DELLEMC

Dell EMC PowerStore Release Notes

Release Version: 1.0.3.0.5.007

Release Type: Service (SR)

Contents

Revision History

Document revision	Date	Comments
A00	December 2020	Original release version 1.0.3.0.5.007
A01	December 2020	Additions to the list of Resolved Issues.
A02	January 2021	Added "Improvements to inline compression," to the list of Changes.

Product Description

The ground-breaking Dell EMC PowerStore achieves new levels of operational simplicity and agility, utilizing a container-based architecture, advanced storage technologies, and intelligent automation to unlock the power of your data. Based on a scale-out architecture and hardware-accelerated advanced data reduction, PowerStore is designed to deliver enhanced resource utilization and performance that keeps pace with application and system growth. Utilizing the proven capabilities of VMware ESXi, PowerStore X models with AppsON provide the unique ability to host data-intensive and storage applications directly on the PowerStore system with a storage-based virtualization environment, with the flexibility of seamless movement of applications between the storage system and external VMware servers. PowerStore T models provide organizations with all the benefits of an enterprise unified storage platform for block, file and vVol data, while enabling flexible growth with the intelligent scale-up AND scale-out capability of appliance clusters.

Highlighted features include:

- Brand new built from scratch all NVMe Platform:
    - All NVMe
    - Active-Active architecture
    - Container based PowerStore OS
    - Block, File, and vVols
    - NVMe Flash and Storage Class Memory (SCM) media support
    - 25 Gbe iSCSI and 32Gb FC support
    - Compact 2U starting form factor
    - Enterprise Data Services & Leading Data Reduction:
    - Inline dedupe and compression
    - Native async replication
    - Snapshots and space efficient thin clones
- Enterprise Data Services & Data Reduction:
    - Inline dedupe and compression
    - Native async replication
    - Snapshots and space efficient thin clones
    - Advanced drive failure protection and sparing technology
- Simple and intelligent Management & Serviceability:
    - Embedded management
    - Built in AI for simple, autonomous storage administration and proactive health analytics
    - CloudIQ
    - VM Visibility
    - New Anytime Upgrade Program
    - Integration with automation framework
- Flexible & Granular Scalability:
    - Scale Up in single drive increments, up to 2.8 PBe per appliance
    - Scale Out to 4 appliances, up to 11.3 PBe per cluster
    - Scale Down
- VMware:
    - VMware vVols 2.0/VASA 3.0 support
    - New AppsOn hypervisor-based deployment, allowing to run Virtual Machines on the same appliance as storage without the need for an external server

PowerStore deployment models and configurations

Deployment Model	Model numbers	Support Configurations
PowerStore T	1000T 3000T 5000T 7000T 9000T	Storage-centric deployments. Both block (storage area networks (SAN)) and file (network attached storage (NAS)) services are supported with PowerStore T deployments. **Note**: Hypervisor deployments are not supported on this model.
PowerStore X	1000X 3000X 5000X 7000X 9000X	Application and storage-centric deployments. Block (SAN-only) storage services with a hypervisor layer installed on the system. The system software is deployed on the hypervisor, which enables deployment of virtual machines (VMs) and customer applications within the hardware. **Note**: File (network attached storage (NAS)) services are not supported on this model.

Refer to the PowerStore product support pages (https://www.dell.com/support) for detailed user documentation.

New Features

The following new features have been introduced in this version of PowerStore.

Functional Area	Feature Description	Summary of Benefits
Discovery	A new method of discovery has been added to PowerStore. In addition to discovering PowerStore with a direct connection or remotely with the Discovery Tool, you now have the option to discover PowerStore using reserved IP addresses. For details, see the *PowerStore Planning Guide*.	PowerStore Appliances can be discovered by providing a reserved IP address. After discovering PowerStore users can start the initial set up using this temporary IP address, and then they can switch to the management IP after configuration. The reserved IP address are also available to discover other appliances
Import	Agentless import of external storage to a PowerStore cluster This feature is independent of the operating system and the multipathing solution on the host, and the front-end connectivity between the host and the source system. Agentless import does not require the installation of host plugin software on the host, however, you do need to reconfigure the host application to work with the new PowerStore volumes. Only a one-time host application downtime is required prior to the migration. The downtime only includes renaming or reconfiguring the host application, file systems, and datastores to the PowerStore volumes. Only an iSCSI connection is supported between the source system and the PowerStore cluster. For Dell PS source systems, all the connections between the hosts and the Dell PS source system and between the hosts and the PowerStore cluster must be iSCSI. For Dell SC, or Dell EMC Unity, VNX2, XtremIO X1, XtremIO X2 source systems, the connections between the hosts and the Dell SC, or Dell EMC Unity, VNX2, XtremIO X1, XtremIO X2 source system and between the hosts and the PowerStore cluster must be either all iSCSI or all Fibre Channel (FC). For detailed information about this feature, see the *Importing External Storage to PowerStore Guide* on https://www.dell.com/powerstoredocs . For the most up-to-date supported versions of source systems and operating environment for an agentless import, see the *PowerStore Support Matrix*.	Installation of host plugin software on the host systems is not required. Ease of use – The agentless import process is fully orchestrated by PowerStore. A wizard guides the user through the whole process. Online copying of data between the source system and PowerStore is automated.

Functional Area	Feature Description	Summary of Benefits
Installation and upgrade	PowerStore X model systems now support VMware vSphere Remote Office Branch Office (ROBO) licenses. vSphere ROBO Enterprise and vSphere ROBO Advanced licenses are supported on PowerStore X model systems, but vSphere ROBO Standard licenses are not supported. NOTE: A vSphere ROBO license supports a maximum of 25 virtual machines.	A less expensive VMware vSphere ROBO license can be used by customers who do not require more than 25 VMs per PowerStore X model.
Installation and Upgrade	While upgrading PowerStore T models, Unified health check warnings are generated. The messages are only warnings, and PowerStore will continue with the upgrade.	Improve user experience of upgrades for Unified customers.
Monitoring	Improved user experience by displaying real-time capacity metrics when the system is in write protect mode. This allows the user to view the actual capacity metrics and decide which resources to delete to free capacity on the appliance.	Displaying the accurate metrics consumed by the storage resources allows the user to decide which resources to delete in order to free up capacity on the appliance.
Notifications and alerts	When you add an existing or new appliance to your PowerStore cluster, there is a chance that it may be running a different version of the PowerStore OS than the appliances in your cluster. An alert will now appear in PowerStore Manager when appliances within your cluster are running a different version of the PowerStore OS. To ensure that there is no degradation in performance or loss of access to features, it is recommended that you follow the prompts and upgrade the software such that all appliances in your cluster are running the same version of the PowerStore OS.	Users are alerted when an appliance, which is running a different version of operating system, is added to a PowerStore cluster. The alert text strongly recommends upgrading the appliances in the cluster to a common, and preferably, the latest OS version. Alerts are raised in the following scenarios: - When adding a new appliance If NDU fails to complete and renders the appliances in the same cluster running a different version of operating system.
Notifications and Alerts	The user will receive out of space alerts for Network Attached Storage and be notified of which actions are unavailable when an appliance is put in read-only mode due to out of space.	At the time the appliance is out of space, users are notified that: file systems will be in read-only mode. Actions such as volume creation, snap creation, are unavailable because the appliance has been put into read-only mode.

Functional Area	Feature Description	Summary of Benefits
Security	Directory Services for PowerStore The Lightweight Directory Access Protocol (LDAP), is an application protocol for querying and modifying directory services running on TCP/IP networks. LDAP helps centralize the management of network authentication and authorization operations. Integrating PowerStore Manager users into an existing LDAP environment provides a way to control management access based on established user and group accounts within the LDAP directory. PowerStore supports the following LDAP server types: - Active Directory—a Microsoft directory service. It runs on Windows Server and allows administrators to manage permissions and access to network resources. - OpenLDAP—a free, open-source implementation of LDAP. After you configure the LDAP settings for PowerStore, you can perform user management functions. For example, you can assign access permissions to PowerStore Manager based on existing users and groups, within the context of an established LDAP directory structure.	This feature allows system administrators to connect to authentication services for centralized user management across entire domains. This provides for easier and more flexible management of system user access and authorization to PowerStore appliances.
Service	Service script "svc_volume_space_metrics" is now available to retrieve volume family level capacity information when capacity and performance metrics are unavailable due to an out-of-space condition.	When capacity and performance data for a volume is unavailable, you can now use the service script to retrieve the following information for a volume: Volume family ID Volume family Volume family logical capacity used Volume family shared logical capacity used Volume family unique physical capacity used Name of the primary volume (name from CP volume config, empty string ("") if primary volume is deleted). Type of volumes in the family (block volume, vvol, file system volume, storage_type in CP volume configuration table) Number of snapshot volumes in the family Number of clone volumes in the family

Functional Area	Feature Description	Summary of Benefits

Virtualization
 	
Connectivity-
Networks
	During the initial configuration of a PowerStore X model appliance, best practice settings can be automatically applied to the appliance to enable maximum performance. This new step in the Initial Configuration Wizard will:
	
	    - Ask the user to provide two additional storage IPs, with the wizard automatically:
	
	        Mapping the storage IPs as additional internal iSCSI targets
	
	        Changing the internal ESXi queue depth according to depth according to best practices
	
	    - Allowing the user to change the cluster MTU to 9000, if supported within the customer's environment, according to best practices
	
	If the best practice settings were not applied during the initial configuration of a PowerStore X model appliance, the steps to apply some of the settings after the initial configuration have been automated. However, not all the configuration steps have been automated. It is strongly recommended that you apply the best practices during the initial configuration of an appliance.
	
	See KB article HOW17288 PowerStore X - Performance Best Practice Tuning or see the PowerStore Virtualization Integration White Paper for details.
		The settings needed to achieve maximum performance on PowerStore X system are now automated during Initial Configuration. Applying these settings during Initial Configuration is highly recommended. However, if the settings are not applied during Initial Configuration, it is now easier to apply these settings after Initial Configuration.

Functional Area	Feature Description	Summary of Benefits
Virtualization Installation and Upgrade	The PowerStore software upgrade for PowerStore X model appliances includes a required ESXi update for the internal nodes of the appliance. The internal nodes of an existing PowerStore X model appliances must be upgraded to VMware ESXi 6.7 P03, Patch Release ESXi670-202008001 (Build: 16713306) before the appliance can be upgraded to this latest version of the PowerStore OS. In addition to the ESXi update, other PowerStore X model components are required to be upgraded as well. Download the latest PowerStore X model software upgrade .zip file named PowerStoreX-1.0.3.0.5.007.zip from the Dell Digital Locker at https://www.dell.com/support/software Refer to the Upgrade Considerations in this document for further details.	The internal nodes on a PowerStore X appliance use a newer version of ESXi that contains bug fixes and security fixes.

Refer to the PowerStore product support pages (https://www.dell.com/support) for detailed user documentation

Changed Features

The following functionality has changed.

Functional Area	Feature Description	Summary of Benefits
Documentation	The following two documents: • *PowerStore Network Planning Guide* • *PowerStore Network Configuration Guide for Dell PowerSwitch Seires* have been removed from the documentation set, and have been replaced with: • *PowerStore Networking Guide for PowerStore T Models* • *PowerStore Networking Guide for PowerStore X Models*	The new guides include both planning and configuration information in one document for the specific PowerStore models, which allows for easier navigation through the guides.
Hardware	Improvements to inline compression.	Improvements to inline compression can increase data reduction up to 10%.
Upgrade	The PowerStore X Model software upgrade packages are available for download in a single zip file from the Dell Digital Locker at https://www.dell.com/support/software Three of the software upgrade packages contained in this .zip file must be uploaded to the PowerStore X model appliance and the fourth upgrade package must be uploaded to the vCenter Server. Before upgrading the PowerStore X model appliance, download the *Software Upgrade Guide*, which is available on the PowerStore Documentation page at: https://www.dell.com/powerstoredocs	Provides a single download that includes all of the software upgrade packages required to upgrade PowerStore X model appliances.177354

Resolved Issues

The following issues have been resolved in this release.

Issue ID	Functional Area	Description
MDT-208568	Connectivity - Hosts	Hosts may disconnect after zone changes are made to zones in a Cisco MDS Fibre Channel (FC) switch configured with Registered State Change Notification (RSCN-3) format (default from NX-OS 6.2).
MDT-168926	Connectivity - Networks	A cluster "Network validation failed with unexpected error (0xE0E700001)" message is returned erroneously while validating initial configuration. The error occurs because an internal entry for DNS was previously configured.
MDT-141081	Data Collection	The line graph for IO Size for values less than 1 KB (for example 512 B) will show as 1 KB when you hover over the line. The value in the hover is incorrect, however the representation of the line in relation to the legend is accurate.
MDT-148947	Data Protection	From a protection perspective, a snapshot of a volume group is a single-point-in-time copy of the volume group member volumes. Membership changes to the volume group prevent snapshot recovery operations, such as restore or refresh, unless the volume group is returned to the same membership state at the time the snapshot was created. It is recommended that you do not delete the volumes removed from a volume group until all the snapshots of the volume group either expire or are removed manually. If there are still volume group snapshots, the delete request for the volume returns the following error: "The Volume <volume name> (id: <unique id>) cannot be deleted until all volume group snapshots taken when this volume was a member of a volume group expire or are manually deleted." This error does not indicate the name of the volume group that is needed to delete the volume group snapshots so the volume deletion can succeed.
MDT-194877	Data Protection	When using the PowerStore CLI to create a snapshot_rule using the time_of_day property, the request fails with the error: "The specified time_of_day hh:mmZ is invalid."
MDT-214199	Hardware	Powering off or rebooting a node from PowerStore Manager generates call home support notifications.
MDT-221299	Hardware	Nodes rolling reboot might occur when formatting a LUN that is 2 TB in size (or a multiple of 2 TB) with SCSI UNMAP enabled.
MDT-168710	Internal Migration	In a PowerStore T cluster with more than one appliance, internal migration of Volumes or Volume Groups used by Microsoft Windows Failover Cluster may result in hosts losing access to storage.
MDT-148659	Install or Upgrade	If the peer node is inaccessible for too long, the software upgrade can fail.
MDT-153335	PowerStore CLI	The PowerStore CLI does not show all the required information for metrics when a roll-up result is returned for long interval values.

Issue ID	Functional Area	Description
MDT-154063	PowerStore CLI	The CLI client incorrectly displays embedded arrays of data in tabular output.
MDT-142069	PowerStore Manager(GUI)	There are situations when the system is Out of Space where the UI is unable to update its statistics. This situation will be evident by a red banner on the top of the screen. You may see objects in the UI that are incorrectly displayed as "0 MB/GB/TB" due to the inability for the UI to query for system statistics.
MDT-146618	PowerStore Manager(GUI)	In the Add Host wizard, the Host Protocol step incorrectly includes a prerequisite that reads, "...FC-based ethernet switch". It should read, "FC-based switch".
MDT-149011	PowerStore Manager(GUI)	On the Hardware > Rear View tab for an appliance, once you click Blink LED, the command is sent immediately, and the LEDs start to blink. It may take a long time for the Stop Blink LED button to appear in the GUI.
MDT-148153	PowerStore Manager(GUI)	On the Hardware > Rear View tab for an appliance, port abbreviations such as FEPort, hFEPort, and vFEPort may not be intuitive. Port abbreviations indicate the following: FEPort - Physical Frontend Port, hFEPort - Hypervisor Frontend Port, vFEPort - Virtual Frontend Port
MDT-166702	PowerStore REST API	The discovered_initiator command might fail and return the message "Error: {'reason': 'java.lang.Integer cannot be cast to java.lang.CharSequence.'}".
MDT-142562	Security	The cancel button of the drive re-purpose confirmation dialog does not close the dialog when clicked.
MDT-147508	Storage - File	SMB Server cannot join the Active Directory when the SMB server computer name is more than 15 characters and the first 15 characters of the SMB server computer name are the same as another SMB server's computer name.
MDT-170429	Storage - File	During manual failover, or failback of the NAS server, the failover, or failback operation may fail.
MDT-151302	Storage - File	If the network connection is unstable, the DNS may incorrectly be reported as offline. After restarting the NAS server, the health status of DNS is not cleared if the DNS is healthy.
MDT-146793	Storage - File	Uploading configuration files to a NAS server, which were edited in WordPad, does not work as expected.
MDT-143448	Storage - File	"After selecting a file system to delete, the DELETE button is disabled, and no message or tool-tip is displayed.
MDT-209335	SupportAssist	After enabling SupportAssist, PowerStore Manager displays the connection as "disabled," even when the connection was successfully enabled. The status message will be corrected after 15 minutes.

Issue ID	Functional Area	Description
MDT-195104	SupportAssist	There is a known issue with the 'Sent to Support' field of the Support Materials settings page. When a "SEND TO SUPPORT" action is taken against a Data Collection, the "Status" field will be set to "UPLOAD SUCCESSFUL". And the "Sent to Support" field will be given a timestamp almost immediately. This information really applies to the fact that the process has been initiated, and the file upload has begun, not that the upload has completed. Once the data upload to support has been completed ("Which may take up to 24 hours or more"), the "Sent to Support" timestamp may change to reflect the actual upload completion time. The implications of this is that if asked to send support materials to support, they may not have been received at the time of the timestamp. Work with your Support representative to verify that your materials have been received.
MDT-146912	Virtualization	In PowerStore X model, when both ESXi hosts of the appliance are rebooted simultaneously (for example, due to a power failure), ESXi iSCSI parameters (path selection policy, Round Robin IOPS limit, number of outstanding IOs with competing worlds) of one or both nodes may be reset to the default ESXi values. This may affect IO performance.

Known Issues

The following high severity issues are reported in this release. For a list of the minor issues, see Knowledge Base article SLN320772 PowerStore Release Notes – Minor issues at: https://www.dell.com/support/article/SLN320772.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-152854	Connectivity - Hosts	Running an unmap operation might cause a host I/O latency impact of more than 15%. You can disable auto-unmap for applications that have this feature, or manually schedule an unmap operation to reduce the impact on hosts.	Disable auto-unmap for applications that have this feature. Schedule unmap operations manually to reduce the impact on hosts.
MDT-154342	Connectivity - Hosts	When you add a host, in rare cases, you may not see any active sessions or connected paths for the initiators for up to 10 minutes on the Initiators tab.	Do not try adding the host again. Wait for up to 10 minutes for the active sessions to appear.
MDT-139488	Connectivity - Hosts	Xcopy operations can impact host I/O performance.	None
MDT-155327	Connectivity - Hosts	When you add a host, in rare cases, you may not see any active sessions or connected paths for the initiators for up to 10 minutes on the Initiators tab.	Do not try adding the host again. Wait for up to 10 minutes for the active sessions to appear.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-211358	Connectivity-Networks	TDIP stopped advertising on PowerStore 3000X model.	Perform either one of the following actions to workaround this issue: Either, wait a few minutes for the state of the system to change and try again. or Reset Drive, Mezz or I/O Module if available and wait for few minutes and try again, then reboot the primary node.
MDT-55667	Data Collection	Storage container capacity metrics are not available until I/O operations have begun.	Look at the capacity metrics again after I/O operations on the storage container have been performed.
MDT-220994	Data Protection	The replication session may not be deleted once a Protection Policy is unassigned from the storage resource.	To delete the replication session, do the following: 1. If Protection Policy is not assigned to the storage resource, reassign the the same Protection Policy that was previously assigned to the storage resource. 2. Unassign the Protection Policy from the storage resource.
MDT-133408	Data Protection	When a volume group is created with member volumes and is protected by a protection policy that includes a replication rule, the volume group members may be delayed in being replicated to the remote system until the next RPO cycle. The default replication rule RPO value in PowerStore Manager is 1 hour, but it can range from 5 minutes to 24 hours.	If the remote system connection is healthy, the member volumes should automatically be replicated to the destination during the next RPO cycle. To update the member volumes on the destination before the next RPO cycle, navigate to Protection-> Replication, select the volume group session and perform a "Synchronize" operation.
MDT-146780	Data Protection	When deleting a snapshot rule, the snapshot rule may not appear to be deleted, and the following error appears: "The system encountered unexpected backend errors. Please contact support. (0xE0101001000C)". Do not continue using the rule for protection.	Delete the snapshot rule again. The same error appears, but the rule will be deleted.
MDT-117061	Hardware	When beginning cluster creation, the hardware status is incorrectly indicated as not configured for clustering.	Wait a few minutes and try again.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-190232	Hardware	The svc_node shutdown command may reboot the node instead of powering it off.	Run the svc_node shutdown command again when the node has finished rebooting.
MDT-137439	Import	If an import from a Unity or VNX2 system to PowerStore is cancelled by the user or fails for some reason, it is possible that subsequent attempts to import the volume will also fail.	Remove the Unity or VNX2 as a remote system and then add it again. This action will clear the issue and allow the import to proceed.
MDT-174416	Import	Hosts groups are not supported for agentless import.	None
MDT-167020	Internal Migration	Migration of a storage resource failed with the error "Transit object with Handle <id> : status online on only one node." One of the nodes of the migration source appliance was down when the synchronize phase started. Both nodes must be online for migration.	Bring the offline node back online and then try the migration again.
MDT-145764	Internal Migration	During migration the temporary volumes that are created during migration are calculated into the vVol capacity metrics. The temporary volumes should not be included in the calculation.	Wait for migration to complete to get the correct calculation.
MDT-140927	Internal Migration	After a volume is migrated, there may be a dip in capacity and performance metrics reporting for that volume at the end of the migration operation.	None
MDT-164726	Install or Upgrade	If the Pre-Upgrade Health Check fails during an upgrade from PowerStore OS 1.0 to PowerStore OS 1.0.1 or later, clicking the failed operation link under Recent activities might result in an error an error because of a localization issue with the event message.	None
MDT-220508	Install or Upgrade	When you are upgrading a PowerStore X model appliance to PowerStore version 1.0.3.0.5.007, running a Health Check on the PowerStore software upgrade package might result in the following error message: Internal error has occurred.	Do not perform a Health Check on a PowerStore X model appliance before the preupgrade package and node firmware upgrades are installed on the appliance. Wait until the preupgrade package and node firmware upgrades are installed before performing a Health Check on a PowerStore X model appliance.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-219735	Install or Upgrade	If a PowerStore 1.0.3.0.5.007 software upgrade package is uploaded to a PowerStore T model cluster with a single appliance running PowerStore OS version 1.0.1.0.5.002 or 1.0.1.0.5.003, then an appliance running PowerStore OS version 1.0.2.0.5.003 is added to the cluster and another PowerStore 1.0.3.0.5.007 software upgrade package is uploaded to the cluster, performing an upgrade will fail before the upgrade process completes on the primary appliance and the second appliance will not be upgraded.	Contact your service provider.
MDT-156905	Install or Upgrade	After a software update, the NAS servers may not fail back automatically to the original node.	Manually fail back the NAS servers from PowerStore Manager.
MDT-135505	Install or Upgrade	Drive firmware updates may not get applied to a single or few drives within the appliance. This may occur because of a timing issue between the two nodes in the appliance.	Download and install the drive firmware again to ensure it gets updated on the drives that were missed in the previous attempt.
MDT-170949	Install or Upgrade	Running PowerPath 7.1 and earlier on a Linux host causes an I/O error during the software upgrade of PowerStore OS 1.0 to PowerStore OS 1.0.1.	Apply the next/upcoming PowerPath 7.1 patch, and then run the PowerStore software upgrade to avoid the I/O error.
MDT-146346	Notifications and Alerts	Some hardware alert states may persist for a short time after the health of the object has been restored. The alert states eventually resolve with the correct state.	None
MDT-118394	PowerStore Manager(GUI)	Uploading an upgrade package that is larger than 4 GB with Microsoft Edge or Internet Explorer fails.	Try again with a different browser.
MDT-86305	PowerStore Manager(GUI)	When you power down a node in PowerStore Manager, the screen does not automatically refresh the state to indicate that the node is getting powered off.	On the Hardware tab, click the Refresh icon (appears on the top right corner of the tab, next to the base enclosure image) or refresh the browser page.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-145344	PowerStore Manager(GUI)	While performing a Refresh Using Related Volume or Volume Group operation, you might receive an exception error when you select Choose One from the drop-down before you click Refresh. If this occurs, you must restart PowerStore Manager.	When refreshing a resource, do not select the "Choose One" entry in the Refresh from Volume/Volume Group drop-down.
MDT-163489	PowerStore Manager(GUI)	Once a node is replaced, the new node hardware information does not appear in PowerStore Manager immediately.	After replacing a node, wait up to 30 minutes for the PowerStore Manager screen to reflect the update.
MDT-130894	PowerStore REST API	Two invalid resource_types, FEPort and Initiator, may be returned by the event and alert APIs.	Events or alerts with resource_type FEPort or Initiator should ignore the resource_type values. External OpenAPI clients must disable validation for the event and alert APIs with resource_types of FEPort or Initiator.
MDT-153026	Security	When a drive is inserted into an appliance, it will take time for D@RE to unlock it. Most drives take a few minutes. However, it takes more time for a ColdStream drive to unlock. The time is proportional to the size of the Intel Optane SCM drive, for example, 7 minutes for 375 GB, 15 minutes for 750 GB, and 27 minutes for 1.5TB. If you pull a drive out before it is unlocked, the drive will appear as disconnected. However, the drive will not be automatically removed from the appliance.	If you intend to use the drive, re-insert the drive and let the DARE unlock complete. If you intend to stop using the drive, re-insert the drive, wait for enough time (time to unlock plus about 1 minute for other overhead), and then remove the drive. The drive will then become disconnected and automatically removed from the system.
MDT-213516	Security	DNS is not supported for LDAP.	None
MDT-121966	Storage - File	The File system deleted alert is displayed as an active alert in PowerStore T even after the file system has been successfully deleted.	Review the alert details, to confirm the alert is for a file system that has been deleted. Once confirmed, ignore or acknowledge the pending alert.
MDT-121784	Storage - File	After a NAS server is successfully deleted, the alerts against the deleted child objects of the NAS server such as DNS servers, file systems, NFS exports, or SMB shares, are not cleared.	Review the alert details, to confirm the alert is for a child object of a successfully deleted NAS server. Once confirmed, ignore or acknowledge the pending alert.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-139095	Storage - File	While trying to create or delete a snapshot the following error message was returned: "Addition [or deletion] of NFS Export failed due to [The path [path_name] was not found on the system and cannot be exported.]"	Wait for some time and try the action again.
MDT-147688	Storage - File	SMB clients cannot connect to a NAS server when the NAS server name is more than 15 characters. This is because by default the SMB server computer name takes the NAS server name.	Set the NAS Server name with 15 characters or less or set the SMB server's computer name with 15 characters or less. To modify the computer name, select all the characters in PowerStore Manager, and type the new name.
MDT-110930	Storage - File	Access to a snapshot is denied when there is only one snapshot created on the file system, and access to the snapshot is attempted at the time the snapshot is refreshing.	Mount and umount the export on the client.
MDT-142317	Storage - File	After configuring and running I/O operations to SMB shares and NFS exports events such as an appliance or NAS server reboot, or a file system unmount or remount may cause some negative values to appear in the saved file system performance statistics exported from PowerStore Manager (GUI).	None
MDT-118544	Storage - File	After a request is sent from the REST API with an incorrect GUID, the error message returned displays the invalid UID: 00000000-0000-0000-0000-000000000000.	Ignore the UID in the error message and retry the request with the correct GUID.
MDT-154600	Storage - File	The following alert is sent during upgrade "NAS server [server name] fault tolerance is degraded due to NAS upgrade procedure on a peer NAS cluster node." However, once upgrade is complete the alert is not always automatically cleared.	After upgrade completes, acknowledge the alert to clear it.
MDT-116676	Storage - File	The "NAS node <node name> is down," major alert may be seen after changing the Cluster MTU value. Changing the MTU value may cause degradation or disruption in NAS (file) services.	Wait for the alert to clear before performing any further NAS (File) operations.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-137232	Storage - File	Under rare circumstances, NAS services could be disrupted, if the appliance is close to reaching the maximum used data capacity.	Take one of the following actions on the appliance on which the NAS service is installed: add capacity to the appliance (for example, add drives or expansion enclosures), increase free capacity on the system (for example, deleting unused snapshots, volumes) , or migrate data off the system.
MDT-210085	Storage - File	Unable to add a Tree Quota to a File system because there the description is too large (more than 512 bytes).	Add a shorter description to the Tree Quota.
MDT-195652	Storage - File	Unable to remove the description from an NFS Export.	To change the description, overwrite the current description with a blank character space. Save the NFS Export with no description, then go back and update the description again.
MDT-148608	SupportAssist	Attempts to upload Support Materials fail. SupportAssist is unable to upload files when there is insufficient free space in the system partition.	Delete old Data Collections to increase the available space in the file system so that SupportAssist can make a backup copy of the file for upload.
MDT-153771	SupportAssist	Enabling either Direct connect with remote access or Gateway connect with remote access may fail.	If enabling either higher tier type, Direct connect with remote access or Gateway connect with remote access, fails, wait for the backend issue to clear, then do the following: 1. Enable the related lower tier type, Direct connect without remote access or Gateway connect without remote access. 2. Disable the related lower tier type. 3. Re-enable the higher tier type, Direct connect with remote access or Gateway connect with remote access type. If the issue persists, contact your service provider.
MDT-109970	Virtualization	Unable to create a vVol storage container in PowerStore, after having just deleted a vVol datastore with the same name from vSphere.	Either create the vVol storage container in PowerStore using a different name or allow some more time before creating the new vVol storage container in PowerStore with the same name that was used in vSphere.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-111956	Virtualization	In rare case, the automated mounting of a user-created PowerStore vVol storage container on an ESXi host could fail with the following error message displayed in vCenter "Timed-out waiting to get datastore information from host".	Manually mount the vVol storage container from the VMware vSphere GUI or CLI.
MDT-156507	Virtualization	In high scale VMware vSphere environments, where the ESXi hosts and vCenter server are highly loaded (for example, simultaneous powering on a large number of VMs), heartbeat messages sent by the ESXi hosts to the vCenter server may not be delivered in time. When the heartbeat is not received in the 60-second timeout interval, the host is considered as not responding, and the host is marked as disconnected. This may result in the vSphere High Availability (HA) to trigger VM migrations to other hosts in the cluster.	In vCenter server, increase the heartbeat timeout interval to 120 seconds. See VMware Knowledge Base article 1005757. In case some VMs appear as invalid or orphaned as a result of the ESXi host disconnect, see the VMware Knowledge Base article 1003742 for instructions on recovering the VMs.
MDT-146763	Virtualization	During a vMotion process, some vVols are deleted. If the VASA provider becomes unavailable during a storage vMotion operation, the deletion of the vVols fails. These vVols are left orphaned and may appear as duplicates.	Delete the orphaned vVols using PowerStore CLI or REST API.
MDT-151804	Virtualization	In a PowerStore cluster with multiple VMFS datastores that are mapped to multiple hosts, a performance impact might occur if several VMs are powered off or powered on simultaneously.	Refer to the Dell knowledge base article SLN320477: "Best practices for VMFS datastores – for Bootstorm or Failover with VMware SRM" for additional details.
MDT-152993	Virtualization	A periodic, automatic cleanup process on vSphere that is performed randomly (every few days) deletes empty config vVols (directories). However, this process also deletes the ISOs folder that is pre-created by PowerStore in case you have not placed any ISO images into the folder.	Recreate the ISOs folder using the following PowerStore CLI command: pstcli -service storage_container -id <id where to create the folder> create_directory -size 100G -name ISOs By default PowerStore creates a 500 GB folder, but you can specify another size if necessary.

Issue ID	Functional Area	Description	Workaround/Resolution
MDT-119414	Virtualization	Deploying a VM fails, and checking the vvold.log vCenter log file reveals the following messages: 2019-11-15T05:24:35.161Z info vvold[2112740] [Originator@6876 sub=Default] VVolAbandonedObjectScan::ProcessNamespace examining namespace /vmfs/volumes/<storage-container-identifier>/<vvol-identifier> and 2019-11-15T05:24:35.318Z warning vvold[2112740] [Originator@6876 sub=Libs] 2112740:VVOLLIB : VVolLib_OpenObjectTrackingFile:11348: VVolLib_OpenObjectTrackingFile: Failed to open object tracking file /vmfs/volumes/<storage-container-identifier>/<vvol-identifier>/.vvolObjList with error 6 where <storage-container-identifier> is the UUID of the storage container and <vvol-identifier> is the alphanumeric identifier of the config-vVol of the VM.	Try to deploy the VM again. For more information, see the Dell knowledge base article SLN320647.

Limitations

The following limitations exist in this release.

PowerStore T and PowerStore X model limitations

The following limitations exist in PowerStore T and PowerStore X deployment models.

Functional Area	Description
Importing external storage to PowerStore	A maximum of 16 import sessions is supported in the Ready-For-Cutover state during an import. In some cases, when several dozen import operations are run back-to-back, intermittent failures of alternate import sessions may occur. If this occurs, do the following:
	Remove the remote system and then add it again.
	Run fewer set of imports (16 or less) at a time. It is recommended to start all these import sessions with automatic cutover turned off.
	Once all imports have reached the Ready-For-Cutover state, do a manual cutover.
	After one set of imports is completed, run the next set of imports after a delay of 10 minutes. This delay allows enough time for the system to cleanup any connections to the source system.
PowerStore Management access	Use the PowerStore cluster management IP address to access the PowerStore Manager and the PowerStore REST API. The appliance management IPs are intended primarily for service use.
PowerStore scalability limits	The *PowerStore Simple Support Matrix* lists the scalability limitations in PowerStore models. The PowerStore Simple Support Matrix is available from PowerStore documentation page at: https://www.dell.com/powerstoredocs
Internal migration	Prior to performing an internal migration, please refer to *PowerStore:Supported Host OS for Non-Disruptive migration of Storage resources* at: https://www.dell.com/support/article/en-us/how17129/ for a list of supported configurations and limitations.
Security	DNS is not supported for LDAP.
SupportAssist	SupportAssist cannot be enabled on PowerStore models configured with IPv6 for the management network. SupportAssist is not supported over IPv6.

PowerStore X model limitations

The following limitations exist in PowerStore X deployment models.

Functional Area	Description
Clustering	Clustering with multiple PowerStore X appliances is not supported
Replication of Virtual Volumes (vVols)	Replication of vVols is not supported
Storage – File	NAS services are not supported in PowerStore X models.
Support for Virtual Machines	Virtual Machines (VMs) running on PowerStore X internal nodes only supports Virtual Volumes (vVols). Virtual Machine File System (VMFS) is not supported for internally running VMs, but is supported when using PowerStore X with external ESX servers attached via Fibre Channel or iSCSI.

Refer to the PowerStore product support pages (https://www.dell.com/support) for detailed user documentation.

Environment and System Requirements

All PowerStore deployment models must meet the following environment and system requirements.

Support Matrix

For compatibility and interoperability information, see the *PowerStore Support Matrix* which can be downloaded from the PowerStore Documentation page at: https://www.dell.com/powerstoredocs.

Host Configuration requirements

For host connectivity to PowerStore appliances, please refer to the *Dell EMC PowerStore Host Configuration Guide*.

Installation and Upgrade Considerations

Installation considerations

Before you begin to install PowerStore, review the *PowerStore Deployment Checklist*. Once you have completed all the planning steps in the *PowerStore Deployment Checklist*, you are ready to install your system.

The *PowerStore Deployment Checklist* can be downloaded from the PowerStore Documentation page at: https://www.dell.com/powerstoredocs.

Upgrade considerations

Before upgrading PowerStore refer to the *Dell EMC PowerStore Software Upgrade Guide*, which can be downloaded from the PowerStore Documentation page at: https://www.dell.com/powerstoredocs.

PowerStore T model appliance

To upgrade your PowerStore T model cluster to PowerStore version 1.0.3.0.5.007:

1. Download the latest PowerStore T software upgrade package named PowerStoreT-1.0.3.0.5.007.tgz.bin from the Dell Digital Locker at https://www.dell.com/support/software.

Upgrade package name	Package type	Description	Required
PowerStoreT-1.0.3.1.3.xxx.tgz.bin	Software release	PowerStore OS and node firmware updates	Yes

2. Perform the steps in the Upgrading PowerStore T model clusters section of the *PowerStore Software Upgrade Guide* to upgrade your PowerStore T model cluster.

PowerStore X Model appliance

To view a list of compatible PowerStore OS and ESXi/vCenter versions for PowerStore X model appliances, see the *VMware Licensing and Support for PowerStore X* table in the which can be downloaded from the PowerStore Documentation page at: https://www.dell.com/powerstoredocs.

To upgrade your PowerStore X model appliance to PowerStore version 1.0.3.0.5.007:

1. Download the latest PowerStore X model software upgrade .zip file named PowerStoreX-1.0.3.0.5.007.zip from the Dell Digital Locker at https://www.dell.com/support/software

2. Extract the software upgrade packages from the .zip file to a folder on your computer. The contents of the PowerStore X software upgrade .zip file are:

Upgrade package name	Package type	Description	Required
ESXi670-202008001.zip	ESXi update	Dell EMC qualified VIB with ESXi 6.7 P03	Yes
PowerStore-node_firmware-1.57.tgz.bin	Hotfix	PowerStore node firmware updates	Yes
PowerStoreX-1.0.3.0.5.007.tgz.bin	Software release	PowerStore OS updates	Yes
PowerStoreX1.0.3_README	README file	PowerStore software upgrade README file	No
PowerStoreX-PreUpgrade_Package-1.9.tgz.bin	Hotfix	Custom Dell EMC qualified VIBs for ESXi hosts	Yes

3. Perform the steps in the *Upgrading PowerStore X model appliances* section of the *PowerStore Software Upgrade Guide* to upgrade your PowerStore X model appliance:

The order that the software upgrades must be performed are:

1. Preupgrade - PowerStoreX-PreUpgrade_Package-1.9.tgz.bin

2. Node firmware - PowerStore-node_firmware-1.57.tgz.bin

3. ESXi update - ESXi670-202008001.zip

4. PowerStore OS - PowerStoreX-1.0.3.0.5.007.tgz.bin

The upgrade packages that must be uploaded to the PowerStore X model appliance are:

- PowerStoreX-PreUpgrade_Package-1.9.tgz.bin

- PowerStore-node_firmware-1.57.tgz.bin

- PowerStoreX-1.0.3.0.5.007.tgz.bin

The update package must be uploaded to the vCenter Update Manager on the vCenter Server is ESXi670-202008001.zip.

NOTE: Note: If the ESXi update package ESXi670-202008001.zip has been previously applied to the ESXi hosts on the PowerStore X model appliance, the ESXi update does not need to be performed again during the PowerStore X upgrade. However, if the ESXi update is not performed during the PowerStore X upgrade, the ESXI hosts on the nodes of the appliance must be rebooted to complete the installation of the preupgrade package and node firmware updates before upgrading the PowerStore OS. For more information, see the Upgrade the PowerStore OS section of the *PowerStore Software Upgrade Guide*.

NOTE: Do not perform a Health Check on the PowerStore X model appliance before the preupgrade package and node firmware upgrades are installed on the appliance. Performing a health check on the PowerStore X model appliance before the preupgrade package and node firmware upgrades are installed results in an internal error message, which can be ignored.

Where to Get Help

Dell Technologies maintains support pages for all products at https://www.dell.com/support.

The product support pages provide important product information such as product and user documentation, knowledge base articles, drivers and other software installation packages downloads, advisories, knowledge base articles, and more.