NexentaStor 5.0.2 and NexentaFusion 1.0.1

Release Notes

Table of Contents

Revision History

Date	Description
December, 2016	NexentaStor 5.0.2 and NexentaFusion 1.0.1 GA versions.

Product Overview

This document provides the release notes for the GA versions of NexentaStor 5.0.2 and NexentaFusion 1.0.1, as well as known issues for the NexentaStor 5.0 VVOL plugin.

NexentaStor 5.0 is a software-defined storage (SDS) platform that can be deployed as a full storage operating system on standard x 86 servers providing standard file (NFS and SMB), as well as block (FC and iSCSI) protocol services. NexentaStor 5.0 can be run in single-node configurations on internal devices or in dual-node high-availability (HA) cluster configurations with SAS-connected shared backend devices. NexentaFusion 1.0 provides and intuitive graphical user interface (GUI) for managing NexentaStor appliances.

NexentaStor 5.0 and NexentaFusion 1.0 Feature Support

The following is a high-level list of supported features in NexentaStor 5.0 and NexentaFusion 1.0:

Protocols	File: NFSv3, NFSv4, SMB 1.0, SMB 2.1, SMB 3.0 Block: Fibre Channel, iSCSI
Configurations	Single node on bare metal or VMware virtual machine HA clustered nodes on bare metal or VMware virtual machines
Data Management	Striped mirrors; single, double and triple parity RAID and unprotected ZFS end-to-end data integrity Unlimited snapshots and clones Unlimited file system size Inline compression Inline deduplication Thin provisioning Scheduled replication Continuous replication
Management	Self-documenting REST API, CLI, NexentaFusion
Client OS Support	VMware, Microsoft, Linux, OpenStack, Docker
Ecosystem Integration	SMB 3 ODX for Microsoft Hyper-V VMware VAAI Block VMware Virtual Volume (VVOL) 2.0 VMware vCenter Plugin OpenStack Cinder & Manila Docker Volume Plugin

Reference Architectures

NexentaStor supports a wide selection of certified reference architectures (RAs), fully defined configurations that feature components from leading server vendors. A number of Nexenta server partners provide a seamless end-user experience by acting as a single point of contact for deployment and support of the end-to-end hardware and software solution.

License Editions

NexentaStor 5.0 is available in an Enterprise Edition or Community Edition. The scope of the license editions are as follows:

NexentaStor Enterprise Edition is sold as a perpetual software license based on raw capacity limits. Support and services are sold separately. Pricing is tiered on the amount of raw capacity required for a system, yielding a lower price per GB for larger configurations. The Enterprise Edition includes all core storage functionality such as snapshots, clones, inline data reduction, software RAID and scheduled replication. It also includes the right to use NexentaFusion as the Graphical User Interface (GUI) for the system running that license. Additional options are sold on a per node basis and include features such as High-Availability Cluster, continuous replication or Fibre Channel support.

NexentaStor Community Edition is a limited-functionality, limited-capacity, free version of the software that can be used for non-production, non-commercial deployments. The NexentaStor Community Edition has limited functionality, limited capacity, and outside of the online Nexenta Community forums, no support services are available. A NexentaFusion server can manage at most one NexentaStor Community Edition appliance. For more information, see the online Nexenta Community forums.

What's New in NexentaStor 5.0.2

NexentaStor 5.0.2 is an update of NexentaStor 5.0.1. This section provides an overview of the changes and feature enhancements.

Proxy Server Support
Added support for proxy servers for use in installations and upgrades.

Support for New Chassis and Devices
NexentaStor 5.0.2 adds chassis management for the following storage enclosures:

- AMAX StorMAX NX224 (2U Server, 24 bays)
- DELL EN-8435A-E6EBD (Dell MD1280, 84 bays)
- DELL MD1280-E6EBD (84 bays)
- DELL SC280-01-E6EBD (84 bays)
- Intel XL710 NIC
- XYRATEX UD-8435-E6EBD (84 bays)

HA Enhancements
NexentaStor 5.0.2 provides improvements in cluster robustness, node synchronization, and API response time.

Miscellaneous Enhancements
- (NEX-8081) Added functionality to the HPR service to use aliases for properties.
- (NEX-8717, NEX-5085) Implemented asynchronous deletion for the faster deletion of large files.

What's New in NexentaFusion 1.0.1

The NexentaFusion graphical user interface (GUI) enables you to intuitively manage NexentaStor appliances. You can create and configure pools, create and share file systems, as well as access appliance-level summaries of hardware, pools, NICs, file systems, shares, volumes, LUNs, and services. NexentaFusion uses drill-down menus, action cogs, and expand-contract arrows, to provide a full range of administrative functionality for provisioning, monitoring, and optimizing storage appliances. You access NexentaFusion online help through a Web browser. NexentaFusion 1.0.1 supports the latest version of Chrome, and Firefox v47 or later.

NexentaFusion Enhancements

This section outlines the enhancements that are included in NexentaFusion 1.0.1.

NexentaFusion Server Configuration
- Separate networks are no longer required for management and web access. This provides a cleaner configuration with DHCP support that allows for the use of a hostname instead of an IP address for the management address between the appliance and Fusion and ESDB.
- Support for a proxy server for upgrades.
- The ability to change NexentaFusion server hostname.
- The ability to configure the NexentaFusion timezone in the UI.

Alerts and Rules
- Display of full information for alerts, such as FMA-generated alerts. Click the link to view complete details.
- The ability to acknowledge (ACK) multiple alerts at one time.
- The ability to export logs to CSV format according to date.
- The ability to test email setup from the UI.

Replication
- The ability to define schedules down to minute intervals with the "every n minutes" option.
- Support for mount and unmount capabilities.
- Miscellaneous improvements and fixes to enhance replication functionality.

NexentaFusion UI
- The ability to handle unidirectional CHAP.
- Improvements added to Network screens.
- Improvements in UI views when 1 node of cluster is down.
- Support for write-back cache (WBC) for volumes and volume groups.
- Support for additional chassis models.
- Miscellaneous improvements and fixes to enhance the UI.

Security
- Numerous changes to enhance NexentaFusion security.

Resolved Issues

Table 1 lists the resolved issues as of NexentaStor 5.0.2. Table 2 lists resolved issues as of NexentaFusion 1.0.1.

Table 1: NexentaStor 5.0.2 Resolved Issues

Component	Key	Description
Appliance Mgmt	NEX-9074	Resolved issue where newly inserted disks would fail to show correctly in NEF and Fusion.
Commands, Daemons	NEX-7689 (NEX-7298)	Corrected the behavior of running powertop with -t, -d, or -c parameters.

HA	NEX-8205	Resolved an issue that caused delayed Fusion UI responses when one cluster node was down.
HA, NEF	NEX-8097	Resolved issue where 'iscsiauth set -p chapuser' command was failing to sync between nodes and needed to be performed on both nodes.
HA, NEF	NEX-8032	Resolved an issue where the `haservice update-vip -N` command was not deleting the old VIP from the appropriate configuration file.
Installation, NEF	NEX-8523	Resolved an issue where changing the choice of Time Zone DURING an installation could cause an installation failure.
Kernel	NEX-5930	Resolved issue where cluster failovers could cause I/O errors when using NFSv4.
Kernel	NEX-8664	Corrected the behavior in which NFSv4 RENAME of an open file was inoperable due to nbmand.
Kernel	NEX-8844 (NEX-8841)	Resolved issue where users could lose the ability to open files due to a malfunctioning SMB2 lock request.
NEF	NEX-9075	Resolved issue where drives with SCSI2 reservations could be listed as failed in NEF and NexentaFusion.
NEF	NEX-7318	Resolved issue with retrieving the pool GUID where the CLI would return an invalid JSON.
NEF	NEX-7516	Resolved issue where the 'haservice add-vip' command allowed for the duplication of VIPs.
NEF	NEX-8025	Corrected the output of the 'hpr snapshots' command such that it no longer displays "no" in the "SENT" column for snapshots that were actually sent.
NEF	NEX-8027	Resolved an issue where, after changing the IP address of a Nexenta system, ssh connections could be refused.
NEF	NEX-8037	Repaired the HPR service that would fail when the count of "kept" snapshots was reduced.
NEF	NEX-8614	Repaired the 'config set system.hostName' command in the NEF CLI.
NEF	NEX-8905	Altered the permissions such that SCP is possible for an admin user, when previously it required root access.
NEF	NEX-9083	Resolved issue where the disk path count wouldn't update until the NEF SAS worker was restarted.
NEF	NEX-7228	Resolved an issue where if the name of an IPMP group ended with 10 or more numbers (e.g. IPMP_group_123456789012), the naming would fail and the system would assign a random IPMP group name.
NEF	NEX-7928	Resolved an issue where HPR services could not be destroyed unless they had been previously cleared.
NEF	NEX-8190	Resolved an issue where it was impossible to execute the hpr snaplist-find command on the manager (primary) node when the agent (secondary) node was unreachable.
NEF	NEX-8458	Resolved an issue where the user would have to umount source a file system before flipping the replication direction, in order to be able to unshare the file system after the replication flipped direction.
NEF	NEX-8539	Resolved an issue where a scheduled service might fail to resume after the agent failover, if the failover happened at the exact moment a scheduled replication finished.
NEF	NEX-8559	Resolved an issue where under certain conditions a pool could not be exported if there was a running replication which replicated to a dataset on the pool.
Protocols	NEX-8518 (NEX-8495)	Resolved a panic that could occur when performing an SMB flush request on an open named pipe.
Protocols	NEX-5824	Resolved an issue where a snapshot was being created and retained even in the event that an NDMP backup failed.
Protocols	NEX-7831	Resolved issue where SMB shares with no root permissions could fail after a reboot.

Table 2: NexentaFusion 1.0.1 Resolved Issues

Component	Key	Description
Fusion	NEX-7942	Resolved an issue where re-configuring a NexentaStor Management IP from a DHCP-assigned address to a static address on a different subnet could leave a user unable to log in to Fusion.
Fusion	NEX-8014	Corrected the functionality of the Fusion UI such that the use of a CHAP secret is now optional.
Fusion	NEX-8427	Resolved an issue where the NexentaFusion UI would not allow users to create a schedule for continuous services.

Known Issues

Table 3 lists the known issues as of NexentaStor 5.0.2. Table 4 lists known issues as of NexentaFusion 1.0.1.

Table 3: NexentaStor 5.0.2 Known Issues

Component	Key	Description	Workaround
Chassis Management	NEX-7773	Possible issues with the error reporting of MB-FAN4 or MB-FAN5, in determining which node (primary or secondary) the MB-FAN4 or MB-FAN5 is failing.	If an MB-FAN4 or MB-FAN5 error message contains a hardware component with enclosure serial number ending in "7f", then the failing MB-FAN4 or MB-FAN5 is on the Primary node. If an MB-FAN4 or MB-FAN5 error message contains a hardware component with enclosure serial number ending in "ff", then the failing MB-FAN4 or MB-FAN5 is on the Secondary node.
HA	NEX-3191	There can be an export failure on failover in clusters with a large number of nfs mounts and replication jobs.	If an automatic failover times out, manually initiate the failover.
HA	NEX-9237	In order to configure STMF ALUA proxy correctly, case consistency (upper and lower case) for node names is required.	An HA cluster node name "Greta" must be identical (upper and lower case) in the local hostname database. The HA config file ALUA.cfg must match EXACTLY what is listed in the output from the CLI > net list host.
HA, NEF	NEX-7751	Performing an "haservice status" on a cluster while one node is rebooting leads to a delayed response of up to a minute.	If an haservice status inquiry is performed during a node reboot, the user will have to wait for a delayed response.
HA, NEF	NEX-9117	The CLI command 'hacluster create -H' returns a syntax error if additional heartbeat nodes are added.	Create a default HA cluster and then use a separate sub-command 'add-net-heartbeat' to add a heartbeat. For example: - CLI> hacluster create -d "abc" node-3,node-4 HAC5 - CLI> hacluster add-net-heartbeat node-3-hb2 192.168.71.3 node-4-hb2 192.168.71.4

HA, NEF	NEX-7616	In situations where the date on two nodes differs by a matter of days or more, creating a cluster between the two can result in errors such as the license not validating or one of the nodes not being recognized as being part of a cluster.	Confirm that the time/date is synchronized on the two nodes before creating a cluster.
HA, Protocols	NEX-5092	In configurations with a NexentaStor cluster running NFSv4, it is possible to encounter hung I/O's after a failover.	If this issue is encountered, the client must be rebooted.
Installation	NEX-1881	Under certain circumstances, NexentaStor clusters can have mismatched controller numbers between the nodes.	Contact your system installer or support provider to manually reconcile the controller numbers.
Installation	NEX-8520	Changing the choice of Time Zone DURING an installation will lead to an incorrect time being reported on the system.	Avoid changing the choice of Time Zone during an installation. You can manually update to the current time of the recently selected time zone after the installation is completed.
Installation	NEX-3488	Unable to boot NexentaStor from a drive with 4k native sector size.	Use 512 native or 512 emulated drives for NexentaStor installations.
Kernel	NEX-928	When using ZEUS IOPS drives in a JBOD, a mptsas deadlock may occur due to a poor connection with the backplane.	Ensure that the required components are installed and properly configured when using ZEUS IOPS drives in a JBOD.
Kernel	NEX-1760	ZFS exhibits long kmem reap times in certain situations.	There is no workaround at this time.
Kernel	NEX-2940	Disk pools with a failed sTEC drive as a single ZIL can cause a system panic when users attempt to remove the failed ZIL.	Use redundantly configured (mirrored) ZILs.
Kernel	NEX-3043	Alternating I/Os to datasets of different record sizes can cause long zio_cache reaps.	There is no workaround at this time.
Kernel	NEX-3585	There is an intermittent issue where VM slack in non-ARC ZFS kmem caches can degrade ARC performance.	There is no workaround at this time.
Kernel	NEX-3734	ZFS allows a user to set a duplicate mountpoint path on two different ZFS filesystems, which then leads to broken volume services.	Check the pool for duplicate mountpoints before a failover, then perform a manual remediation.
Kernel	NEX-4393	In certain situations, the slow I/O diagnosis engine may identify disks experiencing high latency. Also, slow I/O may produce a message indicating that an attempt to retire a disk had been made.	Unless slow I/O disk retirement has been explicitly enabled, disregard the message. By default, slow I/O will not attempt to retire any devices.
Kernel	NEX-7551	Current functionality allows a user to create a pool with drives consisting of mixed physical block sizes, or to expand a pool by adding drives with different physical block sizes. This results in the need to keep drives with multiple block sizes on hand as replacements.	When replacing drives, be certain to use drives with matching physical block sizes. If a problem is encountered, contact Nexenta Customer Support for assistance with resolution.
Kernel	NEX-8529	If the source dataset has been renamed and the user tries to disable a service on that	Reboot the node.

		dataset, the operation will hang until appliance is rebooted. Any other following operations like disable --force, destroy may also hang.	
Kernel, Protocols	NEX-6776	Attempting to join a domain when the time/date on the system is not synced returns the misleading error of "Failed getting initial credentials. (Wrong password?)"	Ensure that the time/date on the system is synced before attempting to join a domain.
NEF	NEX-4523	Recovery from a failed ZFS Intent Log (ZIL) device without down time is currently impossible if the ZIL is not mirrored.	In all cases, a mirrored ZIL should be configured.
NEF	NEX-9217	Recursive replication service fails to start, displaying the message "Destination already exists", if there is a non-recursive snapshot on the destination created after the common snapshot.	Destroy the destination snapshot manually.
NEF	NEX-9234	Non-recursive replication service fails to start, displaying the message "Failed to run replication session: Common snapshot does not exist", if there is a snapshot on the destination created after the common snapshot.	Destroy the destination snapshot manually.
NEF	NEX-6393	If the user renames a dataset that is a child of a source of an enabled continuous replication, the related replication service goes to the faulted state with the following error: Session write stream error (UNIX_ERRNO_ENOENT)	Rename the destination dataset respectively and re-enable the replication service, as shown in the following example: filesystem rename test/dst/sub1 test/dst/sub2 hpr clear test hpr enable test
NEF	NEX-6394	HPR services can fail after a common source snapshot has been cloned and promoted.	Destroy or rename the cloned dataset, then replace the original dataset with the promoted clone: filesystem rename test/src test/srcLegacy or filesystem destroy -r test/src filesystem rename test/clone test/src
NEF	NEX-6811	Creating pools using a single disk can lead to adverse results.	Always create pools using multiple disks.
NEF	NEX-7436	A misleading error is given when a user issues an NFS command while NFS is disabled.	Avoid using NFS commands if the NFS service is disabled.
NEF	NEX-7549	A recover/start with forceReceive cannot recover a replication if the renamed dataset has a clone on destination.	Do the following: 1) Rename the destination cloned dataset, for example: filesystem rename data/dst/sub data/dst/subLegacy 2) Recover or clear and start service with forceReceive flag, for example: hpr recover test

			# or hpr clear test hpr run-once -- properties=forceReceive=true test
NEF	NEX-7707	A recursive replication service fails after re-creating a child dataset.	Do one of the following: --Destroy the destination dataset: filesystem destroy test/dst/sub1 hpr clear test hpr enable test --Or, rename destination dataset: filesystem rename test/dst/sub1Legacy hpr clear test hpr enable test --Or start service with forceReceive to overwrite recreated dataset: hpr clear test hpr run-once -- properties=forceReceive=true test hpr enable test --Or, recover service (the same as start with forceReceive): hpr recover test hpr enable test
NEF	NEX-7750	The HPR service can fail after a clone and promote of a common destination snapshot.	Destroy or rename the cloned dataset, then replace the original dataset with the promoted clone: filesystem rename test/dst test/dstLegacy or filesystem destroy -r test/dst filesystem rename test/clone test/dst
NEF	NEX-7995	A user is limited to replicating filesystems and zvols, and does not have the option to replicate at the pool level.	There is no workaround at this time.
NEF	NEX-8122	If the update repository is not reachable due to networking issues, the general message will be "updates not available".	Attempt an update again after the network issues have been resolved.
NEF	NEX-8442	Currently there is not a method to rescan disks and JBODs from NEF CLI.	If disks are not being detected by the CLI, reboot of the node to accomplish a rescan.
NEF	NEX-9122	The 'haservice create' command can repeatedly fail and only return an IP address as an error message.	Reboot both nodes.
NEF	NEX-6470	Neither NEF CLI nor REST API currently supports LDAP directory bindings.	There is no workaround at this time.
NEF	NEX-7162	Users are unable to destroy an HA cluster if one of the nodes is offline.	In order to destroy an HA cluster, both nodes must be online.
NEF	NEX-7959	When ALUA=true on both nodes of an HA cluster, FC target list does not include FC targets from both nodes.	Get the FC target list from each node and note them down for subsequent FC LUN creation steps.

NEF	NEX-8471	HPR does not currently provide a way to recreate services when the source or destination pool is lost.	Destroy the service with --force and create another service with the same options.
NEF	NEX-8527	If a pool is imported with a new name, HPR services are not imported.	Export and then import the pool with the old name, or recreate any replication services.
NEF, Fusion	NEX-6285	There is currently no functionality in the NexentaFusion UI or the NEF CLI for creating SNMPv3 accounts.	Contact Nexenta Support for assistance with creating SNMPv3 accounts.
NEF, Fusion	NEX-6333	The maximum length (256 characters) of an SMB share description is not disclosed in the error received when it is surpassed.	Use SMB share descriptions of 256 characters or less in length.

Table 4: NexentaFusion 1.0 Known Issues

Component	Key	Description	Workaround
Fusion	NEX-6934	After confirming the dialog to destroy a LUN, the LUN may still be shown on the LUNs view.	Wait a few seconds, then click Refresh, and the LUN should no longer be visible.
Fusion	NEX-7734	The NexentaFusion UI does not allow volumes to be created or destroyed if the volume group name contains less than 3 characters, whereas the CLI allows it.	Either use volume group names with 3 or more characters, or use the CLI to create or destroy volumes in those volume groups.
Fusion	NEX-7998	Disabling an HA service in NexentaFusion is sometimes not reflected until you click Refresh.	Wait a few seconds, and then click Refresh.
Fusion	NEX-8417	When starting NexentaFusion using a Firefox browser, there may be some error messages the first time Fusion is started after an installation. This only occurs only with a self-signed certificate.	Acknowledge the errors and continue. Refresh the web page if additional issues are encountered.
Fusion	NEX-8426	The NexentaFusion UI does not allow a filesystem containing snapshots and clones to be destroyed. The error is: Failed to destroy snapshot: pool/filesystem@snapshot. Status code: EEXIST	Remove the snapshots and clones and then destroy the filesystem in NexentaFusion. Or, destroy the filesystem using the CLI: filesystem destroy -R pool/filesystem
Fusion	NEX-9231	Trying to promote a clone with NexentaFusion generates an error.	Use the NexentaStor 5.0 CLI to promote a clone.
Fusion	NEX-9235	If a filesystem has been shared with SMB, you area unable to also share it using NFS from the Filesystem > Shares screen.	To create an NFS share for the file system, go to Management > Filesystem and click the COG of the file system and select Share Using.
Fusion	NEX-9239	A name of the form "vn", where n is a numeric value, can be rejected when used for a dataset, replication service, or snapshot.	Do not use a name of the form "vn" (example: v1, v12, etc.).
Fusion	NEX-9242	The Management > Data Protection or dataset > Data Protection screen can sometimes fail to display, and instead show the error "Can't Connect to Appliance". This can occur sometimes when replication services are being enabled or disabled at the same time as trying to view the screen, or when the appliance is heavily loaded.	Wait a little bit, and then navigate back to the Data Protection screen.

Fusion	NEX-7731	The NexentaFusion UI incorrectly allows the use of special characters when creating a network name, when the CLI does not.	Do not use special characters when creating a network name or address using the Fusion UI.
Fusion, HA	NEX-8575	When an appliance is heavily loaded, or the user is "fast clicking" between screens, it is possible to see timeout errors.	Simply wait a few seconds and click Refresh.
Fusion, HA	NEX-9108	If ALUA is not enabled on the cluster when attempting to create a FC Target group, the creation will fail with a "Page not Found" error.	Enable ALUA on an HA node.

NexentaStor VVOL Known Issues

NexentaStor is designed with a multi-tenant VMware vCenter Plug-in and VMware Virtual Volume (VVOL) support. For more information, see the **NexentaStor 5.0 VVOL Admin Guide**. The following table lists the NexentaStor 5.0.2 VVOL known issues.

Table 5: NexentaStor VVOL Known Issues

Component	Key	Description	Workaround
VVOL	NCC-62	When deploying OVF templates using the vSphere Web Client, a warning about an untrusted certificate appears.	Ignore the warning.
VVOL	NCC-301	Unable to upload a file directly to a VVOL datastore.	First create a folder on the VVOL datastore, and then upload the file to the folder.
VVOL	NCC-349	A pool created on a NexentaStor appliance is not always visible for VVOL.	Unregister and then re-register the NexentaStor appliance.
VVOL	NCC-357	Re-registering a NexentaStor appliance for VASA after previously unregistering it from NSVP, but not from VASA, won't show the appliance as registered in NexentaFusion UI.	There is no workaround at this time.
VVOL	NCC-358	After taking snapshots and reverting, the VM is unable to boot.	Power off the VM and wait for 5 minutes, then power back on.
VVOL	NCC-372	Deleting a number (over 50) of VMs concurrently can lead to vCenter timing out on a VVOL datastore.	Avoid deleting a large number of VMs at the same time.

Installation and Upgrade Procedures

Follow the instructions in the **NexentaStor 5.0 and NexentaFusion 1.0 Installation QuickStart Guide** to install and upgrade NexentaStor and NexentaFusion.

IMPORTANT! In an HA configuration, cluster node names must be all lower case prior to an upgrade. Use the NexentaStor CLI to change the cluster node names to all lower case format.

Where to Find More Information

NexentaStor Product Guide
This document includes an overview of NexentaStor and its core components, describes key features, and provides relevant CLI commands. This manual is intended as a guide to NexentaStor concepts and not as a configuration guide.

NexentaStor 5.0 and NexentaFusion 1.0 Installation QuickStart Guide
This document includes the instructions to install and upgrade NexentaStor and NexentaFusion.

NexentaFusion 1.0 User Guide and Online Help
This documentation provides easy to follow step-by-step instructions for common configuration and monitoring tasks.

NexentaStor 5.0 CLI Configuration Guide
This guide demonstrates the basic steps and commands to configure and manage NexentaStor 5.0 appliances. Use this document in conjunction with the *NexentaStor 5.0 CLI Reference Guide,* and the *NexentaStor 5.0 HA CLI Admin Guide.*

NexentaStor 5.0 Command Line Interface Reference Guide
This reference guide provides a summary of the CLI commands. Use it in conjunction with the *NexentaStor 5.0 CLI Configuration Guide*.

NexentaStor 5.0 HA CLI Admin Guide
This guide demonstrates the basic steps and commands to configure and manage the NexentaStor 5.0 High Availability (HA) cluster using the NexentaStor 5.0 Command Line Interface (CLI).

NexentaStor 5.0 vCenter Plugin Admin Guide
This guide includes instructions to install NexentaStor 5.0 vCenter Web Client Plugin (vCenter Plugin), which enables VMware customers to configure and manage storage and virtualization through a single interface. You can use this plugin to access summary and detailed analytics and real time status monitoring of single and clustered NexentaStor appliances.

NexentaStor 5.0 VVOL Admin Guide
This guide describes the NexentaStor Virtual Volume (VVOL) solution. It provides instructions on how to deploy VVOL, integrate it with VMware vSphere, and enumerates storage operations it supports.

Hardware Compatibility List for NexentaStor 5.0
This document provides a list of certified hardware for NexentaStor 5.0 and is intended for Nexenta Partners and Nexenta customer-facing organizations. The latest version of Nexenta Hardware Certification List (HCL) is posted on Partner Portal.

For information on the NexentaStor Openstack Cinder drivers (NFS/ iSCSI), see docs.openstack.org and search for 'NexentaStor 5.0'.