

Storage Manager 2019 R1 Release Notes

This document describes the enhancements, fixed issues, and open issues in Storage Manager 2019 R1.

Current Release Version: 2019 R1.20

Previous Release Version: 2019 R1.10

Topics:



- [Document Revision History](#)
- [Management Compatibility](#)
- [Software and Hardware Requirements](#)
- [New in Storage Manager 2019 R1.10](#)
- [New in Storage Manager 2019 R1](#)
- [Fixed Issues](#)
- [Known Issues](#)
- [Notes and Limitations](#)
- [Documentation Correction](#)
- [Support Resources](#)

Document Revision History

Revision	Date	Description
A	August 2019	Initial release of Storage Manager 2019 R1
B	October 2019	Added a workaround for performing a planned failover of LiveVolumes in SRM 8.2
C	February 2020	Updated for Storage Manager 2019 R1.10
D	June 2020	Updated for Storage Manager 2019 R1.20
E	February 2021	Added a documentation correction

Management Compatibility

Storage Manager is compatible with the products that are listed in the following table:

Product	Versions
Storage Center	7.1 – 7.4
PS Series group firmware	9.0 – 10.0
Dell FluidFS	6.0.300135  NOTE: You must update FluidFS firmware to 6.0.300135 before updating to Storage Manager 2019 R1.
Microsoft System Center Virtual Machine Manager (SCVMM)	2012, 2012 SP1, 2012 R2, 2016, and 2019
VMware vCenter Site Recovery Manager (SRM)	6.0, 6.1, 6.5, 8.1, 8.1.1, and 8.2  NOTE: A Storage Center must have Fibre Channel or iSCSI front-end ports to work with SRM.
Dell Storage Replication Adapter (SRA)	18.1.1.173
CITV	4.0



Product	Versions
DSITV	4.1 – 6.0

Software and Hardware Requirements

The following sections list the requirements for the Storage Manager Data Collector, Storage Manager Client, and Storage Manager Server Agent.


Storage Manager Client Requirements

The following table lists the requirements for the Storage Manager Client:

Component	Requirements
Operating system	<p>Any of the following 64-bit operating systems:</p> <ul style="list-style-type: none"> Windows 8.1 Windows 10 Windows Server 2012 R2 Windows Server 2016 Windows Server 2019 SUSE Linux Enterprise 12 Red Hat Enterprise Linux 7.1 Red Hat Enterprise Linux 7.2 Red Hat Enterprise Linux 7.3 Red Hat Enterprise Linux 7.4 Red Hat Enterprise Linux 7.6 Oracle Linux 7.0 Oracle Linux 7.3 Oracle Linux 7.6 <p> NOTE: Windows Server Core is not supported.</p>
CPU	64-bit (x64) microprocessor with two or more cores
Software	Microsoft .NET Framework 4.5 or later (Windows only)
Linux VM Access Client	<ul style="list-style-type: none"> VMware vSphere Web Client Hyper-V Manager
Web browser	<p>Any of the following web browsers:</p> <ul style="list-style-type: none"> Google Chrome Internet Explorer 11 Mozilla Firefox <p> NOTE: Google Chrome is the recommended browser. Other web browsers might work but are not officially supported.</p>

Data Collector Requirements

The following table lists the Storage Manager Data Collector requirements.

 **NOTE:** For best results, install the Data Collector on a Windows Server VM using a traditional volume source from shared storage. Do not use a VVol for the Windows Server VM on which the Data Collector is installed.

Component	Requirements
Operating system	<p>Any of the following 64-bit operating systems with the latest service packs:</p> <ul style="list-style-type: none"> Windows Server 2012 R2

Component	Requirements
	<ul style="list-style-type: none"> Windows Server 2016 Windows Server 2019 <p>NOTE: Windows Server Core is not supported.</p>
Windows User Group	Administrators
CPU	64-bit (x64) microprocessor with two or more cores The Data Collector requires a microprocessor with four cores for environments that have 100,000 or more Active Directory members or groups.
Memory	Varies based on size of the storage environment: <ul style="list-style-type: none"> 4 GB – One to ten Storage Centers, or up to 3000 total volumes 8 GB – More than ten Storage Centers, or up to 6000 total volumes 16 GB – More than ten Storage Centers, or up to 12,000 total volumes 32 GB – More than ten Storage Centers, or more than 12,000 total volumes
Disk space	At least 20 GB ; additional space is required to manage FluidFS cluster software updates. NOTE: Using an embedded database requires an additional 64 GB to store the database on the file system. However, an embedded database is not recommended for a production environment.
Software	Microsoft .NET Framework 4.5 or later, full installation
Web browser	Any of the following web browsers: <ul style="list-style-type: none"> Google Chrome Internet Explorer 11 Mozilla Firefox <p>NOTE: Google Chrome is the recommended browser. Other web browsers might work but are not officially supported.</p>
External database	One of the following databases: <ul style="list-style-type: none"> Microsoft SQL Server 2016 Microsoft SQL Server 2016 Express (limited to 10 GB) Microsoft SQL Server 2017 Microsoft SQL Server 2017 Express (limited to 10 GB) MySQL 5.6 MySQL 5.7 <p>NOTE: The embedded database stored on the file system can be used instead of an external database. However, the embedded database is limited to 64 GB and retains only the last 30 days of data. The embedded database is not recommended for a production environment.</p>

Storage Manager Virtual Appliance Requirements

The Storage Manager Virtual Appliance has the following requirements:

Component	Requirement
VMware ESXi host version	6.0 and later
VMware vCenter Server version	6.0 and later
Datstore size	55 GB
CPU	64-bit (x64) microprocessor with two or more cores The Data Collector requires a microprocessor with four cores for environments that have 100,000 or more Active Directory members or groups.
Memory	Varies based on size of the storage environment:

Component	Requirement
	<ul style="list-style-type: none"> • 4 GB – One to ten Storage Centers, or up to 3000 total volumes • 8 GB – More than ten Storage Centers, or up to 6000 total volumes • 16 GB – More than ten Storage Centers, or up to 12,000 total volumes • 32 GB – More than ten Storage Centers, or more than 12,000 total volumes
Software	<ul style="list-style-type: none"> • VMware vCenter Server • VMware vSphere High Availability

Server Agent Requirements

The following table lists the requirements for running the Storage Manager Server Agent on Windows servers.

Component	Requirements
Operating system	Any of the following 64-bit operating systems with the latest service packs: <ul style="list-style-type: none"> • Windows Server 2012 R2 (full or core installation) • Windows Server 2016 • Windows Server 2019
CPU	64-bit (x64) microprocessor
Software	Microsoft .NET Framework 4.5 Full

New in Storage Manager 2019 R1.10

The following features and improvements were added to Storage Manager 2019 R1.10:

Space Reporting Improvements

Made improvements to the space reporting in the Storage Manager Client and Unisphere web interface for a storage system running Storage Center 7.4.10.

Storage Manager Virtual Appliance Deployment Improvements

Added the ability to specify a size for the Storage Manager Virtual Appliance configuration during the deployment process.

The Storage Manager Virtual Appliance configuration options are:

Configuration	Description
Small	Use this configuration for deployments of one to ten Storage Centers or up to 3000 total volumes. This deployment requires 2 vCPUs and 8 GB of memory for the Virtual vApp.
Medium	Use this configuration for deployments of more than ten Storage Centers or up to 6000 total volumes. This deployment requires 4 vCPUs and 16 GB of memory for the Virtual vApp.
Large	Use this configuration for deployments of more than ten Storage Centers or up to 12,000 total volumes. This deployment requires 6 vCPUs and 32 GB of memory for the vApp.
Extra Large	Use this configuration for deployments of more than ten Storage Centers or more 12,000 total volumes. This deployment requires 8 vCPUs and 64 GB of memory for the vApp.

New in Storage Manager 2019 R1

The following features and improvements were added to Storage Manager 2019 R1:

LDAP Scalability Improvements

Increased the scalability of LDAP on a Data Collector by introducing advanced search options and pagination of groups.

Banner for Customer Notifications

To make customer notifications more visible, a banner message is displayed in the Storage Manager Client and Unisphere web interface when a customer notification is received.

Space Reclamation Wizard

The Space Reclamation Wizard guides a customer through the steps of reclaiming space on a Storage Center.

The Space Reclamation Wizard is designed to help a customer get out of Conservation/Emergency mode without having to contact technical support.

SSL Certificate Improvements


Improvements have been made to SSL certificate handling to enable the following:

- Importing of chained SSL certificates
- Wildcard certificates

Unisphere and Unisphere Central Improvements

Storage Manager 2019 R1 includes the following improvements to the Unisphere and Unisphere Central web interface:

- **Initial Configuration of Storage Centers** – The **Initialize Storage Center** wizard in Unisphere Central is used to discover and deploy unconfigured Storage Centers.
- **Automated Reports** – Automated reports can be set up globally for all Storage Centers or customized for individual Storage Centers. Unisphere Central can be configured to email automated reports to users or save automated reports to a public directory.
- **Most Active Reports** – Displays the minimum, maximum, average, and standard deviation performance statistics for volumes, servers, or disks.
- **Growth Charts** – Displays historical growth data for storage objects such as volumes, servers, disks, and storage types
- **Threshold Alerts** – Displays alerts that are automatically generated when user-defined threshold definitions for a storage object usage are crossed. Threshold queries also enable you to query historical data based on threshold criteria.

 **NOTE:** Unisphere does not contain all of the functionality that is available in the Storage Manager Client. For more information about using Unisphere and Unisphere Central see the Unisphere and Unisphere Central for SC Series Administrator's Guide

Unisphere Discovery Utility


The Unisphere Discovery Utility is a stand-alone application that can be used to discover and deploy unconfigured Storage Centers.

When the Unisphere Discovery Utility discovers an unconfigured Storage Center, the utility guides the user through the initial configuration of the Storage Center.

The Unisphere Discovery Utility can be used to perform the initial configuration of the following Storage Centers systems:

- SC7020F

- SC7020
- SC5020F
- SC5020
- SCv3000 Series

 **NOTE:** The Unisphere Discovery Utility is available for Windows and Linux operating systems.

Fixed Issues

The following sections summarize the issues fixed in Storage Manager 2019 R1:

Fixed Issues Related to Cross-Platform Replication

The following issues related to cross-platform replication are fixed in Storage Manager 2019 R1:

Table 1. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-32951	PS Series Group alerts cannot be cleared using the Storage Manager Client.

Fixed Issues Related to the Data Collector

The following issues related to the Data Collector are fixed in Storage Manager 2019 R1:

Table 2. Issues Fixed in Storage Manager 2019 R1.20

Issue	Description
DSM-46388	A Java exception occurs while joining the Data Collector to an Active Directory Service if the password of the Active Directory User contains special characters, such as ~!@#\$\$%^&*()_+.
DSM-45942	Update for Security Advisory ADV190023 Microsoft Guidance for Enabling LDAP Channel Binding and LDAP Signing.
DSM-45919	On a Windows server, if a Dell Storage Manager 2018 R1 Data Collector is installed in a folder other than the default folder, performing an update to Dell Storage Manager 2019 R1 results in a nonfunctioning installation of the Dell Storage Manager 2019 R1 Data Collector.

Table 3. Issues Fixed in Storage Manager 2019 R1.10

Issue	Description
DSM-44214	A Storage Center cannot be added to a Data Collector if the password of the directory user that is used to add the Storage Center contains an & symbol.
DSM-43234	Users might be unable to connect to Storage Manager Data Collector because of issues with Storage Center directory user privileges and Data Collector transaction timeouts.

Table 4. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-41395	If the password for the database user <code>compmsauser</code> is changed, the Data Collector might fail to restart.
DSM-35779	Unable to upload an SSL wildcard certificate that includes a subject alternative name (SAN). Users might be unable to log into Dell Storage Manager because of issues with Storage Center directory user privileges and Data Collector transaction timeouts.
DSM-35741	Attempting to upload an invalid TLS certificate causes the Directory Service feature to become enabled on the Data Collector.

Table 4. Issues Fixed in Storage Manager 2019 R1 (continued)

Issue	Description
DSM-31688	Invalid characters in the Storage Center Directory Services configuration might cause Active Directory or OpenLDAP authentication failures for the Data Collector.
DSM-28366	Storage Manager does not allow custom SSL certificates with CN names that do not match the hostname of the server hosting the Data Collector.

Fixed Issues Related to Data Reduction

The following issues related to the data reduction are fixed in Storage Manager 2019 R1:

Table 5. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-41920	If deduplication is enabled on a Storage Center using the Storage Manager Client, Unisphere and Unisphere Central might display the following incorrect caution message next to the Data Reduction Profile drop-down menu in the Preferences tab of the Storage Center Settings dialog box:

```
Deduplication not supported for available or selected Storage Type
```

Fixed Issues Related to Dell Storage Replication Adapter (SRA)

The following issues related to Dell Storage Replication Adapter (SRA) are fixed in Storage Manager 2019 R1:

Table 6. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-41902	In a multi-site SRM environment, the SRM array pair might report the following error message in the Array Manager pane after performing a failover from the Remote Data Collector to the Primary Data Collector and running a successful reprotect operation:

```
Unable to find a matching device at the local site for the remote device
```

DSM-40916	The following error message might be displayed during the Synchronize Storage step of the Dell SRA workflow for all versions of SRM:
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```
Warning - Internal error: std::exception 'class Dr::Xml::XmlValidateException'  
"No character data is allowed by content model"
```

Fixed Miscellaneous Issues

The following miscellaneous issues are fixed in Storage Manager 2019 R1:

Table 7. Issues Fixed in Storage Manager 2019 R1.20

Issue	Description
DSM-46102	Including a port number in the Uniform Resource Identifier (URI) is now optional for the URI field in the Directory Services tab of the Storage Center Settings dialog box.

Table 8. Issues Fixed in Storage Manager 2019 R1.10

Issue	Description
DSM-43960	The error message <code>Block size should be greater than or equal to zero</code> might be returned when the REST API requests storage usage information from storage systems running Storage Center 7.3 or later.

Table 9. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-34466	Running a Nessus security scan on Storage Manager reports an SSL Medium Strength Cipher Suites Supported vulnerability.
DSM-18203	In multiple-node configurations using cluster shared volumes, Storage Manager might display an alert with the following message:

```
Cannot insert duplicate key in object  
'compsauser.EMServerAgentClusterVolumeStats'
```

Fixed Issues Related to Management of PS Series Groups

The following issues related to management of PS Series Groups are fixed in Storage Manager 2019 R1:

Table 10. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-32950	The alert status for PS Series Groups does not roll up into the parent object.
DSM-17321	Storage Manager displays alerts and alarms for PS Series groups that have been cleared to the recycling bin in Group Manager.

Fixed Issues Related to Replications and Live Volumes

The following issues related to replications and Live Volumes are fixed in Storage Manager 2019 R1:

Table 11. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-40739	When a volume is migrated to another Storage Center using Live Migrate, an outage might occur for the volume when the Live Migrate swap is complete.
DSM-37204	Auto failover configuration might fail when a new Live Volume is created between a primary storage system running Storage Center 7.2 or earlier and a secondary storage system running Storage Center 7.3 or later.
DSM-28520	After performing a test activate disaster recovery operation, Unisphere Central does not allow you to delete that volume from the Replications and Live Volumes tab.

Fixed Issues Related to the Storage Manager Client

The following issues related to the Storage Manager Client are fixed in Storage Manager 2019 R1:

Table 12. Fixed Issues in Storage Manager 2019 R1.20

Issue	Description
DSM-45935	An incorrect value might be displayed in the Used Space field on the Total Storage Usage pane of the Storage Centers Summary tab in the Storage Manager Client.

Table 13. Fixed Issues in Storage Manager 2019 R1.10

Issue	Description
DSM-45102	An incorrect values for amount of storage used might be displayed on the Summary tab of a Storage Type in the Storage Manager Client.
DSM-43948	In the Storage Manager Client, if the Restrict Mapping Paths option is selected when a volume is mapped to a server, the mapping is not restricted to the specified controller.
DSM-43781	In the Storage Manager Client, an error occurs when the email address is changed in Email Address field of the Edit SupportAssist Contact Information dialog box.

Fixed Issues Related to the Storage Manager Virtual Appliance

The following issues related to the Storage Manager Virtual Appliance are fixed in Storage Manager 2019 R1:

Table 14. Issues Fixed in Storage Manager 2019 R1.10

Issue	Description
DSM-41900	A customer might be unable to import a custom SSL certificate to a Storage Manager Virtual Appliance if the certificate contains an IPv4 address and IPv6 is enable on the Storage Manager Virtual Appliance network interface.

Table 15. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-41453	Reporting configuration data might be lost when a Storage Manager Virtual Appliance is updated from Storage Manager 2016 R3.20 to Storage Manager 2018 R1.20.

Fixed Issues Related to the Unisphere Discovery Utility

The following issues related to Unisphere Discovery Utility are fixed in Storage Manager 2019 R1:

Table 16. Issues Fixed in Storage Manager 2019 R1.10

Issue	Description
DSM-44193	Discovery of a Storage Center might fail if the host that is running the Unisphere Discovery Utility has more than one network interface card (NIC).

Fixed Issues Related to the Unisphere Web Interface

The following issues related to Unisphere web interface are fixed in Storage Manager 2019 R1:

Table 17. Issues Fixed in Storage Manager 2019 R1.20

Issue	Description
DSM-46100	When the Unisphere web interface is displayed in French, changing the value in the Volume Size field on the Preferences tab of the Storage Center Settings dialog box might cause the wrong value to be displayed in the New Volume dialog box when creating a volume.

Table 18. Issues Fixed in Storage Manager 2019 R1.10

Issue	Description
DSM-45733	The Unisphere Central login page is not automatically displayed after performing a Change Data Source operation and restarting the Data Collector.

Table 18. Issues Fixed in Storage Manager 2019 R1.10 (continued)

Issue	Description
DSM-43027	When a user connects directly to the Storage Center using Unisphere, the following error message is displayed when the Protocol Endpoints tab is clicked: <pre>An unexpected server error occurred</pre>

Table 19. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-40582	When a volume is edited in Unisphere, selecting or clearing the Import to Lowest Tier checkbox in the Edit Volume dialog box has no effect on the volume.
DSM-40010	A blank error message banner is displayed when a self-signed certificate with the wrong file extension is uploaded in the Data Collector view of Unisphere Central.
DSM-36800	SAS fault domain object notes cannot be edited in Unisphere.
DSM-36243	Unisphere allows users to remove the last virtual port from a fault domain and indicates that the attempt was successful even though the final port was not removed.
DSM-35881	Unable to import chained SSL certificate in the Data Collector view of Unisphere Central.

Fixed Issues Related to User Management

The following issues related to user management are fixed in Storage Manager 2019 R1:

Table 20. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-30243	Unable to use the Add Directory Group wizard to add directory user groups to the Data Collector because the session expires before any directory groups are displayed.

Fixed Issues Related to VMware

The following issues related to VMware are fixed in Storage Manager 2019 R1:

Table 21. Issues Fixed in Storage Manager 2019 R1

Issue	Description
DSM-36910	The VASA storage provider cannot be brought online after a Data Collector is migrated to a new database.
DSM-15980	The Storage Manager Data Collector fails to filter out storage containers that it does not manage from the list of available storage containers.
DSM-13274	Whether using VASA1 or VASA2, the Storage Manager VASA Provider can have only one vCenter server registered to it at any time. You cannot register multiple vCenter servers to the VASA Provider simultaneously. If you register a vCenter server to Storage Manager and then register the server to the VASA Provider, you first must unregister the server from the VASA Provider before registering a different vCenter server to the VASA Provider.

Known Issues

The following sections summarize the known issues in Storage Manager 2019 R1:

Known Issues Related to Cross-Platform Replication

The following known issues are related to cross-platform replication:


Table 22. Known Cross-Platform Replication Issues in Storage Manager 2019 R1

Issue	Description
DSM-26371	<p>Storage Manager might incorrectly display the progress of a cross-platform replication as 100% after pausing a cross-platform replication at 50% and then restarting the lead controller on the PS Group.</p> <p>Workaround: Resume the replication.</p>
DSM-20458	<p>Storage Manager does not prevent the user from deleting a port that is used in replication. Deleting the port from the fault domain breaks the replication.</p> <p>Workaround: Contact technical support to restart the replication if a port has been deleted.</p>
DSM-19844	<p>The Modify Space Settings option is displayed for PS Groups when cross-platform replication is not configured.</p> <p>Workaround: None</p>
DSM-19667	<p>Storage Manager does not immediately display restore points for unplanned disaster recovery activations.</p> <p>Workaround: Refresh the Replications view in the Storage Manager Client.</p>
DSM-17016	<p>Storage Manager displays replication schedules for replications from PS Group to PS Group. Storage Manager does not manage replications between PS Groups.</p> <p>Workaround: None</p>
DSM-16737	<p>Storage Manager does not allow you to set up a replication from a Storage Center to a PS Series group when creating a volume on the Storage Center.</p> <p>Workaround: Set up replication to the PS Series group using the Replicate Volume wizard.</p>
DSM-15904	<p>Storage Manager displays an incorrect error after setting up a replication from a Storage Center to a PS Series group with insufficient delegated space.</p> <p>Workaround: Modify the amount of delegated space on the PS Series group to accommodate the replication.</p>
DSM-14648	<p>Storage Manager does not automatically map a volume to the server after activating disaster recovery on a replication from a PS Series group to a Storage Center.</p> <p>Workaround: Manually map the volume to the server.</p>
88549	<p>When replicating more than 16 volumes from a PS Series group to a Storage Center, Storage Manager displays replications in a Waiting state as Down.</p> <p>Workaround: Do not replicate more than 16 volumes at a time.</p>

Known Issues Related to the Data Collector

The following known issues are related to the Data Collector:

Table 23. Known Data Collector Issues in Storage Manager 2019 R1

Issue	Description
DSM-42392	<p>Attempting to upload a custom SSL certificate to the Data Collector fails with the following error message:</p> <pre>Certificates do not conform to algorithm constraints</pre> <p>Workaround: Do not use an SSL certificate that is signed using the RSASSA-PSS signature algorithm.</p>
DSM-41119	<p>Database errors might occur if a Data Collector uses an internal flat file database and manages a Storage Center with multiple disk folders.</p> <p>Workaround: Use an external database instead of an internal flat file database for the Data Collector.</p> <p> CAUTION: Internal flat file databases are not recommended for Data Collectors in production environments.</p>
DSM-37868	<p>If a Storage Center with an expired password disconnects from the Storage Manager Data Collector, the Storage Center cannot be reconnected to the Data Collector.</p> <p>Workaround: Change the password on the Storage Center by directly connecting to it using the Storage Manager Client or Unisphere web interface.</p>

Known Issues Related to Data Reduction

The following known issues are related to Data Reduction:

Table 24. Known Data Reduction Issues in Storage Manager 2019 R1

Issue	Description
SCOS-13237	<p>The Storage Type Data Reduction statistics might be incorrect if the amount of data eligible for Data Reduction contains fewer than 256 pages.</p> <p>Workaround: None</p>

Known Issues Related to the Dell Storage Replication Adapter (SRA)

The following known issues are related to the Dell Storage Replication Adapter (SRA):

Table 25. Known Dell Storage Replication Adapter (SRA) Issues in Storage Manager 2019 R1

Issue	Description
DSM-45610	<p>Device discovery might fail in a Site Recovery Manager (SRM) environment due to transaction rollbacks that occur when the Storage Manager Data Collector manages many more replications than normal.</p> <p>Workaround: None</p>
DSM-43060	<p>SRM might generate the following error message when a recovery or reprotect operation is performed:</p> <pre>Unable to switch the site preference to the recovery site for the device. SRA command 'prepareFailover' failed for device.</pre> <p>Workaround:</p>

Table 25. Known Dell Storage Replication Adapter (SRA) Issues in Storage Manager 2019 R1 (continued)

Issue	Description
	<ol style="list-style-type: none">1. Stop the Remote Data Collector.2. Restart the Primary Data Collector.3. Start the Remote Data Collector.
DSM-42715	<p>SRM generates the following error message when two volumes use the same LUN number:</p> <pre>Duplicate LUN 'X' for initiatorGroup</pre> <p>Workaround: Ensure that the LUN numbers for all the volumes are unique.</p>
DSM-28137	<p>SRM planned failovers with Live Volumes fail when vMotion is not enabled in the environment.</p> <p>Workaround: Dell Storage Replication Adapter (SRA) with Stretched Storage and Live Volumes requires vMotion. Enable vMotion.</p>
DSM-27978	<p>The support link is broken when setting up Dell Storage Replication Adapter (SRA) on SRM 5.8.</p> <p>Workaround: See support contact information at https://www.dell.com/learn/us/en/19/flatcontentg/ps-compellent.</p>
DSM-18751	<p>The installation wizard for the Dell Storage Replication Adapter (SRA) allows you to begin updating from an older version of SRA. Updating from previous versions of the SRA is not supported.</p> <p>Workaround: Uninstall the previous version of SRA, and then install the new version.</p>

Known Miscellaneous Issues

The following known miscellaneous issues are in Storage Manager:

Table 26. Known Miscellaneous Issues in Storage Manager 2019 R1

Issue	Description
DSM-28532	<p>After changing the Chargeback department of a volume that has the same index as a volume on a different Storage Center, Storage Manager might not show that the volume changed Chargeback departments. Storage Manager might also change the Chargeback department of the volume with the same index on the other Storage Center.</p> <p>Workaround: Perform a Copy/Mirror/Migrate to a new volume. This problem does not occur if the new volume does not share an index with a different volume on another system.</p>
DSM-27414	<p>When changing the BMC interface configuration mode from static to DHCP, the IP addresses remain set up in static mode. If you change the configuration mode from DHCP to static, and modify only the IPv4 address, Storage Manager changes the netmask and gateway IP addresses to invalid values.</p> <p>Workaround: After modifying the configuration mode, ensure that the IP addresses are correct.</p>
DSM-16593	<p>Applying SNMP setting to other Storage Centers without SNMP enabled fails without displaying an error.</p> <p>Workaround: Enable SNMP on the Storage Center before applying any settings.</p>
DSM-8608	<p>When a multi-page automated report is printed in portrait orientation, the first page is printed in portrait orientation and subsequent pages are incorrectly printed in landscape orientation.</p> <p>Workaround: Save the report as a PDF then print it using a different application.</p>

Known Issues Related to PS Series Group Management

The following known issues are related to the management of PS Series Groups:

Table 27. Known PS Series Group Management Issues in Storage Manager 2019 R1

Issue	Description
DSM-23693	Storage Manager displays a PS Series group as inactive after a controller failover on the PS Series group. Workaround: Remove the PS Series group from Storage Manager and then add it back.
DSM-13871	Performing an online Thin Import of a boot volume from a PS Series group to a Storage Center, the server is unable to boot from the volume after mapping it to the server. Workaround: Online Thin Import is not supported with boot volumes.

Known Issues Related to Replications and Live Volumes

The following known issues are related to replications and Live Volumes:

Table 28. Known Replications and Live Volumes Issues in Storage Manager 2019 R1

Issue	Description
DSM-9294	When creating multiple replications or Live Volumes simultaneously, correcting a configuration error and resuming the process can create duplicate replications or Live Volumes. Workaround: If a creation operation fails, do not use the wizard to correct the configuration error and continue. Instead, exit and restart the wizard, and then resume creating replications or Live Volumes from the point of failure.
ENHTKR-90	When importing a volume, Storage Manager does not allow you to select 0 as the LUN number. Workaround: None

Known Issues Related to Storage Management

The following known issues are related to storage management:

Table 29. Known Storage Management Issues in Storage Manager 2019 R1

Issue	Description
DSM-38054	Storage Manager does not display all the IPv4 addresses for a host using an iSCSI software initiator. Workaround: None
DSM-30033	Creating a server using the Create Server from VMware vSphere or vCenter wizard fails if the host contains adapters that are not VMware software iSCSI adapters. Workaround: Create the server manually using the Create Server dialog box.
DSM-28354	Storage Manager might not display information for some Hyper-V virtual machine volumes that are monitored with the Server Agent in the Servers view. Workaround: View information for those volumes in the Storage view.
DSM-28297	Discover and Configure Storage Centers wizard displays an incorrect size for disks on a discovered Storage Center. Workaround: None
DSM-28295	After reinstalling the Server Agent, it might fail to register the server with Storage Manager.

Table 29. Known Storage Management Issues in Storage Manager 2019 R1 (continued)

Issue	Description
DSM-20038	<p>Workaround: Register the server in the Storage Manager Client.</p> <p>During initial setup of Storage Center, the Discover and Configure Storage Centers wizard might close while updating the Storage Center. You cannot open the Discover and Configure Storage Centers wizard to complete the setup until the controllers finish restarting.</p> <p>Workaround: Wait for the controllers to power on, reconnect to the Storage Center, and then launch the Discover and Configure Uninitialized Storage Centers wizard.</p>
DSM-13200	<p>Storage Manager does not delete a Snapshot Profile until a refresh if the Snapshot Profile was deleted without the recycle bin and was assigned to a volume.</p> <p>Workaround: Refresh the Storage Manager Client.</p>
DSM-11762	<p>When creating a volume using the Server Agent, Storage Manager might show a warning that the label contains illegal characters if another volume on the Storage Center contains unsupported characters.</p> <p>Workaround: Correct the label of the volume with unsupported characters.</p>
DSM-9428	<p>Creating a server cluster using the Create Server from vSphere or vCenter wizard creates server cluster Storage Center objects for each node in the server cluster.</p> <p>Workaround: None</p>
DSM-9390	<p>Creating an RDM for a VM hosted on an ESXi or vSphere host maps the volume to the server in the cluster instead of the cluster object.</p> <p>Workaround: Manually promote the volume to the ESXi server cluster mappings, then rescan for hosts on the vCenter server.</p>

Known Issues Related to the Storage Manager Client

The following known issues are related to the Storage Manager Client:

Table 30. Known Storage Manager Client Issues in Storage Manager 2019 R1

Issue	Description
DSM-36674	<p>When an SCv3000 Series storage system contains both an iSCSI I/O card and a mezzanine card, the deployment wizard only shows the cabling diagram for the iSCSI I/O card.</p> <p>Workaround: None</p>
DSM-36577	<p>When the Storage Manager Client and Data Collector are located in different time zones, the timestamps are also different.</p> <p>Workaround: Do not set a time zone value for the Data Collector UTC setting.</p>
DSM-36253	<p>When creating a server, the Operating System information dialog box shows the Maximum Path Count as zero instead of 32 or unlimited.</p> <p>Workaround: None</p>
DSM-31931	<p>If a system has multiple disk folders, the Storage Alert Threshold field on the Summary tab displays the data for the last disk folder in the list.</p> <p>Workaround: View the threshold data in the Thresholds Alerts view.</p>
DSM-28859	<p>The welcome screen for the Storage Manager Client on Red Hat Linux Enterprise is blank when the Color Depth of the Windows Remote Desktop Connection is set to Highest Quality (32 bit).</p> <p>Workaround: Set the Color Depth of the Windows Remote Desktop Connection to True Color (24 bit) or High Color (16 bit).</p>

Table 30. Known Storage Manager Client Issues in Storage Manager 2019 R1 (continued)

Issue	Description
DSM-26168	<p>The Storage Manager Client displays the delete option when volumes and volume folders are selected. However, the Storage Manager Client does not support deleting volumes and volume folders in one action.</p> <p>Workaround: Delete volumes and volume folders separately.</p>
DSM-14009	<p>Refreshing the Storage Manager Client does not clear the red dot indicator from the Storage Center node.</p> <p>Workaround: Restart the Storage Manager Client.</p>
DSM-9577	<p>The front-end SAS card for an SCv2000 series controller does not provide WWN information to ESXi host.</p> <p>Workaround: Record the SAS WWN information before installing it in an ESXi hosts.</p>
DSM-9477	<p>The Storage Manager Client might report that a restart in sequence has completed even though the restart has not completed.</p> <p>Workaround: Verify that the restart completes before continuing.</p>
DSM-7908	<p>The I/O Usage report that is exported in XML format does not display all the information for the French output when opened in a web browser.</p> <p>Workaround: Open the report using a text editor such as Notepad.</p>
SCOS-12316	<p>The Storage Manager Client displays multi-VLAN tagging options for I/O cards that do not support multi-VLAN tagging.</p> <p>Workaround: Do not enable multi-VLAN tagging on QLogic cards that do not support it.</p>

Known Issues Related to the Storage Manager Virtual Appliance

The following known issues are related to the Storage Manager Virtual Appliance:

Table 31. Known Storage Manager Virtual Appliance Issues in Storage Manager 2019 R1

Issue	Description
DSM-46304	<p>The Maximum Server Memory Usage setting of the Storage Manager Virtual Appliance is displayed incorrectly in the Advanced area on the General > Summary tab of the Data Collector view in Unisphere Central.</p> <p>Workaround: None</p>
DSM-45979	<p>When the Storage Manager Client is connected to a Storage Manager Virtual Appliance, the Store report in public directory option is displayed in the Automated Reports tab of the Edit Data Collector Settings dialog box, but the option is not supported by the Storage Manager Virtual Appliance.</p> <p>Workaround: None</p>

Known Issues Related to SupportAssist and Updating

The following known issues are related to SupportAssist and updating systems:

Table 32. Known SupportAssist and Updating Issues in Storage Manager 2019 R1

Issue	Description
DSM-36088	<p>Occasionally, when starting a non-service affecting update for a Storage Center through the Data Collector, Storage Manager loses connectivity with the Storage Center.</p> <p>Workaround: The system automatically resolves the connectivity issue.</p>

Known Issues Related to the Unisphere Web Interface

The following known issues are related to the Unisphere web interface:

Table 33. Known Unisphere Web Interface Issues in Storage Manager 2019 R1

Issue	Description
DSM-45590	<p>Customers are experiencing issues displaying graphs on the Performance tab in Unisphere Central.</p> <p>Workaround: Use the Storage Manager Client connected to the Data Collector to display Performance graphs.</p>
DSM-42195	<p>Exporting monitoring data to PDF for multiple Storage Centers might cause the Unisphere web interface to become non-responsive until the export is completed.</p> <p>Workaround: Use the Storage Manager Client to export monitoring data to PDF.</p>
DSM-39997	<p>The Replace Disk button is missing on the Disks tab in the Hardware view of Unisphere.</p> <p>Workaround: Use the Storage Manager Client to release a disk.</p>
DSM-39691	<p>The following error message might be displayed in the Unisphere web interface while performing the initial setup and configuration of a Storage Center:</p> <div data-bbox="454 842 1489 898" style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc;"> <p>The connection to the server has been lost</p> </div> <p>Workaround: Refresh the browser to reload the Unisphere web page and continue the Storage Center initial setup and configuration.</p>
DSM-38756	<p>When a Storage Center contains over 50 expansion enclosures, the Unisphere Hardware view displays a server error.</p> <p>Workaround: Use the Storage Manager Client to view hardware information for large systems.</p>
DSM-36355	<p>Some views in Unisphere fail to load and display object data.</p> <p>Workaround: None</p>
DSM-36253	<p>When creating a server, the Operating System information dialog box shows the Maximum Path Count as zero instead of 32 or unlimited.</p> <p>Workaround: None</p>
DSM-36115	<p>In the Performance view under the Monitoring menu of Unisphere Central, when the Historical radio button is selected and Custom is selected from the Display drop-down menu, the Update button is not enabled when valid times are entered in the Start Time and End Time fields.</p> <p>Workaround: Click the disabled Update button to display the performance data.</p>
DSM-35454	<p>When an action is applied to more than 128 objects, the action may fail.</p> <p>Workaround: None</p>
DSM-34120	<p>Unable to create an empty disk folder on a hot spare system that has available disks.</p> <p>Workaround: None</p>
DSM-33384	<p>Using Internet Explorer to view large numbers LDAP users might cause the user interface to become unresponsive.</p> <p>Workaround: Use a different web browser such as Chrome or Firefox.</p>
DSM-32169	<p>The Performance view may be cut off when using Internet Explorer.</p> <p>Workaround: Use a different web browser such as Chrome or Firefox.</p>
DSM-31674	<p>Notification for multi-step task provides insufficient information.</p> <p>Workaround: None</p>

Table 33. Known Unisphere Web Interface Issues in Storage Manager 2019 R1 (continued)

Issue	Description
DSM-28814	In the Filters dialog box, when a value with multiple decimal places is typed into a storage size or network speed field, the value is not parsed correctly and the filter does not work. Workaround: None
DSM-26784	In the Filters dialog box of the global Volumes view, the Equal to option in the % Full drop-down menu does not work. Workaround: None
DSM-16373	Unisphere Central does not show the progress of a Data Collector data source change. Workaround: Use the Storage Manager Client to change the data source of a Data Collector.

Known Issues Related to User Management

The following known issues are related to user management:

Table 34. Known User Management Issues in Storage Manager 2019 R1

Issue	Description
DSM-35710	Storage Center does not restrict directory service communication to manually defined LDAP servers. This issue might cause delays when joining Storage Center to a directory environment or failures when adding directory users and groups to Storage Center for authentication. Workaround: None
DSM-35011	Cannot configure OpenLDAP directory server using Storage Manager or Unisphere. Workaround: None
DSM-24536	Attempting to use the characters < or > in User and User Group settings might result in an error. Workaround: Do not use these characters in User and User Group settings.
DSM-15445	Adding Storage Manager to Active Directory fails when you use the distinguished name (DN) of a user. Workaround: Use the user principal name (UPN) to add Storage Manager to an Active Directory realm.
DSM-12329	When a user is unlocked, the status of the user might not change immediately. Workaround: Refresh the Storage Manager Client.
SCOS-11192	Storage Center cannot authenticate directory service users that are configured to use an alternate DNS suffix. Workaround: None

Known Issues Related to VMware

The following known issues are related to VMware in Storage Manager 2019 R1:

Table 35. Known VMware Issues in Storage Manager 2019 R1

Issue	Description
DSM-44104	Frequently migrating virtual machines from one vVol datastore to another vVol datastore might result in orphaned volumes. Workaround: None
DSM-31875	The VMware host setup is incorrectly configuring the iSCSI HBA Login Timeout as 60 seconds.

Table 35. Known VMware Issues in Storage Manager 2019 R1 (continued)

Issue	Description
DSM-16665	<p>Workaround: See VMware best practices documentation.</p> <p>After upgrading an ESXi host from version 5.5 to 6.0, Dell Storage Manager does not properly reflect the host and its attributes as being ESXi 6 capable, in particular the recognition of the protocol endpoint.</p>
DSM-16656	<p>Workaround: Remove the server, and then add it back to Dell Storage Manager.</p> <p>If you select the Auto Manage Virtual Machines On Storage Centers option during the initial Dell Storage Manager registration of a vCenter server, all the discovered ESXi hosts along with their VMs are rendered within the Servers tree of the Storage panel. If any of these VMs are later deleted from vCenter, they remain in the Dell Storage Manager view.</p> <p>Workaround: To remove these deleted VMs from Dell Storage Manager, right-click the VM and then delete it.</p>
DSM-16248	<p>On rare occasions, selecting Update information in the Dell Storage Manager Server view results in the error <code>java.net.SocketException: Unexpected end of file from server</code>.</p> <p>Workaround: Despite the vCenter appearing to be online and able to accept connections, the vCenter must be restarted to reestablish proper connectivity between Dell Storage Manager and vCenter.</p>
DSM-15879	<p>The Host Setup wizard for VMware does not allow you to select an HBA on an ESXi host that contains adapters that are not VMware software iSCSI adapters. When establishing an integrated environment with Dell Storage Manager and VMware, various options are available for you to import the VMware known inventory into Dell Storage Manager for enhanced management benefits. You can choose to add hosts individually, or by creating and registering from a vCenter server.</p> <p>Workaround: Although the option exists in the Storage tab to create from vCenter server, the preferred and more reliable method is to use the Dell Storage Manager Server tab. Select the Server folder and then Register Server > Add VMware vCenter Server. Then, select Auto Manage Storage Centers to populate the Storage Center.</p>
DSM-15803	<p>On rare occasions, when a vVol VM is migrated from one vVol datastore to another, a config or data vVol might become orphaned on the original datastore. This vVol counts against the total vVol scale, and takes up unnecessary space.</p> <p>Workaround: Contact technical support to handle the removal of the VM.</p>
DSM-15302	<p>If you attempt to delete a datastore which is populated (not empty) using Dell Storage Manager, an error results. A false indicator of connectivity is represented by a red X on the vCenter server.</p> <p>Workaround: Click the Update Information button in the top-level menu.</p>
DSM-15000	<p>A vVol VM snapshot with quiesce guest file-system option fails.</p> <p>Workaround: Install the VMware Tools without the VSS feature. For more information, see VMware Knowledge Base article number 2069952.</p>
DSM-14997	<p>When using sDRS with vVols, vCenter incorrectly recommends migrating the VM when both vVols are on the same Storage Center.</p> <p>Workaround: Review the recommendations from vCenter before taking action.</p>
DSM-14891	<p>A fast clone VM shows history with the VM from which it was created. Hence the data vVols of this clone VM inherit the settings of the data vVols of the original VM. This shared history also has the following consequences:</p> <ul style="list-style-type: none"> • Changing the Data Reduction profiles for a storage container might cause future fast cloned VMs to be created with mismatched Data Reduction profiles for the config and data vVols. • If a user applies a VM Storage Policy to the original VM, the same changes apply to the data vVols of the fast clone VM and conversely.

Table 35. Known VMware Issues in Storage Manager 2019 R1 (continued)

Issue	Description
DSM-14806	<p>Workaround: None</p> <p>Migrate or Clone operations on virtual machines with snapshots might fail if not enough space is available in the vVol datastore hosting the VM. The temporary space overhead that is required by these operations depends on the size of the individual disks and the number of snapshots of the VM.</p> <p>Workaround:</p> <ol style="list-style-type: none"> 1. Check if the vVol datastore (storage container) is nearing capacity. 2. Increase the size of the vVol datastore to sufficiently accommodate the overhead and then retry the operation.
DSM-14570	<p>If you attempt to register the VASA Provider with a DSM user with Reporter privilege, it fails as expected. However, an incorrect error message <code>Username or password is incorrect</code> is reported. The correct error should be <code>user with Reporter privilege is not allowed to register VASA provider</code>.</p> <p>Workaround: Ignore the error message, and register VASA Provider with a DSM user with Administrator privilege.</p>
DSM-14149	<p>If you try to apply a new VM Storage Policy while Storage vMotion of a VM is in progress, the compliance status of the VM goes to <code>Out of Date</code>.</p> <p>Workaround: Reapply the new storage policy after Storage vMotion has completed.</p>
DSM-13316	<p>After increasing the storage container size in Dell Storage Manager, the vCenter user interface shows the datastore with the new size. However, it still displays an error for insufficient space when it tries to create a VM.</p> <p>Workaround: Unmount and then remount the datastore.</p>
DSM-13042	<p>On rare occasions, if vVol operations (cloning and snapshots) are occurring on multiple VMs concurrently using scripting that results in the eventual deletion of vVols, an attempt to delete a vVol VM might result in vVols not being deleted. This scenario results in inefficient space consumption and reduction in total vVols available for future use.</p> <p>Workaround: Removal of the vVols is not a user-level corrective option. Contact technical support for assistance. Avoid running concurrent vVol operations using scripting. Instead, script sequential operations or operations with interjected delays.</p>
DSM-12732	<p>It is possible to create a storage container, and a subsequent vVol datastore using it, of a logical size that exceeds the physical capacity of the storage array. The capacity values that are displayed in vCenter for an oversubscribing container reflect the correct free or total physical capacity values instead of the logical storage container values.</p> <p>Workaround: None</p>
DSM-11417	<p>When high availability (HA) is configured, vVols are migrated from the active host to the standby host when management network access to the active host is lost. This situation is similar to VMFS, and is the expected behavior. However, if only the data network goes down, VMFS datastores migrate to the standby host, but vVols do not fail over. VMCP is not supported with vVols.</p> <p>Workaround: No workarounds are available when the data network goes down, but the management network stays up. However, if the management network to the active host goes down, failover is triggered, regardless of the state of the data network .</p>

Notes and Limitations

This section contains important notes and limitations for this release of Storage Manager.

Limitations in Unisphere

The following features are not currently available in Unisphere for Storage Manager 2019 R1.

- Chargeback
- Disaster recovery
- FluidFS management
- Live Volume and Live Migrate
- Managed servers
- Replication
- PS Series Group management
- VVols

Workaround for Planned Failover of LiveVolumes in SRM 8.2

SRM 8.2 fails to send the ReverseReplication command to the Dell Storage Replication Adapter (SRA) during the planned failover of LiveVolumes.

To resolve this issue, perform the following steps on the Windows servers that are running SRM 8.2 at both sites:

1. On the Windows server that is running SRM 8.2, open the `vmware-dr.xml` file in a text editor.
The default location of the `vmware-dr.xml` file is `C:\Program Files\VMware\VMware vCenter Site Recovery Manager\config\vmware-dr.xml`.
2. Search for the XML tag `<storage>` in the file.
3. Add the following entry between the XML tags `<storage>` `</storage>` :
`<forcePrepareAndReverseReplicationForNoopDevices>true</forcePrepareAndReverseReplicationForNoopDevices>`
4. Save the changes to the `vmware-dr.xml` file.
5. Restart the SRM services on the Windows server.

Storage Manager Scalability

To optimize performance and prevent connectivity issues, Dell EMC recommends that one Data Collector manages no more than ten Storage Centers. A Data Collector may exceed that recommendation depending on the network latency, I/O load, and number of volumes.

Documentation Correction

The following documentation issue is in this release:

Table 36. Documentation issue for Storage Manager 2019 R1

Documentation	Correction
Authentication mode and administrator privilege requirements for Microsoft SQL Server	<p>The <i>Storage Manager 2019 R1 Installation Guide</i> contains ambiguous information about the authentication mode and administrator privilege requirements that are required to connect a Storage Manager Data Collector to a Microsoft SQL Server database server. The correct authentication mode and administrator privilege requirements for Microsoft SQL Server are:</p> <ul style="list-style-type: none">• Configure Microsoft SQL Server to use mixed mode authentication.• Use a SQL Server administrator account with sysadmin privileges to connect the Storage Manager Data Collector to Microsoft SQL Server.

Support Resources

The following section provides resources for finding more information on using Storage Manager.

Related Documentation

The following documents are available for Storage Manager version 2019 R1.

- *Storage Manager Administrator's Guide*
Provides instructions for using the Storage Manager software.
- *Storage Manager Online Help*
Provides context-sensitive help for the Storage Manager software.
- *Storage Manager Installation Guide*
Provides installation and setup instructions for the Storage Manager software.
- *Unisphere and Unisphere Central Administrator's Guide*
Provides instructions and information for managing storage systems using Unisphere and Unisphere Central.

Finding Documentation

The following locations contain documentation that might be useful when managing Dell EMC Storage products with Storage Manager.

- *Dell EMC Support*
Provides documentation for Dell EMC Storage Products. Go to: Dell.com/support.


Contacting Dell

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services might not be available in your area.

To contact Dell for sales, technical support, or customer service issues, go to Dell.com/support.

- For customized support, type your system service tag on the support page and click **Submit**.
- For general support, browse the product list on the support page and select your product.

Notes, cautions, and warnings

 **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.