



Hewlett Packard
Enterprise

StoreOnce software revision 3.13.x to 3.15.1 (P9L02-10528) release notes

Abstract

This document describes the StoreOnce System 3.13.x to 3.15.1 software release, HPE_StoreOnce_Software_Update_3.15.1_OS_Conversion_for_3.13.x_P9L02-10528.rpm. This upgrade is **not** supported on products running 3.14.0 or any later 3.14.x software and it is not supported on StoreOnce VSA.

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Description

This document outlines the functional changes and defect fixes for StoreOnce System software in the 3.13.x to 3.15.1 software release, HPE_StoreOnce_Software_Update_3.15.1_OS_Conversion_for_3.13.x_P9L02-10528.rpm. This software revision contains new features as well as enhancements and fixes.

- ① **IMPORTANT:** This upgrade converts the underlying operating system. All customer data is protected, but you will notice a few differences in the Upgrade process. Ensure that you follow the upgrade instructions carefully.
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Update recommendation

StoreOnce 3.13.x to 3.15.1 software is valid only for the StoreOnce Systems listed in [Product models](#). It is not supported on any other HPE StoreOnce hardware products or on StoreOnce VSA.

StoreOnce 3.13.x to 3.15.1 software is a required upgrade for systems that are adding a StoreOnce 6600 couplet to a StoreOnce 6500 Backup cluster. It is a recommended upgrade for all other systems listed.

Supersedes information

Supersedes: StoreOnce 3.13.x software.

In order to upgrade to 3.15.1 software you should first be running 3.13.3 or later 3.13.x software.

If you are running 3.13.1 or older software, you must update to a minimum of StoreOnce 3.13.3 first.

- ① **IMPORTANT:** Verify that warranty entitlement details are completed for StoreOnce Remote Support before running the StoreOnce 3.13.x to 3.15.1 upgrade.
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Product models

The 3.13.x to 3.15.1 software release is applicable to the following product models only:

- BB896A: HPE StoreOnce 6500 Backup
 - BB903A: HPE StoreOnce 4900 Backup
 - BB879A: HPE StoreOnce 4700 Backup
 - BB878A: HPE StoreOnce 4500 Backup
 - BB910A: HPE StoreOnce 2900 Backup
 - BB877A: HPE StoreOnce 2700 Backup
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- ① **IMPORTANT:** StoreOnce 6500 couplets that are members of clusters containing StoreOnce B6200 couplets (which are not supported for 3.15.1 upgrade) cannot be upgraded to StoreOnce 3.15.1. These clusters must remain on StoreOnce software version 3.13.x.
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Operating systems

Cross operating system (BIOS, Firmware, Diagnostics, etc.)

Languages

Languages supported for this release:

- English
- Japanese
- Chinese

- French
- German
- Brazilian Portuguese
- Russian
- Spanish

Features and enhancements

StoreOnce Operating System Conversion upgrade

The 3.13.x to 3.15.1 software conversion upgrade provides a major upgrade of the underlying StoreOnce Operating System. Customers who upgrade to 3.15.1 software will benefit from improvements to the performance, security and long-term supportability of their HPE StoreOnce Systems.

This type of software upgrade is called an OS conversion upgrade. It differs from a typical StoreOnce software upgrade by using a separate, unique 3.13.x to 3.15.1 upgrade RPM file, and by requiring the user to perform an intermediary step to download and save securely an automatically generated `saved_config.tgz` file from the StoreOnce System before restarting the software upgrade process and completing.

HPE StoreOnce 6500 expansion with StoreOnce 6600 couplets

StoreOnce 6600 couplets may be added to StoreOnce 6500 Systems: StoreOnce 3.15.1 software adds support for StoreOnce 6500 expansion by adding a StoreOnce 6600 couplet to a StoreOnce 6500 cluster. Cluster expansion is performed by HPE service specialists, but the user should be aware of the following requirements when ordering the StoreOnce 6600 couplet and before cluster expansion.

- The PCIe slots in the StoreOnce 6600 couplet must be configured in exactly the same way as the existing 6500 couplets.
- When ordering an expansion StoreOnce 6600 couplet for a StoreOnce 6500 cluster, it is necessary to order four StoreOnce Optional Hardware 8 Gb Fibre Channel kits (BB928A) for PCIe slots 5 and 6 in both nodes. These kits include PCIe cards, SFP+ transceivers and licenses.
- All licenses for StoreOnce Optional Hardware and Security must be installed before cluster expansion.
- If the StoreOnce 6500 cluster is configured to apply Data At Rest Encryption on target devices, the latest keystore must be saved and copied to a secure location before cluster expansion.

12Gbps SAS hard drive support

- **New D6000 enclosure 7.12 firmware for StoreOnce 4900 and 6500 to support 12Gbps SAS hard drives (MB4000JFEPB only):** New 7.12 firmware provided in the StoreOnce 3.15.1 software release for the D6000 enclosure enables support for the new 12 Gbps SAS hard drives that will be replacing the current 6 Gbps SAS hard drives.

StoreOnce HPE rebranding

- **HPE rebranding:** The StoreOnce GUI has been rebranded for Hewlett Packard Enterprise, HPE. This is a cosmetic change and does not affect content or navigation.
- **Remote Support Enterprise Server URL change:** The connection from the StoreOnce to the HPE Secure Service Architecture has migrated from <https://remote.3par.houston.hp.com> to <https://storage-support.glb.itcs.hpe.com>. This is an automatic change to the URL, but it may

be necessary to modify your firewall to reflect the new URL. For details, see [To complete the update \(all models\) \(page 18\)](#).

Security enhancements

- **Support for External Key Management:** Encryption Key Management with external software/appliances is now supported for all HPE StoreOnce Systems listed in [Product models \(page 2\)](#). Please refer to www.hpe.com/storage/buramatrix for supported EKM software.
- **Removal of TLS 1.0 support to comply with new Payment Card Industry standards:** TLS 1.0 support has been removed from StoreOnce products. Any applications that use TLS 1.0 will not be able to communicate with the StoreOnce System unless they upgrade to a later, more secure version of TLS. See [Considerations before upgrading \(page 10\)](#) for more information.
- **Login banner:** A login banner may be configured to display when users log in, either to the StoreOnce CLI or through the StoreOnce GUI. It consists of blocks of text, uploaded to the StoreOnce system as a file by an Admin user, that may be used to provide legal or other conditions that apply to users of the device. The login banner is configured using the StoreOnce CLI.

Supportability and performance enhancements

- **Firmware Update All for StoreOnce 6500:** On StoreOnce 6500 Backup systems, firmware updates for all components in the cluster can now be done with a single click of the **Update All** button on the StoreOnce GUI Firmware page or by using the `hardware firmware update all` command on the StoreOnce CLI. Updates are performed in parallel for common components across the cluster, reducing the total firmware update time to a maximum of three hours.

For information about specific enhancements to Firmware Update in the StoreOnce GUI and CLI, see [“StoreOnce GUI enhancements” \(page 5\)](#) and [“StoreOnce CLI enhancements” \(page 5\)](#).

- **NAS shares:** Performance has been improved when creating and deleting small files.
 - **Deduplication:** There are several enhancements to increase deduplication performance. These include small reads of dedupe items (used by Granular Recovery Technology) and dedupe robustness enhancements.
 - **StoreOnce Catalyst:** The StoreOnce software can now read StoreOnce Catalyst stores while a Catalyst Copy operation is in progress.
 - **StoreOnce Catalyst over Fibre Channel support for AIX:** The StoreOnce software now supports Catalyst over Fibre Channel with all models listed in [Product models](#).
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- ① **IMPORTANT:** Customers upgrading from StoreOnce 3.13.x must reconfigure the StoreOnce Catalyst over FC port Host Emulation from “Default” to “AIX” in the StoreOnce GUI.
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- **Reporting Central:** It is now possible to view licenses for both the local appliance and for all appliances that have been registered with the local appliance.
 - **Replication:** Replication enhancements have been made to minimize any differences and deviations that may be seen between source and target stores, libraries and shares.
 - **Improved filesystem and store robustness:** Several enhancements have been implemented to increase the robustness of filesystem operations and store integrity, which allow for better fault-tolerance and self-recovery during and after modes of failure, such as failover/failback, I/O disruptions and catastrophic power-loss events. These include file system directory checks, which are routinely carried out on system reboots and particularly important after unclean shutdowns.

StoreOnce GUI enhancements

- **Configuration wizard in StoreOnce GUI:** There is a new Configuration Wizard that provides a list of common configuration tasks. This wizard will display automatically at login after upgrade to StoreOnce 3.15.1 software. It can be discarded for the current session or disabled for future sessions. If disabled, it becomes available for selection from the Navigation panel.
- **Direct link to warranty serial numbers from the StoreOnce Status page:** The Serial Number field in the Status section of the StoreOnce page provides a Click Here link that takes the user to the Remote Support Entitlement page, where all valid warranty serial numbers for the product are listed.
- **Storage reports:** The **Storage Report** option in the Navigator has been renamed **Storage** and now has two tabs. The information that was provided under Storage Report is now located on the **File System Report**, and there is an additional field that shows the status of the storage (whether mounted or not). The new **Storage Configuration** tab allows the user to scan for and view details of configured and unconfigured storage, and provides extra functionality to create volumes and expand the file system after capacity has been expanded that was previously only available from the StoreOnce CLI.
- **Firmware scan now selects Upgrade components only by default:** With earlier software versions, a GUI firmware scan automatically selected components that required an upgrade or a downgrade. For some components, such as hard drives, downgrades are optional and increase the time required for the update process to complete. With StoreOnce software version 3.15.1, only components that require a firmware "Upgrade" are automatically selected. Users can still include "Downgrade" components by selecting them manually.

On the StoreOnce 6500 Backup system, **Update All** updates firmware components across all nodes. **Update Selected** updates only firmware components for the selected node.
- **StoreOnce GUI messages:** Various improvements have been implemented to make StoreOnce GUI messages more visible, clearer to understand and more specific.
- **Enable NFS browseability in StoreOnce GUI:** Customers can now enable or disable the NAS NFS Browseability from the StoreOnce GUI.

StoreOnce CLI enhancements

- **Enhancement to `hardware show / update firmware` command:** The `hardware show firmware` and `hardware update firmware` commands now support the `all` parameter when used with StoreOnce 6500 Backup systems. This applies the view or update command to all components in the cluster and reduces the time required for update to three hours.
- **New `system set eventaggregation period <x>` command:** By default, one event is generated for each login and each logout, and two events are generated for each failed login attempt. This new StoreOnce CLI command allows the Admin user to set a time period during which login, logout and failed login events will be aggregated. For failed logins, only the first five events within the defined period are reported individually. For all other events, only the first occurrence within the defined period will be logged.
- **New set of `logs` commands:** It is possible to define a remote host to receive StoreOnce audit log events and subsequently view or delete remote hosts, using StoreOnce CLI `logs` commands. It may also be necessary to configure the remote host to receive the log events offload.
- **New `system set banner` command:** Use this command to apply a login banner text file that has been created and copied to the `repository` directory of the StoreOnce appliance.
- **New `system recover filesystem` command:** If the filesystem goes offline, for example due to a power cut or cables being disconnected, the user can run this command to scan the

file system, remount it and attempt to recover the StoreOnce appliance. Previously, it was necessary to contact HPE Support to request assistance with filesystem recovery.

- **Consistent hardware power commands:** The `hardware powerup` command has been replaced by `hardware poweron` to make it consistent with the `hardware poweroff` command.

Fixes

- **New HPDA firmware for MB2000FCWDF and MB4000FCWDF hard drives:** An issue has been identified with MB2000FCWDF and MB4000FCWDF 2TB and 4TB SAS hard drives where these drives are susceptible to a higher rate of irrecoverable failures, particularly if they have been in long use with firmware prior to HPD9. The 3.15.1 release introduces new HPDA firmware which addresses this issue and improves the reliability of these hard drives.
- **Network configuration may not be fully restored after a 3.13.x to 3.15.0 software upgrade:** An issue has been identified in the 3.13.x to 3.15.0 software upgrade where units configured with separate subnets for management and data traffic may not have their full network routing configurations restored after the upgrade completes and network connectivity may be lost to either the management or data interfaces, depending on which is configured as the default. This issue is fixed in 3.15.1. This issue does not affect customers upgrading from 3.14.x.
- **External Users and User Groups are deleted after upgrading from 3.13.x to 3.15.0:** An issue was identified in the 3.13.x to 3.15.0 software upgrade where external (Active Directory) users and user groups were not being restored and were deleted after the upgrade. This issue is fixed in 3.15.1. This issue does not occur for 3.14.x to 3.15.0 upgrades.
- **“Unable to retrieve file systems information due to internal error” reported by Confidence Checker and Installation Report:** An issue has been discovered where an unexpected change in the output of an internal command resulted in the file system check to fail to run correctly and report an internal error in the Installation Report and StoreOnce CLI `system/confidencechecker` output. This issue is fixed in 3.15.1.
- **False positive NAS metadata CRC checksum errors occasional reported in the Event log:** A non-critical issue has been identified where the StoreOnce Event log may occasionally report NAS metadata CRC checksum errors related to a dormant feature that is not used by the StoreOnce system. These events are false positives and the issue is fixed in 3.15.1.
- **NAS NFS Browseability settings are reset to default after upgrading from 3.13.x to 3.15.0:** An issue has been identified in the 3.13.x to 3.15.0 software upgrade where the NAS NFS Browseability setting is reset to the default value after the upgrade. This is fixed in 3.15.1. This issue does not occur for 3.14.x to 3.15.0 upgrades.
- **Reporting Central configurations are lost after upgrading from 3.13.x to 3.15.0:** An issue has been identified in the 3.13.x to 3.15.0 software upgrade where all Reporting Central configurations are lost after the upgrade. This is fixed in 3.15.1. This issue does not occur for 3.14.x to 3.15.0 upgrades.
- **Enterprise Server is not reachable:** This message sometimes appeared in earlier software versions when attempting to connect to Remote Support via STaTS using a proxy server via http with authentication, and it was necessary to contact HPE Support. This is fixed.
- **StoreOnce Catalyst:**

An internal network configuration sometimes caused StoreOnce Catalyst backup jobs to fail with “connection reset by peer” errors. This issue is fixed.

On multi-node systems, Federated Catalyst jobs sometimes failed or were cancelled due to a failed consistency check between the team members. Additionally, StoreOnce Catalyst sometimes went offline during Federated Catalyst Copy jobs because a Catalyst management process was not able to free up a shared connection. These issues are now fixed. Further Catalyst over Fibre

Channel connection stability fixes have been implemented to avoid node failover or reboot while the Catalyst over Fibre Channel connection is in use.

- **Reporting Central:**

Reporting Central displayed the time in the UTC time zone in the Throughput and Storage reports even when the system was configured with a different time zone (the affected time zones were UTC+8, UTC+9 and UTC-8). This is now fixed.

- **NAS shares:**

Share deletion occasionally failed during the share start up process, leaving the share in a "Deleting" state. This was caused by a timing issue that prevented a delete request from being handled correctly during an incomplete start up process and is now fixed.

Customers using CIFS shares might experience loss of connection to CIFS shares. This was caused by CIFS server stability problems under certain workloads and is now fixed.

Customers using CommVault software with built-in CommVault deduplication enabled found that some backups could not be read with Windows clients. This issue is fixed.

- **Performance and filesystem fixes:**

Ingest performance dropped by 90% when segment utilization reached 70% on only one node of a couplet. This is fixed.

Some customers experienced a reduction in Fibre Channel performance when StoreOnce software version 3.12.x , 3.13.0, 3.13.1 or 3.14.0 was used. This performance drop was only apparent when the client was using Emulex FC Initiator HBAs. Clients using QLogic FC Initiator HBAs did not experience this problem. This issue is resolved in 3.15.1.

There are several dedupe stability fixes.

A server node went offline or, in a StoreOnce 6500 System, failed over when a file system issue was detected. This was due to various file system issues not being handled correctly by the file system driver and is fixed.

- **StoreOnce GUI:**

Customers using Japanese characters in store names found that the related events in the Event log become unreadable. This issue was caused by the StoreOnce GUI not displaying the special character encoding correctly and is now fixed.

- **Network configuration:**

Some customers were not able to set the default gateway on the desired subnet. These restrictions have been removed. The default IPv4 gateway can now be configured on a VLAN subnet for HPE StoreOnce 6500 Systems.

Known Issues and customer advisories

Locating customer advisories

To find the most current product advisories and bulletins:

1. Go to www.hpe.com/support/hpesc.
2. Enter your product name (StoreOnce System) in the search box under **Get drivers, manuals, parts & solutions**.
3. Navigate to your specific product, if given additional product choices.
4. Select the **Top Issues & Solutions** tab.
5. Click **Advisories, bulletins & notices** in the right column.

HPE recommends that you register your product for Support Alerts at: www.hpe.com/support/e-updates. After registering, you will receive e-mail notification of product enhancements, new driver versions, firmware updates, and other product resources.

Known issues

- **Upgrade failure when appliance has external AD users configured to access the StoreOnce appliance:** An issue has been identified where the save configuration stage of the upgrade fails due to a timeout while saving the configuration. The issue is isolated to StoreOnce appliances with Active Directory connectivity that have external (Active Directory) users with administrator or operator privileges accessing the unit's CLI over SSH connection. The issue will be fixed in the next StoreOnce software release.
- **Firmware updates issues on StoreOnce 4900 and 6500 Systems when Storage_Ctrl firmware is less than 2.5X:** An issue has been identified where firmware updates of the server node components take a long time and fail to complete successfully, leaving the system and services in a degraded state. This requires a manual reboot of the system. This issue occurs when the Storage_Ctrl component firmware is on revision 2.34 or below in StoreOnce software 3.13.1. Customers must update all hardware firmware to at least the revisions for the minimum supported software version 3.13.3 before upgrading to 3.15.x. Customers, who have already upgraded software to 3.15.x but have not upgraded the Storage_Ctrl to minimum 2.5x, can avoid this issue by first firmware updating the Storage_Ctrl only in the StoreOnce GUI, rebooting the system, and then performing the remaining hardware firmware updates.
- **Blackout and Bandwidth Limiting Windows Start and End of Restriction times are in UTC:** An issue has been identified in the StoreOnce GUI pages for configuring StoreOnce Catalyst, Replication and Housekeeping Blackout and Bandwidth Limiting Windows where the Start and End of Restriction times are set and displayed in UTC instead of the locally selected timezone. For example, a customer in CDT must set the time +5 hours. If they want it to start at 6 pm, they would set the time to 23:00. This issue will be fixed in a future StoreOnce software release.
- **Internet Explorer errors when attempting to download a support ticket whilst a new ticket is collecting:** An issue has been identified when using the StoreOnce GUI in Internet Explorer where an error is thrown when users attempt to download an existing support ticket whilst a new ticket is collecting. This issue will be fixed in a future StoreOnce software release.
- **Lost connectivity to Fibre Channel devices after firmware update when FC switch ports not disabled:** An issue has been identified where Fibre Channel connectivity to backup devices on the StoreOnce System may not be restored after updating the FC HBA firmware without first disabling the ports from the FC switch. Please make sure there are no active connections from the FC HBA cards and disable the FC ports from the FC switch before updating firmware and then rebooting the StoreOnce System.
- **Intermittent errors when using SMB Signing with NAS CIFS shares:** A known issue exists where some customers using Signed SMB communication may experience loss of connection to the NAS CIFS share. This occurs for some unique configurations where the StoreOnce System incorrectly responds with a single unsigned packet during communication, forcing the client to terminate the session. Customers wishing to use SMB Signing should call HPE Support for assistance. This will be fixed in a future StoreOnce software release.
- **Customers are unable to renew expired EKM certificates to access encrypted stores without HPE Support assistance:** An issue has been identified where HPE StoreOnce Systems using Enterprise Secure Key Management or SafeNet KeySecure appliances will not allow customers to renew expired certificates for external key management, leaving encrypted stores intact but temporarily inaccessible. This will be fixed with a new **renew** command to be provided in the next StoreOnce release. Current customers are advised to contact HPE Support for assistance in renewing their EKM certificate if this issue is encountered.
- **Fibre Channel HBAs fail to update firmware:** An issue has been discovered where the FC HBAs may fail to update the firmware. Please make sure there are no active connections from the FC HBA cards before updating them. This can be confirmed through the FC switch management console and, if required, the FC ports can be brought offline through the switch.

- **Configuration Wizard exit confirmation pop-up window incorrectly displays Japanese text when logged into the StoreOnce GUI in Chinese:** An error has been discovered with the localized text for the StoreOnce GUI in Chinese where the warning pop-up dialog to exit the Configuration Wizard displays text in Japanese instead of Chinese. This will be fixed in the next StoreOnce software release.
- **StoreOnce CLI commands, `system show warrantyserial` and `system set warrantyserial`:** The StoreOnce CLI commands `system show warrantyserial` and `system set warrantyserial`, have been deprecated and are no longer available. Please use the new StoreOnce CLI command, `support warranty show`, to see warranty entitlement details from the StoreOnce CLI.
- **Power Management Controller firmware 0.0 and Power Supplies and Fans removed reported after power-cycle:** An issue has been identified on StoreOnce 2700, 2900, 4500 and 4700 systems where, after a system power-cycle, the power management controller firmware version may be reported as 0.0 and the power supplies and fans may be reported as removed. This issue is due to a race condition during power on initialization of the power management controller. To resolve, reboot the system. If the issue persists, contact HPE Support. This issue will be fixed in a future StoreOnce software release.
- **Problems with firmware not updating for storage controllers and hard drives after rebooting an individual node:** On StoreOnce 6500 Systems the storage controllers and hard drives firmware may not update after rebooting the system. This is due to the redundant storage architecture requiring both nodes to be offline at similar times to apply the new firmware, and this may not always occur between the nodes on every reboot. HPE advises customer to refer to Customer Notice c04682361 for the correct firmware upgrade instructions for StoreOnce 6500 Systems.
- **Lost connectivity on 10Gb interfaces for StoreOnce 4500, 4700, 4900 and 6500 systems:** An issue has been discovered with the 10Gb network adapters used in StoreOnce 4500, 4700, 4900 and 6500 systems where the adapters may unexpectedly hang during normal use some time after a firmware update has been performed. This is due to a component on the adapter continuing to operate using the old firmware. If this issue is encountered, HPE advises customers to perform a 60 second, power unplugged power cycle of the server.
- **SAS check fails on StoreOnce 3.15.1 and later if p1228 Storage Controller firmware is less than 2.52:** This issue affects StoreOnce 4900 and 6500 models. To resolve, update the firmware and reboot the system.
- **MISSING warranty entitlement numbers:** Warranty entitlement numbers for StoreOnce 4500, 4700 and 4900 storage expansion enclosures show as "Missing" in 3.15.1. This will be fixed in a future StoreOnce software release.
- **Unable to click GUI buttons and Navigator tree in IE 11 with non-default zoom:** An issue has been identified with Internet Explorer 11 where the StoreOnce GUI buttons and Navigator tree elements may not respond to mouse clicks when the browser zoom is set to some nondefault levels. To avoid this issue, customers are advised to use the default zoom for IE 11.
- **Discovered storage left over after upgrading from StoreOnce 3.13.x to 3.15.1:** This is a known false reporting issue where a small amount of storage may be left shown as Discovered after upgrading from StoreOnce 3.13.x to 3.15.1. To clear the incorrect reporting, run the StoreOnce CLI command `hardware add storage`.
- **Unable to add StoreOnce device using HPE OneView for VMware vCenter 7.8.3 or earlier:** StoreOnce systems running 3.15.1 or later software cannot be added as a new backup device in vCenter environments using HPE OneView for VMware vCenter versions 7.8.3 or earlier. To add new StoreOnce appliances, use the HPE Recovery Manager Central web user interface.
- **Minimum SEM version 1.5.1 required with StoreOnce 3.15.1 and later software:** When running earlier versions of SEM, the user will not be able to add a newly-installed StoreOnce System to SEM.

- **HPE Autonomic Backup Restart IBM TSM VTLs fails after initiating service set failover:** This may be a problem with the Tape driver. Please contact your HPE Account Representative for IBM Solution Documentation on supported StoreOnce Configurations.
- **Domain name resolution with StoreOnce Federated Catalyst:** When configuring systems for StoreOnce Federated Catalyst HPE recommends using direct IP addresses rather than Fully Qualified Domain Names as some customers have experienced issues with name resolution.
- **NAS CIFS unable to join Active Directory domain when StoreOnce management is IPv6 only:** An issue has been discovered where StoreOnce appliances running 3.14.0 and later will resolve and incorrectly default to using the IPv4 address of the domain controller to join the AD domain, which will fail when the StoreOnce appliance is configured for IPv6 only. To work around, configure StoreOnce management with both IPv4 and IPv6 addresses. This will be fixed in a future software release.
- **Existing user configuration not copied to new nodes added to cluster:** When a StoreOnce 6500 cluster is expanded, the existing user configuration may not be automatically copied to the new nodes, leaving the default configuration applied. Customers are advised to update the user accounts after expanding the cluster to propagate the user configuration to all the nodes in the cluster.
- **Intermittent drops in StoreOnce Catalyst and Replication reporting metrics:** A reporting issue affecting StoreOnce Catalyst and Replication has been discovered where during periods of high system load, some metrics data may intermittently fail to be captured and appear to drop to zero. This is a reporting-only issue and will be fixed in the next software release.
- **Adding static routes by IPv6 subnet range may not configure correctly:** An issue has been discovered on StoreOnce 6500 Systems where adding IPv6 static routes by subnet range may be incorrectly configured as a single IPv6 address with /128 prefix. This occurs if the subnet range is specified with an ending ::0, or if an invalid prefix is specified. Customers are advised to ensure the prefix used is valid and correct, and to specify the IPv6 subnet without an ending zero, such as 1234:5678:90ab:cdef::/64.
- **Incorrect text appears in StoreOnce GUI Remote Support Customer Information "HP Passport ID" label for Chinese and Japanese languages:** An issue has been discovered in the StoreOnce GUI Remote Support Customer Information page for Chinese and Japanese languages where an incorrect string appears in the label for "HP Passport ID" instead of the correct translation. This will be fixed in the next StoreOnce software release.
- **Time zone drop-down lists are not populated correctly in non-English GUI languages:** An issue has been discovered where the StoreOnce GUI Time Zone drop lists on the "Device Configuration - Time and Date" page are not correctly populated when using a non-English locale. Customers can work around this issue by configuring the time zone using the StoreOnce CLI, or using the GUI in the English locale. This will be fixed in the next StoreOnce software release.

Software upgrade prerequisites

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- ① **IMPORTANT:** The software and firmware update processes require service sets to stop and the system to reboot. These actions are disruptive to any I/O running on the system at the time, including: backup, restore, StoreOnce Catalyst Copy, Replication and housekeeping.
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Considerations before upgrading

The StoreOnce 3.15.1 release contains some changes and restrictions that existing customers are advised to consider before upgrading:

- **Upgrade failure when appliance has external AD users configured to access the StoreOnce appliance:** An issue has been identified where the save configuration stage of the upgrade fails due to a timeout while saving the configuration. The issue is isolated to StoreOnce appliances

with Active Directory connectivity that have external (Active Directory) users with administrator or operator privileges accessing the unit's CLI over SSH connection. Please do not attempt the upgrade if the appliance has this setup. Contact HPE Support for further assistance.

- **Removal of TLS 1.0 support:** TLS 1.0 support has been removed to comply with higher security standards required in various industries. Customers must configure their browsers to enable TLS 1.1 or 1.2 in order to use the StoreOnce GUI after upgrading to 3.15.x. TLS 1.1 is enabled by default with Internet Explorer 11, Mozilla Firefox v27 and above, and Firefox ESR 31 and above. For other supported browsers – Internet Explorer 9 and 10, Mozilla Firefox 23 to 26, and Firefox ESR 24 to 26 – TLS 1.1 or 1.2 is not enabled by default and customers must enable it in their browser settings in order to use the StoreOnce GUI.
- **Recovery Manager Central:** RMC 3.0.0 or later is recommended. If using RMC 1.2 or 2.x in a vCenter environment, newly-installed StoreOnce Systems must be added through the RMC graphical user interface.
- **Warranty entitlement details:** The warranty details, required for StoreOnce Remote Support, cannot be modified by customers after the upgrade. Please ensure all warranty information is set and correct before upgrading. After upgrading customers will need to contact HPE Support if changes are required.
- **StoreOnce Enterprise Manager:** Minimum SEM version 1.5.1 is required to add and manage StoreOnce Systems with 3.15.1 and later software in SEM.
- **Active Directory support with IPv6:** Existing customers using Active Directory with IPv6 are advised to ensure that their StoreOnce System management interfaces are configured with both IPv4 and IPv6 addresses before upgrading. This is due to a limitation in the automatic handling of mixed IPv4 and IPv6 environments in 3.15.1 and will be fixed in a future release.
- **Download old support tickets:** The 3.13.x to 3.15.1 OS conversion upgrade will only retain the latest three support tickets. Please download all older support tickets before upgrading.
- **StoreOnce Catalyst over Fibre Channel support for AIX:** For pre-approved customers using StoreOnce Catalyst over Fibre Channel with AIX clients on 3.13.x software, the FC port Host Emulations must be reconfigured from "Default" to "AIX" after upgrading to 3.15.1.

NOTE: Any customers using SMB signing should call HPE Support before upgrading.

Maintenance window required

To perform the StoreOnce software upgrade a maintenance window is required in which the unit will be unavailable for normal operations. This upgrade takes slightly longer than previous software upgrades because it saves the configuration as part of the process. When scheduling the maintenance window, use the following as guidelines of a typical amount of time that the upgrade will take:

- Allocate between 30 and 60 minutes to perform pre-upgrade actions.
- For StoreOnce 6500 products, the entire upgrade process is expected to take approximately 4 hours, depending on your hardware configuration. The software upgrade is expected to take between 60–90 minutes but can, on very rare occasions, take longer. A further 3 hours is required to perform necessary hardware firmware updates after the successful software upgrade.
- For all other StoreOnce products, the entire upgrade process is expected to take approximately 2 hours, depending on your hardware configuration. The software upgrade is expected to take 60 minutes but can, on very rare occasions, take longer. A further 20 – 80 minutes is required to perform necessary hardware firmware updates after the successful software upgrade.

Optional hardware and system status checks

To protect Customer data, the upgrade utility will check the status of the Product Hardware and Service Set(s). If any elements are in a degraded or non-functional state, the upgrade utility **will not** carry out the requested software and/or firmware upgrade(s).

For improved confidence that the update will be successful when run, the Product Hardware and Service Set(s) checks can be run manually **before** attempting the upgrade.

- **Hardware status**

To check hardware status run the StoreOnce CLI command, `hardware show problems`.

If any of the hardware, except “HBA_Port”, shows a status of “removed”, “failure/failed”, “down/offline”, the upgrade will be blocked.

- ① **IMPORTANT:** All configured network ports (NIC_port) must be properly connected otherwise they will be flagged as **down/offline** and the software upgrade will not proceed.

If there are warnings or errors reported on any of the hardware the details can be found by running the StoreOnce CLI command: `hardware show status <dev-id of failed hw> detail`, where `<dev-id of failed hw>` is the value shown in the `dev-id of failed hw` column of the output from the `hardware show problems` command.

NOTE: You can also check the **Hardware** page on the StoreOnce GUI and drill down to the failed item. Read the **Diagnostic** messages for the failed hardware and ensure the problem is rectified before attempting an upgrade.

- **Service set status**

To check the service set status run the StoreOnce CLI command, `serviceset show status`. A typical example of the output of this command is shown below:

```
# serviceset show status
```

```
Service Set 1          Status
-----
Overall                : Running
StoreOnce Subsystem   : Running
Virtual Tape           : Running
NAS                    : Running
StoreOnce Catalyst     : Running
Replication            : Running
Housekeeping           : Running
```

If any of the service sets is in a state other than “Not Started”/“Running”, upgrades will fail.

Pre-upgrade actions

Perform the following actions immediately before starting the software update process to ensure a smooth update process:

1. Check and update all hardware firmware for current system software.

Before upgrading the software please ensure all hardware firmware is at the correct or higher revisions for the current system using the `hardware show firmware [nodeX|storageX|switch]` and `hardware update firmware [nodeX|storageX|switch]` commands. For StoreOnce 6500 systems, disable failover first with command, `system disable failover`, and then perform any required firmware updates.

- ① **IMPORTANT:** All firmware must be updated to at least the minimum revisions for 3.13.3 before upgrading to 3.15.x. The `Storage_Ctrlr` component, in particular, must be at least minimum revision 2.52 build 2015090401 before upgrading to 3.15.x.

2. Reboot the system with the StoreOnce CLI command, `system reboot`. For StoreOnce 6500 systems, disable failover first with the StoreOnce CLI command, `system disable failover`, and then perform `system reboot`. This ensures the system is in as clean and clear a state as is possible before the software upgrade.

3. Check the size of the **Event** database.

To check the Events database size, look it up in the StoreOnce GUI on the **Events** page, where the count is displayed at the top.

We have seen some upgrades fail when the number of events is greater than 50,000. This is not an exact figure and can be as low as 30,000 on some systems that have had a large number of warning or critical events, which contain more information and increases the **Events** database size. Customers experiencing failed upgrades due to the **Events** database size are advised to use the **Export** button to save an offline CSV copy of the All Events and then use the **Delete** button to remove older events to reduce the size of the Events database.

NOTE: For security reasons, events of type "Audit" cannot be deleted as other event types can. They are managed through the retention period setting.

4. Collect a support ticket and save for future reference.

① **IMPORTANT:** Please allow the full support ticket to be collected prior to initiating a software upgrade.

5. Download any other support tickets that you wish to retain. Only the three latest tickets will be preserved after the upgrade.
6. Back up the system configuration and keystore, if Data At Rest encryption has been applied to stores. Use the StoreOnce CLI commands, `config save devices` and `config save keystore`.
7. Verify that warranty entitlement details have been updated correctly before running the StoreOnce 3.13.x to 3.15.1 upgrade. (Use the StoreOnce CLI command, `system set warrantyserial`.) You will not be able to modify warranty details for StoreOnce Remote Support after the upgrade and will need to contact HPE Support if changes are required.
8. If you are using StoreOnce Remote Support, disable remote event reporting during the upgrade process, using the StoreOnce CLI command, `system enable remoteeventsuppression "reason"`.

Software upgrade installation instructions (all products)

- ① **IMPORTANT:** Verify all prerequisites have been fulfilled, as described in [Software upgrade prerequisites](#). This upgrade converts the StoreOnce operating system and cannot be reversed.
-

After downloading the software upgrade package

1. To ensure the integrity of your download, HPE recommends verifying your results with this MD5 Checksum value:

Checksum value	Filename
f22b52f036df94f37337df4d4f292654	P9L02-10528.rpm

2. `sftp` the upgrade package `P9L02-10528.rpm` to the software repository on the StoreOnce appliance.

NOTE: In the following instructions, where the term Management IP address is used, this is the IP address that you normally use to log on to the StoreOnce GUI or CLI.

- **Using Linux**

```
sftp Admin@<Management_IP Address>
cd repository
put P9L02-10528.rpm
exit sftp
```

- **Using a Windows sftp client**

Ensure the File Protocol is set to SFTP, not SCP or FTP.

Login to the Management IP address as Admin.

Copy `P9L02-10528.rpm` to `repository`.

Updating the StoreOnce software (all systems)

You must use the StoreOnce CLI to update the StoreOnce software and must be logged in as an Admin user.

Failover on StoreOnce 6500 Systems and software upgrade

To ensure smooth running of the software upgrade process, HPE recommends that the StoreOnce 6500 System has service sets stopped and failover disabled prior to the upgrade. Once the software upgrade has completed successfully, failover should be manually turned back on. Service sets restart automatically.

StoreOnce CLI command sequence

-
- ① **IMPORTANT:** You will run the `system update packages` command twice in this upgrade process. Between the two instances of this command, there is an additional manual step in the procedure that ensures the existing configuration is stored safely before the upgrade runs and the underlying operating system is converted.
-

NOTE: If you encounter an error during the upgrade process, see [Error messages \(page 19\)](#).

Enter the following StoreOnce CLI commands. On a StoreOnce 6500 System the commands must be entered on the active node.

1. Log in to the SSH as an Admin User and run `system show repository` to list out the rpm file you copied over. Verify that it is the 3.13.x to 3.15.1 RPM file.
-
- ① **IMPORTANT:** To upgrade a StoreOnce 6500 System, you must be connected via a physical IP address. The `system update packages` command will fail if you are connected via the VIF address and the error message will display the correct IP address for log in.
-
2. Run `system load package P9L02-10528.rpm` to distribute the package across all nodes it can communicate with and unpack them.
 3. Run `system show packages` to show you the packages staged ready for update

NOTE: The name of the package once it is loaded and unpacked is in the following format:

Package	Version	State
-----	-----	-----
D2D_Master	3.15.1-1636.1	staged

4. Steps 4 and 5 are valid for HPE StoreOnce 6500 Systems only. Instructions for all other systems continue at step 6.

Run `serviceset stop all` to stop service sets and ensure that no jobs are running. It may take several minutes for all service sets to stop.

Run `service show status` to verify that all service sets have stopped. If they are still running, wait one minute and try again, until the status is `Not Running`. The following example is from a 2-node cluster.

```
# service show status
Service Set 1          Status
-----
Overall                : Not Running

Service Set 2          Status
-----
Overall                : Not Running

#
```

5. `system disable failover` to turn off failover (HA)

Followed by `hardware show node status` to check that HA (failover) is reported as *off* for all nodes in the cluster

6. On all StoreOnce Systems, run `system update packages` for the first time.

NOTE: To protect Customer data, the upgrade utility will check the status of the Product Hardware, Service Set(s) and Event Database size. If any elements are in a degraded or non-functional state, the upgrade utility **will not** carry out the requested software and/or firmware upgrade(s). If this happens, please use the system with the existing software and contact HPE Support for further help.

The first time that this command is run, it creates a `saved_config.tgz` file on the node that is running Active Fusion Manager and writes it to the `saved_config` directory. This is the file that the upgrade process will automatically use to rebuild your configuration and data stores after the operating system has been converted. Various messages are displayed requesting you to save this file and advising that you that you will need to log back into the SSH session after saving the file.

```
Saving the system configuration. Can take 20 minutes to complete.
System configuration successfully saved. 18 minutes elapsed.
...
Cleaning up old packages
The OS conversion is not yet complete.
Do not use the system for any other purpose until the update is complete.
The current system configuration has been saved and it is available at
 /saved_config/saved_config.tgz
Please use sftp to copy this off the system, save it and then run
"system update packages" again.
Your CLI session has expired. Please exit the current session and login again.
```

- ① **IMPORTANT:** HPE Support will be able to restore your system using this file should you encounter any problems with the subsequent upgrade.
-

7. Use `sftp` to copy the `saved_config.tgz` file and its `hashsum` file from the `saved_config` directory to a safe location. Use the `hashsum` file to verify the contents of `saved_config.tgz`.

8. Log back into SSH as Admin user.
9. Run `system update packages` for a second time to begin the process across all nodes to upgrade and reboot the nodes. Service sets will restart automatically at start up.


```
Required services started successfully.
Saving the system configuration. Can take 20 minutes to complete.
System configuration successfully saved. 4 minutes elapsed.
Start reboot of the system.
Processing,,,
Broadcast message from root (Mon Jun 13 16:52:18 2016):

System rebooting to complete the update process.
The system is going down for reboot NOW!
Update will complete after rebooting.
SSH connection will be lost. Allow 20-30 minutes for reboot to
complete before reconnecting.

# Connection to 1.1.1.1 closed by remote host.
Connection to 1.1.1.1 closed.
```
10. The StoreOnce System reboots and initiates the OS conversion, which completes automatically.
11. Check that update was successful as described in [“To check that update is successful \(all systems\)” \(page 16\)](#) and run the Firmware Management Tool, as described in [“Run the firmware management tool” \(page 16\)](#).
12. For StoreOnce 6500 Systems only, run `system enable failover` to re-enable failover (HA)


```
Followed by hardware show node status to check that HA (failover) is reported as turned
on for all nodes in the cluster
```

To check that update is successful (all systems)

Wait for the system to reboot.

NOTE: Depending upon the updates, this could take up to 30 minutes for StoreOnce 6500 Systems and up to 15 minutes for all other products.

Once access returns to the Management interface, check that the process has completed successfully, as follows:

- From the CLI: Use `system show packages` to check that all packages are now installed, as well as staged. The output should be in the following format:


```
Package      Version          State
-----
D2D_Master  3.15.1-1636.1  installed
```
- From the GUI: Check the **System Information** details on the **StoreOnce** screen, to ensure that the software revision number has updated to the 3.15.1 software version.
- From the GUI: Check the Event log (Event Code : E01070016) for a confirmation message of the software upgrade: `Update D2D_Master-3.15.1-1636.1 completed successfully.`

Run the firmware management tool

It is important to check whether firmware updates should be applied after each software update.

You can use the StoreOnce GUI or the StoreOnce CLI to carry out this task. See the user guide for your product for information about using the StoreOnce GUI.

NOTE: When using the StoreOnce GUI to run firmware management, please note that this tool does not work with the Internet Explorer 8 web browser; you must use a supported browser (Internet Explorer 9, 10 and 11, or Mozilla Firefox v23 and above and Firefox ESR24 and above). Refer to the user guide for your StoreOnce System for more details.

Updating firmware from the StoreOnce GUI

1. Select **Firmware** to view the firmware versions for hardware components, and to update firmware versions if required.

The **Firmware** window appears with the following tabs:

- **Server:** Contains firmware details for all server components.
- **Storage:** Contains firmware details for all storage components.
- **Switch:** Contains firmware details for all switch components on StoreOnce 6500 systems only.

2. Click **Scan** to perform a check on the currently installed firmware versions for all components. This will populate the firmware tabs and may take several minutes to run.

NOTE: The scan will fail if a firmware update is already in progress.

3. After you have run a **Scan**, the **Recommended Action** field in the component list is updated to show whether individual components require an upgrade or a downgrade. Components requiring an upgrade are automatically selected. A downgrade takes longer to complete and is optional for some components, such as hard drives. If downgrades are identified, the user may either select them to be included or decide to carry them out separately, if required, after the upgrade has completed.

NOTE: When the firmware updates are initiated, the backup devices will be taken offline. Before performing this step, check that there are no outstanding backup jobs pending.

- ① **IMPORTANT:** Do not shutdown or reboot your system or any system component until the final step. Special instructions may apply.
-

4. Click **Update Selected** or **Update All**. (**Update All** will attempt to update all components that are in the state where there is an update recommended; it will not try to update components that do not need an update.)

The **Status** field will show which components are being updated and which updates have been completed

5. In some cases, when firmware has been loaded, you will need to perform a reboot to complete the firmware update. A pop-up message will appear on your GUI screen after loading is completed, if a reboot is required. The message will also advise what type of reboot is required.
 - If a software reboot is needed, you will see a message asking if you want to reboot your system now or later. If you click **Yes**, your system will be rebooted.
 - A power cycle, or cold reboot, requires that the system must be shut down for at least 60 seconds before powering on using the Power-On buttons on the appliance.
 - A coordinated reboot is a corner case with StoreOnce 6500 Systems and requires assistance from HPE Support.

Updating firmware using the StoreOnce CLI

1. Run the StoreOnce CLI command to show the current status of firmware

```
# hardware show firmware <nodeX|storageX|switch|all>
```

NOTE: X is the number of the node or storage to which the command should be applied. You must run the command for each component separately, but for the switch (only applicable to StoreOnce 6500 Systems), the command lists or upgrades the firmware versions for all network switch components.

2. Check the **Action** column to see if any firmware needs upgrading.

-
- ① **IMPORTANT:** Do not shutdown or reboot your system or any system component until the final step. Special instructions may apply.
-
3. On StoreOnce 6500 Systems only, if action is required, disable failover using the StoreOnce CLI command, `system disable failover`.
If failover is not disabled, you will not be able to continue with the firmware update.
4. Use the `hardware update firmware` command, as required.
The command syntax is:
`hardware update firmware <nodeX|storageX|switch|all>`
The `all` parameter updates all firmware components in parallel, in the sequence: `switch`, `node`, `storage`. If you use one of the other parameters, be aware that you must repeat the command for each node and storage component in your system. All switches are updated concurrently.
There may be instances where replacement hardware may need a firmware downgrade to bring it in line with the supported firmware version of the installed StoreOnce software on the system being maintained. Use the `force` parameter in the command to enable this, but be aware that the update will take longer to complete.
-
- ① **IMPORTANT:** Update the firmware on all nodes, storage components and switches before shutting down or rebooting the system. Please refer to Customer Notice c04682361 for full details on performing firmware upgrades on StoreOnce Systems.
-
5. In some cases, when firmware has been loaded, you will need to perform a reboot to complete the firmware update. A message is displayed in the CLI output after successful completion, if a reboot is required. The message will also advise what type of reboot is required.
- Reboot the system using the StoreOnce CLI command:
`system reboot`
 - Power down the nodes using the StoreOnce CLI command:
`system shutdown`
After the system has completely shut down, wait at least 60 seconds before powering on using the Power-On buttons on the appliance.
 - A coordinated reboot is a corner case with StoreOnce 6500 Systems and requires assistance from HPE Support.
6. On StoreOnce 6500 Systems only, enable failover using the StoreOnce CLI command, `system enable failover`

To complete the update (all models)

- Clear the browser cache, enable TLS 1.1 or 1.2 in settings, and reopen the browser.
- Collect a support ticket and save for future reference.
- Back up the system configuration using the StoreOnce CLI command, `config save devices`.
- If using encrypted VTL, NAS or StoreOnce Catalyst stores, back up the key configuration using the StoreOnce CLI command, `config save keystore`.
- If you are using StoreOnce Remote Support, the connection from the StoreOnce to the HPE Secure Service Architecture has migrated from <https://remote.3par.houston.hp.com> to <https://storage-support.glb.itcs.hpe.com>. On the StoreOnce GUI page for Remote Support, manually

update the Enterprise Server URL to use the new URL. Additionally, it may be necessary to modify your firewall to reflect the new URL.

- Your DNS server should allow `storage-support.glb.itcs.hpe.com` (legacy) to be resolved to: `storage-support1.itcs.hpe.com` (16.248.72.63) or `storage-support2.itcs.hpe.com` (16.250.72.82).
- For Outbound Connectivity (File transfer from StoreOnce to HPE), Port 443 (https) should be opened (outbound) between the StoreOnce IP and the following IP addresses: 16.248.72.63 - `storage-support1.itcs.hpe.com` and 16.250.72.82 - `storage-support2.itcs.hpe.com`.
- If you are using StoreOnce Remote Support, remote event reporting will be re-enabled on reboot. If the system has not been rebooted, you can use the StoreOnce CLI command, `system disable remoteeventsuppression "reason"` or wait 24 hours for it to be automatically re-enabled.

Error messages during upgrade

You have attempted to upgrade software using an invalid file

- Error message:

```
> # system load packages
> Command Failed - com.ibrix.ias.model.BusinessException: Package file is invalid. Verify checksum
> of downloaded package file.
```
- Recommended Action:
Download the correct StoreOnce software upgrade RPM file from the HPE web site to your unit and re-run the system load package using the correct RPM file

You have attempted to upgrade 3.13.x to 3.14.x or later using a normal (non-OS conversion) RPM

- Error message:

```
> # system load packages
> Command Failed - com.ibrix.ias.model.BusinessException: Package file is invalid. Verify checksum
> of downloaded package file.
```
- Recommended Action:
Download the correct StoreOnce software upgrade RPM file from the HPE web site to your unit and re-run the system load package using the correct RPM file

You have attempted to upgrade on a system that is not running a minimum of 3.13.1 software

- Error message:

```
> # system update packages

Initializing.
Verifying staged package repository integrity.
Package stage area verification successful.
Updating from version '3.13.0-1529.2' to '3.15.1-1636.1rb'.
Reboot will occur after update completes.
Installing update tool packages. Can take 5 minutes to complete.
node 1 : Installing: D2D_UpdateTools
node 2 : Installing: D2D_UpdateTools
node 1 : Install successful
node 2 : Install successful
Update tool package installation successful. 0 minutes elapsed.
Updating from version '3.13.0-1529.2' to '3.15.1-1636.1rb'.
Reboot will occur after update completes.
> ERROR You must be running 3.13.1 or greater in order to update to 3.15.1
```

Removing update tools packages.
Update encountered system error(s) before starting the update.

- **Recommended Action:**
Upgrade the software to a version meeting the minimum requirements and then upgrade to the latest software. StoreOnce software upgrade RPMs for past releases are available from the HPE web site.

Discovered storage leftover after 3.13.x to 3.15.1 software upgrade

- **Error**
After upgrading from 3.13.x to 3.15.1, the output of the StoreOnce CLI command `system show status` shows a small amount of **Discovered GB to be added**.
- **Recommended Action:**
Run the StoreOnce CLI command `hardware add storage` to clear up this incorrect storage reporting.

Old support tickets are 0 KB in size after upgrading to 3.15.1

- **Error:**
After upgrading from StoreOnce 3.13.x to 3.15.1, support tickets older than the last three generated are empty, when downloaded.
- **Recommended action:**
Delete older tickets that are 0 KB in size and no longer contain any log data to download.

All other upgrade errors

Upgrade may fail for a number of other reasons. The recommended action is to read the error message, fix the highlighted problem, as appropriate, and run the software upgrade again. Possible errors include:

- **Hardware errors:** A hardware component may have failed or an Ethernet connection has been disconnected. It will also fail if the system is unable to discover storage.
- **Software errors:** There is a problem with service sets, file system or replication.
- **Firmware upgrade errors:** Failover has not been disabled on a StoreOnce 6500 system, or a service set is in an error state.

Related software

The following are available free of charge from the Software Depot:

- **HPE StoreOnce Enterprise Manager (SEM):** SEM is a standalone software application that provides basic management capabilities in a replication environment, and provides an easy way for customers to manage up to 400 StoreOnce devices that are being replicated across multiple sites. SEM also provides the ability to monitor disk usage and de-duplication ratios for devices allowing administrators the ability to identify devices that may need additional capacity. StoreOnce software version 3.15.1 requires SEM version 1.5.1 or later. If using earlier versions of SEM, the user will not be able to add newly-installed StoreOnce appliances to SEM.
- **HPE StoreOnce OpenStorage Plug-ins (OST for NBU):** The plug-in is required by Symantec NetBackup (NBU) applications when using StoreOnce Catalyst and is installed on the host media server(s).
- **HPE StoreOnce Catalyst plug-in for Oracle recovery manager (RMAN):** The plug-in is required by Oracle Recovery Manager when using StoreOnce Catalyst and is installed on the host media server(s).

- **HPE StoreOnce Plug-in for Microsoft SQL Server (SQL):** This plug—in provides functionality to backup and restore a database to different logical devices such as DISK, TAPE, or URL when using StoreOnce Catalyst and is installed on the Windows Server running Microsoft SQL server.
- **HPE StoreOnce Recovery Manager Central (RMC):** HPE StoreOnce Recovery Manager Central software integrates HPE 3PAR StoreServ primary storage with HPE StoreOnce Systems to provide a converged availability and backup service that offers an alternative to traditional backup software. RMC version 3 or later is recommended. If using RMC 1.2 or 2.x in a vCenter environment, newly-installed StoreOnce Systems must be added through the RMC graphical user interface.
- **HPE StoreOnce Catalyst Plug-in for SAP HANA:** The HPE StoreOnce Catalyst Plug-in for SAP HANA enables optimized protection for SAP HANA databases. It enables the Database Administrator to backup/restore directly to/from a Catalyst Store on a StoreOnce Backup appliance. The HPE StoreOnce Catalyst Plug-in for SAP HANA must be installed using the SAP HANA operating system user, not the root user. The plug-in includes guided installation and configuration for fast setup.

This software is available free with all StoreOnce Backup systems that have the corresponding Replication and StoreOnce Catalyst LTUs, as appropriate. The software, including release notes and documentation, can be downloaded from: www.hpe.com/support/softwaredepot.

Search for **StoreOnce** in the **Search Software Depot** search box.

The search result includes the StoreOnce System Software for all products, VSA evaluation files, and QR images for all hardware platforms, plus a link to **StoreOnce Free Software**. Click on **StoreOnce Free Software** to access SEM and the other software listed above.

Documentation feedback

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