setup nexentastor upgrade` returns the following error message: "operation failed".	NMC	Seamless Upgrade
NEX-1901	Backported NEX-657: Added user notification prompted/warned when upgrade to 4.0.1 is already completed.	NMC	NMC
NEX-1902	Backported NEX-663: Added automatic space verification to NMS before the upgrade from 3.1.5 to 4.0.1 to avoid space issues.	NMS	NMC
NEX-1903	Backported NEX-773: Added a notification, that a network card supported in 3.x will not work after the NexentaStor upgrade to version 4.x.	Packaging, Seamless Upgrade	NMC
NEX-1904	Backported NEX-838: Fixed the issue with the following error that occurs after running the seamless upgrade script: `SystemCallError: folder 'syspool' cannot be mounted using 'mount -F zfs'.`	Seamless Upgrade	Seamless Upgrade
NEX-1905	Backported NEX-878: Fixed the issue with the checkpoints that are not available after upgrading to 4.0.1 using seamless upgrade.	Seamless Upgrade	Seamless Upgrade
SUP-945	Fixed the issue when a `.res_drives.volume` file needs updating. The issue could result in more drives being reserved at import than released at export.	HA	Plugin: RSF-1 - HA Cluster
NEX-1906	Backported NEX-949: Forced the use of `apt sources.list` generated by the appliance after upgrading to 4.x.	Seamless Upgrade	Seamless Upgrade
NEX-1907	Backported NEX-912: Added verification of the syspool status before running seamless upgrade.	Appliance Mgmt	Chassis Management

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
NEX-1908	Backported NEX-906: Fixed the following issue: `WARNING: Found 1 non-standard packages installed: 1. rsf-1-licence - Licensing package for RSF-1.`	Seamless Upgrade	Plugin: RSF-1 - HA Cluster
NEX-1909	Backported NEX-1053: Fixed mounting zfs dataset logic for upgrade.	Seamless Upgrade	Seamless Upgrade
NEX-1910	Backported NEX-644: Fixed the Upgrade CD error: `3.1.5 / 4.0.1 - Access permissions: medium is not write-protected.`	Appliance Mgmt	NMS
NEX-1911	Backported NEX-522: Fixed the issue with NMV Wizard displayed after successfully upgrading to 4.0.1 using the seamless upgrade script.	Seamless Upgrade	NMV
NEX-1913	Backported NEX-1306: Fixed the issue with iSCSI mappings that are not retained after seamless upgrade and the mapped lun is not available on host.	Seamless Upgrade	iSCSI
NEX-1914	Backported NEX-877: Fixed the issue when in certain configurations failover with the `config-out-of-sync` setting results in removal of iSCSI targets.	Appliance Mgmt	COMSTAR, NMS, Plugin: RSF-1 - HA Cluster
NEX-1915	Backported NEX-1410: Fixed the issue when running the `setup nexentastor upgrade` command results in changing status of syspool and a volume (pool) to DEGRADED.	Seamless Upgrade	Seamless Upgrade
NEX-1916	Backported NEX-1522: Copied license confirmation file from 3.x for upgraded systems.	Appliance Mgmt	Seamless Upgrade
NEX-1917	Backported NEX-1505: Fixed the issue with HA Cluster nodes settings lose TPG, iSCSI Target, initiators AND clients lose storage LUNs during Seamless Upgrade.	Comstar, Seamless Upgrade	NMC
NEX-1921	Changed the `sd_io_time` property to the default value 5.	Packaging	Other
NEX-1940	Included the `nza-upgrade` package to properly support Seamless upgrade.	Packaging	Other

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
SUP-849/ SUP-847	Backported SUP-765: Fixed the issue when a Windows Clustered Shared Volume is placed on a pool under Nexenta HA Cluster control, the clustered shared disk looses its PGR3 reservation to the presented zvol.	Kernel	Other
NEX-1884	Fixed the issue with ARC limitation to 128 GB to avoid long ARC reaps as seen in NEX-1760.	Kernel	Core
NEX-1627	Backported NEX-1142: Fixed the issue with `rw_destroy: lock still active, lp=ffffff05285eba38 wwwh=8 thread=ffffff001f82ac40`.	Kernel	ZFS
NEX-1626	Backported NEX-1065: Fixed the issue with `assertion failed: ldi_strategy(dvd->vd_lh, bp) == 0, file: ../../common/fs/zfs/vdev_disk.c, line: 815.`	Kernel	ZFS
NEX-1695	Updated the `scsi_vhci.conf`.	Kernel	Core
NEX-1848 / 12412	Fixed the issue when rb3944 mdb smbsess dcmd in verbose mode calculates the wrong IP address.		
NEX-1686	Fixed the issue with the `mptsas_timeout_interval` and `mptsas_timeout_threshold` properties being present in `/etc/system`.	Kernel	Core
NEX-1844	Backported SUP-867: Fixed panic in `smb_com_locking_andx`.	Protocols	CIFS
NEX-1676	Backported NEX-1473: Fixed the issue with CIFS share being unavailable after failover.	HA, Protocols	CIFS
NEX-1706	Backported NEX-463: Fixed the issue with zpool export stalls for several minutes in `l2arc_evict()` on a pool with 1.6TB of L2ARC.		
SUP-734	Fixed the issue with the `vdev_label_init` property that should treat request as succeeded when pool is read only.	Kernel	ZFS

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
SUP-850	Backported SUP-507: Fixed the issue with Deleting or truncating of large files that delay on datasets with small record size.	Kernel	Other
SUP-862	ZFS transaction engine stalls attempting to get a write lock on `dp->dp_config_rwlock` which is read locked owned by `dsl_sync_task_group_wait` as an rrdaemon thread	Auto-Sync, Kernel	ZFS
NEX-1611	Backported OS-70: Removed ZIO timer code.	Kernel	ZFS
NEX-1680	Backported SMB-131: Blocked setting `delete-on-close` on non empty directories.	Protocols	CIFS
NEX-1736	Backported SMB-142: Fixed the issue with deadlock in SMB.	Kernel	Other
NEX-1623	Backported OS-152: Fixed the NFS being extremely slow in `nfsauth`.	Protocols	Other
SUP-848	Backported SUP-772: Fixed the issue with COMSTAR task waiting pressure does not increase worker thread pool sizing above initial value.	Kernel	Block I/O Stack
2083	Fixed the issue with stmf: worker manager does not scale workers anymore (backport to stable-3.1).	Kernel	Other
NEX-1531	Backported OS-91: Fixed the issue with `mptsas` that initiates an inquiry without setting `pkt_time`.	Kernel	Other
NEX-1559	Backported OS-104: Fixed the issue with handle attach-failure ereport.	Kernel	Other
NEX-1561	Backported OS-101: fixed the issue when the sd needs to check ATTACHING state before calling `SD_IS_VALID_LABEL()`.	Kernel	Other
NEX-1567	Backported OS-92: Fixed the issue with NexentaStor 4.0.1-PASSIV-12022013: Cannot mount root after install.	Kernel	Other

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
NEX-1569	Backported OS-14: Fixed the issue with sd attach that should not issue potentially slow scsi commands (`ddi-forceattach=1`).	Kernel	Other
NEX-1584	Backported OS-146: Changed defaults for `SD_IO_TIME` `sd_failfast_enable` and `sd_ua_retry_count`.	Kernel	Other
NEX-1552	Backported OS-86: Added capability to retire devices that are in use.	Kernel	FMA
NEX-1573	Backported OS-138: Fixed the issue with lint warning introduced by OS-117.	Kernel	Other
NEX-1575	Backported OS-117: Fixed the issue with Slow IO DE that creates bad FMA messages.	Kernel	Other
NEX-1579	Backported OS-87:Fixed the issue with `pkt_reason` not set accordingly when `mpt_sas` times out commands.	Kernel	Other
NEX-1581	Backported OS-84:Fixed the issue with `slow-io` changes cause assertion failure.	Kernel	Other
NEX-1590	Backported OS-113: Force the `disk-sense` module to ignore `key=5` and `asc=26`.	Kernel	Other
NEX-1592	Backported OS-129: Fixed `FM_FAULT_DISK_OVERTEMP`.	Kernel	Other
NEX-1594	Backported OS-119: Fixed the issue when the `disk-transport` agent interprets reference temp as over temp.	Kernel	Other
NEX-1596	Backported OS-116: FIxed the issue when the disk sense diagnose engine does not provides detailed information.	Kernel	Other
NEX-1550	Backported OS-164: Added capability to retire devices that are not in use.	Kernel	Drivers
NEX-1548	Backported OS-68: Fixed the issue with system panic caused by configuring a retired device.	Kernel	Drivers

Fixed Issues

Key	Description	Component(s)	Sub-Component(s)
NEX-1545	Backported NEX-1052: Fixed the issue with Panic: assertion in pkt->pkt_start != 0, file: ../../../../src/uts/common/io/scsi/adapters/mpt_sas/mptsas.c, line: 4814.	Kernel	Other
NEX-1543	Backported OS-122: Fixed the issue with assertion in `e_devid_minor_to_devlist()` in `devid_cache.c.`	Kernel	Drivers
NEX-1544	Backported NEX-1049: Fixed an issue with system panic caused in module `scsi_vhci` due to a NULL pointer dereference.	Kernel	Other
NEX-1563	Backported OS-126: Fixed the issue with sysevent loop caused by creating a LUN for retired device.	Kernel	Other
NEX-1540	Backported OS-66: Fixed the issue with retired devices that may still get attached leading to `ndi_devi_online` errors	Kernel	Other
NEX-1538	Backported OS-90: Fixed the issue when Kernel does not generate events when device gets retired/unretired.	Kernel	Other
SUP-813	Backported the fix for the issue when unable to view or delete directories through CIFS.	Data Management	CIFS
SUS-172	Fixed the issue with Excel warning dialog when re-saving a file.	Protocols	CIFS
SUS-173	Fixed the issue: Open fails if the client does not ask for `read_attribute` permission	Protocols	CIFS

Global Headquarters
455 El Camino Real
Santa Clara, California 95050

Nexenta EMEA Headquarters
Camerastraat 8
1322 BC Almere
Netherlands

Nexenta Systems Italy
Via Vespucci 8B
26900 Lodi
Italy

Nexenta Systems China
Room 806, Hanhai Culture Building,
Chaoyang District,
Beijing, China 100020

Nexenta Systems Korea Chusik Hoesa
3001, 30F World Trade Center
511 YoungDongDa-Ro
GangNam-Gu, 135-729

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