Storage Center 7.5.2 Release Notes

This document describes the new features and changes in this release of Storage Center.
Current Release Version: 7.5.2
Release Type: Service (SR)

Topics:

Revision History

Table 1. Document revision history

Revision	Date	Description
A	September 2021	Initial release of Storage Center 7.5.2

Product description

Storage Center 7.5.2 is a service release of the Storage Center operating system for SC9000, SC8000, SC7020F, SC7020, SC5020F, SC5020, SC4020, SCv3000 Series, and SCv2000 Series storage systems.

This release of Storage Center contain fixes to issues found in Storage Center 7.5.1.

Resolved issues

The following high severity issues are resolved in this release:

Table 2. Issues resolved in Storage Center 7.5.2

Issue	Functional area	Description
SCOS-63174	Hardware	Firmware updates for one or more components in an SC5020 storage system chassis might fail after updating to Storage Center 7.5.1.
SCOS-63177	Live Volume and Replication	A storage system using mezzanine card ports for cross-platform replication traffic might reset repeatedly after updating to Storage Center 7.5.1.
SCOS-63172	Storage Management	False SNMP warnings stating `Max object limit reached` might be generated for some APIs.
SCOS-63315	Storage Management	Memory allocation and I/O failures might occur on a controller if metadata paging stops responding.
SCOS-63230	Storage Management	A controller might reset when it tries to access a deleted object while aborting IORP.

Table 2. Issues resolved in Storage Center 7.5.2 (continued)

Issue	Functional area	Description
SCOS-63212	Storage Management	A controller might reset during a revert operation on a storage system with front-end SAS ports that are connected to an ESXi host.
SCOS-63153	Storage Management	A controller reset or system outage might occur after updating to Storage Center 7.5.1 if an ESXi host generates a large number of concurrent unmap commands.

Known issues

The following high severity issues remain unresolved in this release:

Table 3. Known issues in Storage Center 7.5.2

Issue	Functional area	Description	Workaround/Resolution
SCOS-62354	Alerts, Logs, and Reports	For SCv3000 Series, SC5020, and SC7020 storage systems, the BIOS and iDRAC may not display the correct DIMM speed.	The incorrect DIMM speed displayed in the BIOS and iDRAC can be ignored.
SCOS-60273	Alerts, Logs, and Reports	Applications that use third-party LDAP clients may cause Windows to generate incorrect Event ID 2889 message entries. This issue occurs if LDAP interface events are logged and the LDAPServerIntegrity setting is set to 2.	The Event ID 2889 message entries can be ignored.
SCOS-38226	Alerts, Logs, and Reports	In rare instances, a Sync LiveVolume Auto Failover alert is not cleared when the condition is corrected.	Use Storage Manager to manually acknowledge and clear the alert.
SCOS-13237	Data Reduction	The Storage Type Data Reduction statistics might be incorrect if the amount of data eligible for Data Reduction contains fewer than 256 pages.	None
SCOS-52646	Hardware	The boot cycle of an SC9000 controller might stop responding or restart several times because of an issue in the BIOS or pre-boot sequence.	Perform a cold boot of the SC9000 controller by disconnecting both power cables from the controller, waiting one minute, and then reconnecting the power cables to controller.
SCOS-49735	Hardware	On SCv3000 series, SC5020, or SC7020 storage systems, the ports on Intel branded SFP+ modules in XL710 mezzanine cards might go into an infinite up and down loop.	Use Dell branded SFP+ modules in XL710 mezzanine cards instead of Intel branded SFP+ modules.
SCOS-60092	Live Volume and Replication	If Live Volume is enabled on a storage system, and a Live Volume auto failover occurs during a Storage Center firmware upgrade, the Live Volume on the storage system might become inaccessible.	Disable Live Volume Auto Failover before performing upgrades or known maintenance on a storage system. Enable Live Volume Auto Failover after the work on the storage system is complete.
SCOS-59752	Live Volume and Replication	When replicating from a Storage Center to a PS Group, if the size of the replica reserve is set to 105%, an in-progress replica is deleted on the destination PS Group when the borrowing space limit is exceeded. The source Storage Center reports that the remote disk is down and it enters a retrying state.	Reseed the replication and set the size of the replica reserve to 200%.
SCOS-41280	Live Volume and Replication	Using a cluster shared volume (CSV) on a Storage Center within a Windows	Use redundant physical switches to reduce the possibility of the I/O failure.

Table 3. Known issues in Storage Center 7.5.2 (continued)

Issue	Functional area	Description	Workaround/Resolution
		2016 cluster solution might result in an I/O failure during an infrastructure fault condition where one of the Windows hosts is isolated from both its peer and its quorum witness.	
SCOS-17981	Live Volume and Replication	Server mappings may not be removed completely when a server is removed from a cluster using Storage Manager before the server is removed from the cluster.	Remove the server from the cluster through the operating system first. After the server is rebooted, remove the server object using Storage Manager.
		When a server is removed from one Storage Center only, or a volume is unmapped on one Storage Center only, the persistent reservations might not stay consistent between primary volume and secondary volume.	When removing a server from a cluster or unmapping a volume, perform the following steps: 1. Remove the server from the cluster, or unmap the volume on the server side before making changes on the Storage Centers. 2. Delete the server on both Storage Centers, or unmap the volume on both Storage Centers.
SCOS-14322	Live Volume and Replication	A `one path to disk` alert is generated when a Live Volume is created and there is only one replication path per controller.	None
ENHTKR-90	Live Volume and Replication	When importing a volume, Storage Manager does not allow you to select 0 as the LUN number.	Change the LUN number of the volume to 0 after importing the volume.
SCOS-59639	Storage Management	A controller might reset due to a timeout caused by IPMI/KCS driver errors.	Set the IP address of the iDRAC (BMC) on each controller to a non-routable address such as `0.0.0.0`.
SCOS-40588	Storage Management	Connecting to a storage system through Storage Manager Data Collector and setting up an iSCSI fault domain in legacy mode might result in the error `Unable to access controller port information` and an iSCSI fault domain with only one port.	Use the Storage Manager Client to connect directly to the storage system and then set up an iSCSI fault domain in legacy mode.
SCOS-22150	Storage Management	In rare instances, a controller failover on an SC7020 or SC5020 storage system might prevent Secure Console access.	Contact technical support.
SCOS-22026	Storage Management	Removing an HBA or deleting a server object before unmapping it from volumes might result in the server losing access to volumes and prevent controller failover from completing properly.	Contact technical support.
HPEM-541	Storage Management	In rare instances, SC7020 updates do not complete successfully and the Storage Center might indicate that updates are still required.	Contact technical support.
SCOS-62922	Vendors	A Fibre Channel port may restart after being plugged into a Brocade Fibre Channel switch running Fabric OS v8.2.0, v8.2.1, or v8.2.2 that also has multiple logical switches configured.	Set the `fabric.rdp_poll_cycle` setting to `0` in the switch configuration for Fabric OS v8.2.0, v8.2.1, or v8.2.2. This issue is fixed in Fabric OS v8.2.3 and v9.0.0.
SQAI-9	Vendors	An ESXi 5.5 (Update 3b) host using FCoE and QLogic 8262 converged network	Update the QLogic firmware on the adapter. The QLogic

Table 3. Known issues in Storage Center 7.5.2 (continued)

Issue	Functional area	Description	Workaround/Resolution
		adapters (CNAs) might cause the host to fail during controller failovers.	firmware is available at https://www.dell.com/support/home/us/en/19/Drivers/DriversDetails?driverId=6RGDW.
SQAI-3	Vendors	Software FCoE timeouts might occur when using CNAs in NIC mode.	Update the QLogic firmware on the adapter. The QLogic firmware is available at https://www.dell.com/support/home/us/en/19/Drivers/DriversDetails?driverId=6RGDW.
SQAI-2	Vendors	An ESXi 5.5 or 6.0 host with an Emulex FC/FCoE HBA running driver version 11.0.x.x might reset during a controller failover.	Update to the latest Dell custom images of ESXi 5.5, 6.0, or 6.5.
SQAI-1	Vendors	Fibre Channel boot from SAN does not work with Emulex LPe12002 boot code version 7.00a2 and the Linux servers RHEL 6.8, SLES 12, and XenServer 7.0.	Update to Emulex 12002 boot code version 11.20a8 or later.
SCOS-27133	Vendors	Server bandwidth to the onboard 10 Gb Ethernet ports on an SC7020 drops significantly on reads when the server iSCSI initiator has interrupt moderation set to default or enabled.	For a Windows server, disable interrupt moderation on the iSCSI cards as described in Dell EMC SC Series Storage: Microsoft Multipath I/O Best Practices. For operating systems other than Windows, review the operating system documentation for instructions on changing interrupt moderation settings. For example, on Linux use the `ethtool` utility to change interrupt moderation settings.

Limitations

The following limitations exist in this release:

Table 4. Limitations in Storage Center 7.5.2

Limitation	Description
Portable Volumes	Storage Center 7.5.2 does not support Portable Volumes. Portable Volumes are supported in Storage Center 7.2 or earlier.

Environmental and system requirements

This section describes environmental and system requirements in this release.

Storage Manager 2020 R1 or later is required to manage storage systems running Storage Center 7.5.2 and Storage Center 7.5.2 supports the following storage system models:

- SC9000
- SC8000
- SC7020F
- SC7020
- SC5020F
- SC5020
- SC4020
- SCv3000 Series
- SCv2000 Series

> **NOTE:** Storage Center 7.5.2 supports cabling mixed-speed expansion enclosures. SC400, SC420, and SC420F expansion enclosures can be cabled with SC200 and SC220 expansion enclosures.

Storage System Scalability Guidelines

The following table lists the scalability guidelines for dual-controller storage systems:

Table 5. Scalability Guidelines for Dual-Controller Storage Systems

Storage System (memory per controller)	Raw (512 KB pages)	Addressable (512 KB pages)	Raw (2 MB pages)	Addressable (2 MB pages)	Raw (4 MB pages)	Addressable (4 MB pages)
SC9000 (128 GB or 256 GB)	1500 TB	1000 TB	6000 TB	4000 TB	12,000 TB	8000 TB
SC8000 (64 GB)	750 TB	500 TB	3000 TB	2000 TB	3000 TB	2000 TB
SC7020F or SC7020 (128 GB)	1000 TB	650 TB	4000 TB	2600 TB	8000 TB	5200 TB
SC5020F or SC5020 (64 GB)	540 TB	350 TB	2160 TB	1400 TB	4320 TB	2800 TB
SC4020 (16 GB)	263 TB	175 TB	1054 TB	700 TB	1054 TB	700 TB
SCv3000 Series (16 GB)	250 TB	169 TB	1000 TB	675 TB	2000 TB	1350 TB
SCv2000 Series (8 GB)	168 TB	112 TB	672 TB	450 TB	N/A	N/A

> **NOTE:** In the release notes for Storage Center 7.2 and Storage Center 7.1, the supported maximum storage space for an SC4020 using a 512 KB page size was incorrectly calculated as 500 TB raw and 400 TB addressable. The correct supported maximum storage space for an SC4020 using a 512 KB page size is 263 TB raw and 175 TB addressable.

Storage Center Scalability Guidelines

The following tables list the Storage Center scalability guidelines:

Table 6. Storage Center Scalability Guidelines (except for SCv3000 Series and SCv2000 Series Storage Systems)

Storage Center Object	Supported Maximum
Drives	- SC9000 – 1024 drives total, 192 drives per SAS chain - SC8000 – 960 drives total, 168 drives per SAS chain - SC7020F or SC7020 – 606 drives total, 192 drives per SAS chain - SC5020F or SC5020 – 222 drives total, 192 drives per SAS chain - SC4020 – 192 drives total, 168 drives per SAS chain
Disk Folder	10 disk folders
Server	500 servers (Total number of servers includes physical servers, virtual servers, and server clusters) 500 server folders 1000 server HBA initiator ports (Total number of HBA initiator ports includes all physical and virtual ports that are visible to the SAN)
Volume	500 TB maximum volume size (or the maximum addressable storage space, whichever is less) 2000 volumes 500 volume folders
Deduplication	1 PB data ingestion limit (SC4020 – 500 TB data ingestion limit)
Data Instant Replay (Snapshots)	- Snapshots: - SC9000 – 32,000 snapshots - SC8000 – 16,000 snapshots - SC7020F or SC7020 – 16,000 snapshots - SC5020F or SC5020 – 8000 snapshots

Storage Center Object	Supported Maximum

	○ SC4020 – 8000 snapshots
	● 1000 snapshot profiles
	● 100 snapshot history profiles
	● 200 consistency groups
	● 100 volumes per consistency group
	  ○ SC5020F or SC5020 – 50 volumes per consistency group
	  ○ SC4020 – 40 volumes per consistency group

Replications	● Source replications:
	  ○ SC9000 – 1000 source replications
	  ○ SC8000 – 500 source replications
	  ○ SC7020F or SC7020 – 1000 source replications
	  ○ SC5020F or SC5020 – 500 source replications
	  ○ SC4020 – 500 source replications
	● 2000 target replications
	  ○ SC4020 with Fibre Channel front-end ports – 1000 replications
	  ○ SC4020 with iSCSI front-end ports – 230 replications

Live Volumes	● 500 Live Volumes ● 150 Live Volumes with Auto-Failover
QoS Profiles	● 100 Volume QoS Profiles ● 100 Group QoS Profiles ● 100 Volumes per Group QoS Profile
Thin Import	10 volumes (maximum simultaneous imports)

Table 7. Storage Center Scalability Guidelines for SCv3000 Series Storage Systems

Storage Center Object	Supported Maximum
Drives	● SCv3000 – 208 drives total, 192 drives per SAS chain ● SCv3020 – 222 drives total, 192 drives per SAS chain
Disk Folder	10 disk folders
Server	● 250 servers (Total number of servers includes physical servers, virtual servers, and server clusters) ● 250 server folders ● 500 server HBA initiator ports (Total number of HBA initiator ports includes all physical and virtual ports that are visible to the SAN)
Volume	● 500 TB maximum volume size (or the maximum addressable storage space, whichever is less) ● 1000 volumes ● 500 volume folders
Data Instant Replay (Snapshots)	● 4000 snapshots ● 1000 snapshot profiles ● 100 snapshot history profiles ● 100 snapshots per volume ● 200 consistency groups ● 25 volumes per consistency group
Replications	● 250 source replications ● 1000 target replications
Live Volumes	● 250 Live Volumes ● 150 Live Volumes with Auto-Failover
QoS Profiles	● 100 Volume QoS Profiles

Table 7. Storage Center Scalability Guidelines for SCv3000 Series Storage Systems (continued)

Storage Center Object	Supported Maximum
	● 100 Group QoS Profiles ● 100 Volumes per Group QoS Profile
Thin Import	10 volumes (maximum simultaneous imports)

Table 8. Storage Center Scalability Guidelines for SCv2000 Series Storage Systems

Storage Center Object	Supported Maximum
Drives	● SCv2000 – 168 drives total, 156 drives per SAS chain ● SCv2020 – 168 drive totals, 144 drives per SAS chain ● SCv2080 – 168 drives total, 84 drives per SAS chain
Disk Folder	4 disk folders
Server	● 100 servers (Total number of servers includes physical servers, virtual servers, and server clusters.) ● 100 server folders ● 200 server HBA initiator ports (Total number of HBA initiator ports includes all physical and virtual ports that are visible to the SAN.)
Volume	● 500 TB maximum volume size (or the maximum addressable storage space, whichever is less) ● 1000 volumes ● 500 volume folders
Data Instant Replay (Snapshots) ⓘ NOTE: Data Instant Replay is a licensed feature.	● 2000 snapshots ● 1000 snapshot profiles ● 100 snapshot history profiles ● 100 snapshots per volume ● 100 consistency groups ● 25 volumes per consistency group
Replications	● 124 source replications ● 1000 target replications
QoS Profiles	● 100 Volume QoS Profiles ● 100 Group QoS Profiles ● 100 Volumes per Group QoS Profile
Thin Import	10 volumes (maximum simultaneous imports)

Installation and upgrade considerations

The Storage Center operating system is preinstalled on a storage system at the factory. The Storage Center operating system is not customer installable.

For instructions on updating the Storage Center operating system on a storage system, see the *Storage Center Version 7 Software Update Guide* on https://www.dell.com/support.

Where to get help

The Dell Technologies Support site (https://www.dell.com/support) contains product support pages that provide important information about the products. This information includes drivers, installation packages, product documentation, knowledge base articles, advisories, and more.

A valid support contract and registration might be required to access all the information available on the product support pages.

Notes, cautions, and warnings

(i) **NOTE:** A NOTE indicates important information that helps you make better use of your product.

⚠ **CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

⚠ **WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**