



Release Notes

HCI

NetApp
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Release Notes

What's new in NetApp HCI

NetApp periodically updates NetApp HCI to bring you new features, enhancements, and bug fixes. NetApp HCI 1.9 includes Element 12.3 for storage clusters.

- The [NetApp HCI 1.9](#) section describes new features and updates in NetApp HCI version 1.9.
- The [Element 12.3](#) section describes new features and updates in NetApp Element 12.3.

NetApp HCI 1.9

NetApp HCI 1.9 includes security and stability improvements.

Deployment configuration profile support

During deployment of NetApp HCI 1.9, you can import a deployment configuration profile. NetApp Deployment Engine uses the information in the profile to automatically populate information about your deployment. You can compile a configuration profile from your own installation information, or you can reuse an exported CSV file from a previous successful deployment.

Improved NetApp Deployment Engine network configuration

NetApp HCI 1.9 simplifies networking configuration during deployment. The network configuration step of the NetApp Deployment Engine is divided in to sections to make entering information easier.

Updated VMware ESXi for compute nodes

The version of VMware ESXi installed on compute nodes for new deployments has been updated to 6.7U3.

NetApp Element Plug-in for vCenter Server availability

The NetApp Element Plug-in for vCenter Server is available outside of the management node 12.3 and NetApp HCI 1.9 releases. To upgrade the plug-in to the latest version, follow the instructions in the [NetApp HCI Upgrades](#) documentation.

NetApp Hybrid Cloud Control enhancements

NetApp Hybrid Cloud Control is enhanced for version 1.9. [Learn more](#).

Element 12.3

NetApp HCI 1.9 includes Element 12.3 for storage clusters. Element 12.3 introduces software encryption at rest enhancements, security enhancements, storage firmware updates, enhanced snapshot functionality, and improved behavior for failing drives.

NetApp Bugs Online contains known and resolved issues

Beginning with Element 12.3, known and resolved issues are now listed in the NetApp Bugs Online tool. You can browse these issues for Element and other products at [NetApp Bugs Online](#).

FIFO snapshot queue support

Element 12.3 enables you to create a First-In-First-Out (FIFO) queue for volume snapshots. Using the Element API, you can specify the minimum and maximum number of FIFO snapshot slots that should be reserved when you create a volume. When the FIFO snapshot queue for a volume is full, the next snapshot you create for that volume removes the oldest snapshot of that volume from the system. FIFO and non-FIFO snapshots both use the same pool of available snapshot slots on a volume.

The following Element API methods are related to FIFO snapshots (see the [Element API documentation](#) for details about each API method):

- CreateGroupSnapshot
- CreateSchedule
- CreateSnapshot
- CreateVolume
- ModifyGroupSnapshot
- ModifySchedule
- ModifySnapshot
- ModifyVolume
- ModifyVolumes

Snapshot serialization support

Element 12.3 supports serialized snapshot creation. When creating a new snapshot using the Element API, you can specify that the snapshot should not be created if a previous snapshot replication is still in progress.

The following Element API methods are related to snapshot serialization (see the [Element API documentation](#) for details about each API method):

- CreateGroupSnapshot
- CreateSchedule
- CreateSnapshot
- ModifySchedule

Snapshot retention support

Element 12.3 enables you to specify a retention time for snapshots. If you don't specify a retention time or an expiration time for a snapshot, it is retained forever.

The following Element API methods are related to snapshot retention (see the [Element API documentation](#) for details about each API method):

- CreateGroupSnapshot
- CreateSchedule
- CreateSnapshot
- ModifyGroupSnapshot
- ModifySchedule

- [ModifySnapshot](#)

Software encryption at rest enhancements

For the software encryption at rest feature, Element 12.3 introduces External Key Management (EKM) and the ability to rekey the software encryption master key. You can enable software encryption at rest when you create a storage cluster. When you create a SolidFire Enterprise SDS storage cluster, software encryption at rest is enabled by default. This feature encrypts all data stored on the SSDs in the storage nodes and causes only a very small (~2%) performance impact on client IO.

The following Element API methods are related to software encryption at rest (see the [Element API documentation](#) for details about each API method):

- [CreateCluster](#)
- [DisableEncryptionAtRest](#)
- [EnableEncryptionAtRest](#)
- [GetSoftwareEncryptionAtRestInfo](#)
- [RekeySoftwareEncryptionAtRestMasterKey](#)

Storage node firmware updates

Element 12.3 includes firmware updates for storage nodes. [Learn more](#).

Security enhancements

Element 12.3 resolves security vulnerabilities for storage nodes and the management node. [Learn more](#) about these security enhancements.

Improved behavior for failing drives

Element 12.3 performs periodic health checks on SolidFire appliance drives using SMART health data from the drives. A drive that fails the SMART health check might be close to failure. If a drive fails the SMART health check, the drive is transitioned to the **Failed** state, and a critical severity cluster fault appears: `Drive with serial: <serial number> in slot: <node slot><drive slot> has failed the SMART overall health check. To resolve this fault, replace the drive.`

Find more information

- [NetApp Hybrid Cloud Control and Management Services Release Notes](#)
- [NetApp Element Plug-in for vCenter Server](#)
- [NetApp HCI Resources page](#)
- [SolidFire and Element Software Documentation](#)
- [Firmware and driver versions for NetApp HCI and NetApp Element software](#)

Additional release information

You can find links to the latest and earlier release notes for various components of the NetApp HCI and Element storage environment.



You will be prompted to log in using your NetApp Support Site credentials.

NetApp HCI

- [NetApp HCI 1.9 Release Notes](#)
- [NetApp HCI 1.8P1 Release Notes](#)
- [NetApp HCI 1.8 Release Notes](#)
- [NetApp HCI 1.7P1 Release Notes](#)

NetApp Element software

- [NetApp Element Software 12.3 Release Notes](#)
- [NetApp Element Software 12.2 Release Notes](#)
- [NetApp Element Software 12.0 Release Notes](#)
- [NetApp Element Software 11.8 Release Notes](#)
- [NetApp Element Software 11.7 Release Notes](#)
- [NetApp Element Software 11.5.1 Release Notes](#)
- [NetApp Element Software 11.3P1 Release Notes](#)

Management services

- [Management Services Release Notes](#)

NetApp Element Plug-in for vCenter Server

- [vCenter Plug-in 4.6 Release Notes](#)
- [vCenter Plug-in 4.5 Release Notes](#)
- [vCenter Plug-in 4.4 Release Notes](#)
- [vCenter Plug-in 4.3 Release Notes](#)

Compute firmware

- [Compute Firmware Bundle 2.76 Release Notes \(latest\)](#)
- [Compute Firmware Bundle 2.27 Release Notes](#)
- [Compute Firmware Bundle 12.2.109 Release Notes](#)

Storage firmware

- [Storage Firmware Bundle 2.76 Release Notes \(latest\)](#)
- [Storage Firmware Bundle 2.27 Release Notes](#)
- [H610S BMC 3.84.07 Release Notes](#)

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