



NexentaStor 5.1.1 and NexentaFusion 1.1.1 Release Notes

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Revision History

Date	Description
January, 2018	NexentaStor 5.1.1 and NexentaFusion 1.1.1 GA versions.

Product Overview

This document provides the release notes for the GA versions of NexentaStor 5.1.1 and NexentaFusion 1.1.1.

NexentaStor 5.1.1 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.x 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.x provides and intuitive graphical user interface (GUI) for managing NexentaStor appliances.

The NexentaFusion 1.1.1 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 1.1.1 supports the latest version of Chrome, and Firefox v47 or later.

Note: NexentaFusion 1.1.1 supports NexentaStor 5.0.3 and later appliances.

NexentaStor 5.1.1 and NexentaFusion 1.1.1 Feature Support

The following is a high-level list of supported features in NexentaStor 5.1.1 and NexentaFusion 1.1.1:

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 OpenZFS end-to-end data integrity Unlimited snapshots and clones Unlimited file system size Inline data reduction Thin provisioning Scheduled replication Continuous replication Storage Quality of Service Standard send/receive to/from any OpenZFS System
Management	Self-documenting REST API, CLI, NexentaFusion
Client OS Support	VMware, Microsoft, Linux
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 Kubernetes Persistent Volume Plugin

Introduction

NexentaStor 5.1.1 and NexentaFusion deliver fixes to improve stability, scalability, and performance. These maintenance releases build on the fixes and enhancements previously released in 5.1 and 1.1; addresses customer-reported issues, and addresses issues found internally by Nexenta engineering.

NexentaStor 5.1.1 includes the following minor enhancements:

- Support for strong host model (per RFC1122) / symmetric routing and multiple default routes.
- Ability to update the SSL certificate if your company security policy requires to use a specific SSL certificate.

NexentaFusion 1.1.1 includes the following minor enhancements:

- Ability to view historical capacity utilization metrics for pools, at a granularity of 1 day for Capacity utilization performance.
- Ability to Export Performance Widget data as CSV file.
- Added User and Group quotas under Properties of File System.
- Usability enhancements for HPR service configuration.

NexentaStor 5.1.1 and NexentaFusion 1.1.1 add or complete chassis management for the following storage enclosures:

- Ericsson KDU 137 976/1 (aka CRU-SRU)
- Ericsson SRU 0101
- HGST 2U24_STOR_ENCL

Resolved Issues

Table 1 lists the resolved issues as of NexentaStor 5.1. 1 and Table 2 lists resolved issues as of NexentaFusion 1.1.1.

Table 1: NexentaStor 5.1.1 Resolved Issues

Component	Key	Description
HA	NEX-14541	Resolved an issue where RSF could fail to report some Virtual IP addresses (VIPs) under certain circumstances.
NEF	NEX-9093	Corrected the false reporting of the Cisco C240 M4 as a JBOD in the enclosure list.
NEF	NEX-14561	Resolved an issue where some users were seeing the error "vmdump.0 too large to archive" while creating a support bundle.
NEF	NEX-14744	Resolved issue where enabling LDAP could create issues with the REST API login, causing usability issues with the Fusion UI.
NEF	NEX-14918	Resolved an issue where the automatic pool creation algorithm would not allow users to list disk size in units of "TB", but required units to be in terms of "GiB".
NEF, NEF API	NEX-10003	Resolved an issue where the NEF CLI command 'route create default' would fail and report an error of a non-existent default route.
Openstack	NEX-14488	Resolved an issue where performance degradation could be seen with sync=enabled, while I/O errors would be seen with sync=disabled.
Platform	NEX-14413	Resolved a bad trap in the module "apix" due to a Null pointer dereference.
Platform	NEX-14442	Resolved an issue where the smbd and nscd services might fail when configured with an LDAP server having incomplete LDAP schema.
Platform	NEX-15140	Modified the Ericsson-SRU-0101 JBOD libses plugin to start bay numbering at 1 instead of 0.
Platform	NEX-15281	Resolved a ZFS panic encountered when performing a HPR disable/enable.
Platform	NEX-15325	Resolved a kernel panic related to memory allocation that would report "kernel memory allocator: buffer freed to wrong cache."
Platform	NEX-15346	Resolved a COMSTAR hang caused by multiple threads waiting for iSCSI-related locks.
Pool Management	NEX-8527	Resolved an issue where importing a pool under a new name would not import the associated HPR services.

Table 2: NexentaFusion 1.1.1 Resolved Issues

Component	Key	Description
Analytics	NEX-15510	If the pool dropdown is disabled after selecting the custom time range, select one of the default time ranges, select the desired pool, and then reselect the custom time range.
Data Protection	NEX-14892	Resolved an issue where the protection services of dataset were not displayed in filesystem or volume view, when Fusion 1.1.0 was used with an Appliance of 5.0.3 or earlier.
Installation	NEX-14759	Resolved issue where intermittently, after install, the Fusion Management address would remain at 127.0.0.1, instead of being set properly.
Inventory	NEX-15176	Corrected the reported value for installed capacity for clusters with more than 50 drives.

Minor Enhancements

Table 3 summarizes the enhancements in NexentaStor 5.1.1 and Table 4 summarizes the enhancements in NexentaFusion 1.1.1.

Table 3: NexentaStor 5.1.1 Minor Enhancements

Component	Key	Description
CIFS-SMB, LDAP, NFS, User Management	NEX-14872	Resolved an issue where certain fields could be renamed or missing when obtaining UNIX group and membership information from Active Directory/LDAP without a fully implemented RFC2307 schema.
NEF API	NEX-8471	Established a method for HPR to recreate a service when a source or destination pool is lost.
NEF API	NEX-14593	Added the ability to update filesystem referencedQuotaSize and referencedReservationSize via the API.
NEF, Network stack	NEX-14457	Support for strong host model (per RFC1122) / symmetric routing and multiple default routes.
Platform, SNMP	NEX-14494	Added a detailed problem description to FMA-related SNMP traps.

Table 4: NexentaFusion 1.1.1 Minor Enhancements

Component	Key	Description
Device Management	NEX-14406	Added functionality to handle blacklisted devices properly, prohibiting them from being used to create pools, log devices, cache devices, hot spares, or other inappropriate uses.
HA	NEX-14322	Fusion now displays HA disk heartbeats equivalent to what is shown in the 'hacluster status -e' CLI command.

Known Issues

Table 5 lists the known issues as of NexentaStor 5.1.1 and Table 6 lists the known issues as of NexentaFusion 1.1.1.

Table 5: NexentaStor 5.1.1 Known Issues

Component	Key	Description	Workaround
Documentation	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.
HA	NEX-15087	The 'hacluster' and 'haservice' classes of CLI commands may not function properly on an upgraded cluster node when the other node has not yet been upgraded.	Use the node that has not yet been upgraded to run those commands if needed, or complete the upgrade on both nodes.
HA	NEX-15375	The nfs/server service can go into maintenance mode after a failover.	To clear the maintenance mode, issue a 'svcadm clear nfs/server' command.
HA	NEX-15376	The 'hacluster find-pools' command returns an incorrect output.	Use the 'pool list' command instead of 'hacluster find-pools'.
HA	NEX-15731	In rare instances, a race condition between management framework updates and cluster failover may cause data to be written to a pool's parent filesystem, causing the cluster to transition to "broken unsafe" state.	Contact your local support person(s).
HA, NEF, NEF API	NEX-10573	Adding a Virtual IP (VIP) to a cluster that was created with no IP interfaces configured (for example, FC only) can cause the cluster to fail to start or become broken.	Modify the config file by hand to remove monitoring for IPDEV_ALIAS and only monitor IPDEV similar to 4.x.
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, or manually update to current time of the recently selected time zone after the install.
Kernel	NEX-8529	If the source dataset has been renamed and the user tries to disable a service on that dataset, the operation will hang until appliance is rebooted. Any other following operations like disable --force, destroy may also hang.	If source dataset has been renamed, then use force-disable to disable the service.
Kernel	NEX-9200	Systems with very high numbers of small files (over a million) in a single filesystem could see delays accessing the files over NFS.	If this is experienced, split the data out into multiple filesystems, rather than using a single filesystem to contain millions of files.

Table 5: NexentaStor 5.1.1 Known Issues Continued

Component	Key	Description	Workaround
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-6393	If a user renames a dataset which is the child of a source of enabled continuous replication, any related replication service goes to a faulted state with error: Session write stream error (UNIX_ERRNO_ENOENT)	Rename destination dataset respectively and re-enable replication service: 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 cloned dataset, then replace original dataset with promoted clone: filesystem rename test/src test/srcLegacy or filesystem destroy -r test/src filesystem rename test/clone test/src
NEF	NEX-7549	Recover/start with forceReceive cannot recover replication if renamed dataset has a clone on the destination.	1) Rename destination cloned dataset filesystem rename data/dst/sub data/dst/subLegacy 2) recover service hpr recover test
NEF	NEX-7707	Recursive replication service can fail after re-creating a child dataset.	1) destroy destination dataset filesystem destroy test/dst/sub1 hpr clear test hpr enable test 2) or rename destination dataset filesystem rename test/dst/sub1Legacy hpr clear test hpr enable test 3) or start service with forceReceive to overwrite recreated dataset hpr clear test hpr start -- properties=forceReceive=true test hpr enable test 4) or recover service (the same as start with forceReceive): hpr recover test hpr enable test

Table 5: NexentaStor 5.1.1 Known Issues Continued

Component	Key	Description	Workaround
NEF	NEX-15113	After increasing a volume size, in some cases, it is not possible to grow the logical unit size to match the larger capacity via the CLI.	Set the volume size back to the lower value and then increase it to the larger capacity.
NEF, NEF API	NEX-7731	The Fusion 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.
Protocols	NEX-9689	A failover of pool services on a HA cluster providing storage via SMB 3.0 to a Hyper-V server causes all VM's to time out and go offline.	Restart the VM's on the HyperV server after the failover completes to resume functionality.

Table 6: NexentaFusion 1.1.1 Known Issues

Component	Key	Description	Workaround
Fusion	NEX-7434	Fusion can continue to display an appliance as a cluster even after the cluster has been destroyed.	Unregister the cluster, and then re-register the individual nodes as separate appliances.
Fusion	NEX-7663	The Fusion UI allows users to attempt to import a pool even when it is unavailable for any reason. Until the import attempt is made, the user cannot tell the status of the pool.	If a pool import fails, resolve the condition making the pool unavailable and attempt again.
Fusion	NEX-8125	Creating a cluster between two nodes already registered in the Fusion UI will not be reflected in the Fusion UI; UI will continue to recognize the nodes as separate, un-clustered nodes.	Either establish the cluster and then register, or un-register and re-register the cluster nodes.
Fusion	NEX-8417	When starting up Fusion using the Firefox browser, there may be some error messages the first time Fusion is started after install. Occurs only with self-signed certificate.	Acknowledge the errors and continue. Refresh the webpage if additional issues are encountered.
Fusion	NEX-8426	The Fusion UI does not allow a filesystem containing snapshots with clones to be destroyed. The error is: Failed to destroy snapshot: pool/filesystem@snapshot. Status code: EEXIST	Destroy filesystem from NEF CLI: filesystem destroy -R pool/filesystem
Fusion	NEX-8575	In situations where an appliance is heavily loaded, or the user is "fast clicking" between screens it is possible to see timeout errors displayed on the FUSION UI.	Simply wait a few seconds and click refresh.
Fusion	NEX-15110	The Fusion UI can intermittently display an incorrect status for HA Services.	Click on the refresh button and the status changes from "Unknown" to the correct status of either "Running" or "Stopped".

Table 6: NexentaFusion 1.1.1 Known Issues Continued

Component	Key	Description	Workaround
Fusion	NEX-15455	The Fusion UI displays Node B first and Node A second in the appliance list view, regardless of the order in which the nodes were registered.	None. The cluster will still be registered and all relevant functionality will still be in place.
Fusion	NEX-15488	On an appliance with no internal disks, the "Pools" view in the Fusion UI delivers a "cannot read property 'forEach' of undefined" and displays an empty "Disks" tab.	Use the edit pool screen to see details of the disks in the pool.

Installation and Upgrade Procedures

Follow the instructions in the *NexentaStor 5.1.1 and NexentaFusion 1.1.1 Installation QuickStart Guide* to install and upgrade NexentaStor and NexentaFusion.

Note: Upgrade from 4.0.x to 5.x is NOT currently supported and any customers in need of migration to 5.x should contact their local support person(s).

Where to Find More Information

NexentaStor Product Guide

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

NexentaStor 5.1.1 and NexentaFusion 1.1.1 Installation QuickStart Guide

These document includes the instructions to install and upgrade NexentaStor and NexentaFusion.

NexentaStor 5.1.1 Data-At-Rest Protection User Guide

This guide covers the details to protect the data at rest.

NexentaFusion 1.1.1 User Guide and Online Help

This documentation provides easy to follow step-by-step instructions for common configuration and monitoring tasks.

NexentaStor 5.1.1 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 5.1.1 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 5.1.1 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 5.1.1 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 5.1.1 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.

NexentaStor 5.1.1 HPR User Guide

This document demonstrates how to configure High Performance Replication (HPR) to replicate datasets using the NexentaStor Command Line Interface (CLI).

Hardware Compatibility List for NexentaStor 5.x

This document provides a list of certified hardware for NexentaStor 5.x 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 details on the list, see portal.nexenta.com.

For information on the NexentaStor Openstack Cinder drivers (NFS/ iSCSI), see docs.openstack.org and search for 'NexentaStor 5'.