

Release Notes

Dell EMC VxFlex OS

3.0.1.2

VxFlex OS 3.0.1.2 Release Notes

Rev. 02

September 2020

These release notes contain supplemental information about this release.

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Revision history

Table 1. VxFlex OS 3.0.1.2 release notes revision history

Revision	Date	Description
01	July 15, 2020	Release of VxFlex OS 3.0.1.2
02	September 14, 2020	Known issues were added to the document.

Product description

Dell EMC VxFlex OS, formerly known as ScaleIO Software, is scale-out block storage software that enables customers to create a scale-out server SAN or hyper-converged infrastructure on x86 server hardware.

VxFlex OS uses local storage devices and turns them into shared block storage that has all the benefits of SAN-but at a fraction of cost and complexity. VxFlex OS will continue to support the existing customer installations and will support an upgrade path from ScaleIO software to the VxFlex OS release.

VxFlex Ready Node is a combination of VxFlex OS and Dell PowerEdge® servers, optimized to run VxFlex OS software, enabling customers to quickly deploy a fully architected, scale out server SAN with heterogeneous hypervisor support. It also includes Automated Management Services (AMS).

The lightweight VxFlex OS software components are installed on the application servers and communicate via a standard LAN to handle the application I/O requests sent to VxFlex OS block volumes. An extremely efficient decentralized block I/O flow, combined with a distributed, sliced volume layout, results in a massively parallel I/O system that can scale up to thousands of nodes.

VxFlex OS is designed and implemented with enterprise-grade resilience. Furthermore, the software features an efficient, distributed, self-healing process that overcomes media and node failures, without requiring administrator involvement.

Dynamic and elastic, VxFlex OS enables administrators to add or remove nodes and capacity on-the-fly. The software immediately responds to the changes, rebalancing the storage distribution and achieving a layout that optimally suits the new configuration.

Because VxFlex OS is hardware agnostic, the software works efficiently with various types of disks, including: magnetic (HDD) and solid-state disks (SSD), flash PCI Express (PCIe) cards, networks, and hosts. VxFlex OS can easily be installed in an existing infrastructure as well as in green field configurations.

New and changed features

Learn about new and changed features in this version of VxFlex OS.

New features for VxFlex OS

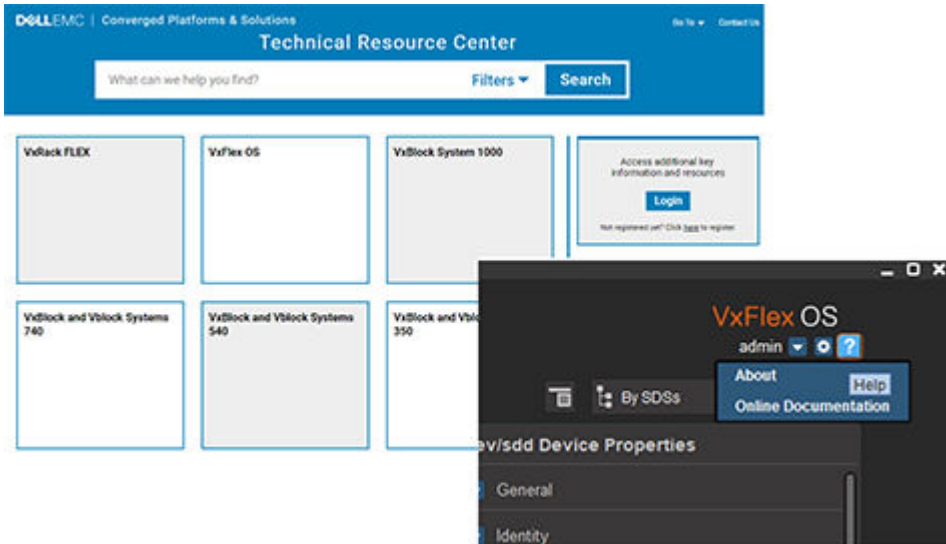
Learn about the new features introduced in VxFlex OS 3.0.1.2 software.

There are no new features included in this release of VxFlex OS.

New Documentation Set for VxFlex OS v3.0.x, and Online Documentation Portal

The VxFlex OS v3.0 documentation includes a new set of documentation that makes it easier for you to find information and follow common procedures and workflows.

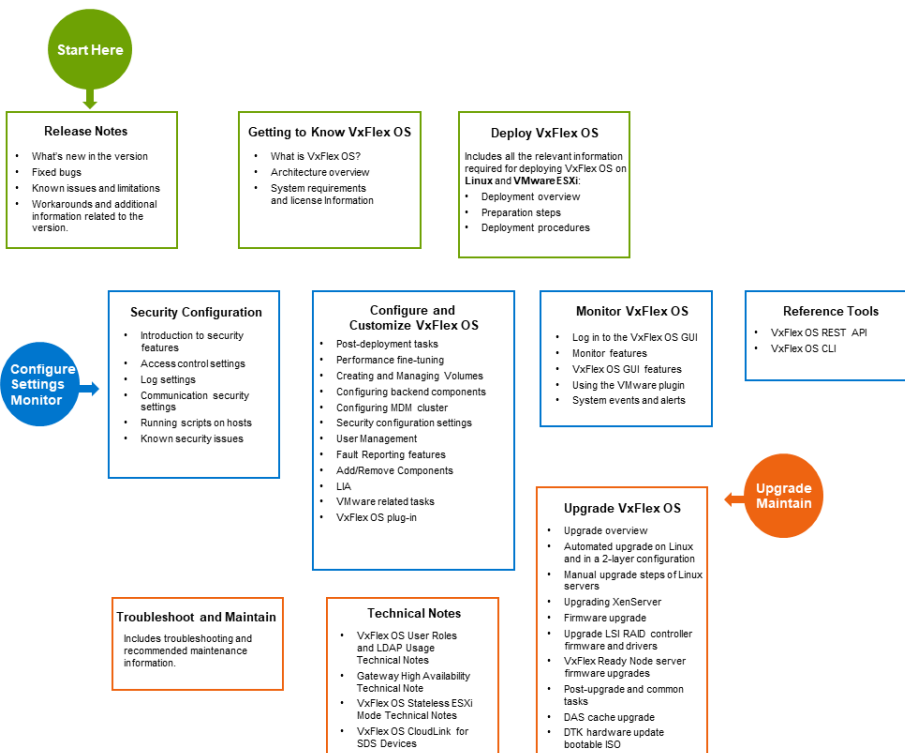
The VxFlex OS v3.0 documentation is now available on the Dell EMC Technical Resource Center; click [here](#) to view and download the latest version of the documentation. You can also access this link from the VxFlex OS GUI, by clicking the **?** icon and selecting **Online Documentation**.



For more information on what is included in the new documentation, see the *How to Find Information* document on the Dell EMC Technical Resource Center.

Welcome to the VxFlex OS Documentation Library

Here you can find information on what is available in the VxFlex OS Documentation. Click [here](#) to view the documentation on the Dell EMC Technical Resource Center.



Changed features

Learn about the enhanced features for VxFlex OS v3.0.1.2.

AMS firmware update

The following firmware packages are new in this release.

NOTE: In this version, the NVIDMM firmware was added to the AMS firmware repository, and will be included as part of the upgrade process orchestration. In previous versions, the NVDIMM firmware update will have to be performed manually.

Component platform related	Firmware version	Package name
BIOS (R640, R740xd)	2.6.4	BIOS_R6HXJ_WN64_2.6.4.EXE
iDRAC (R640, R740xd, R840)	4.10.10.10	iDRAC-with-Lifecycle-Controller_Firmware_KTC95_WN64_4.10.10.10_A00.EXE
NVDIMM Firmware (two files for two types of NVDIMMs)	9772 9532	Memory_Firmware_R0CH7_WN64_9772_A00.EXE Memory_Firmware_N4JYH_WN64_9532_A00.EXE
iSM (this is not firmware and will be deployed on the operating system)	3.4.1 New	ESXi 6.5&6.7: ISM-Dell-Web-3.4.1-1818.VIB-ESX6i-Live_A00.zip RHEL7.5: dcism-3.4.1-1722.el7.x86_64.rpm
Intel X710/XL710/XXV710 Dual/Quad ports	19.5.12 New	Network_Firmware_YP4R0_WN64_19.5.12_A00.EXE
Intel X540/X550/I350 Dual/Quad ports	19.5.12 New	Network_Firmware_40NTK_WN64_19.5.12_A00.EXE
Mellanox ConnectX-4 LX	14.25.80.00 New	Network_Firmware_5T22D_WN64_14.25.80.00.EXE
Mellanox ConnectX-4	12.25.10.20 New	Network_Firmware_93RHT_WN64_12.25.10.20.EXE
Mellanox ConnectX-5	16.25.82.02 New	Network_Firmware_89X3D_WN64_16.25.82.02.EXE
PERC H740P	50.9.3-2949 New	SAS-RAID_Firmware_JVJNC_WN64_50.9.3-2949_A10_02.EXE
Samsung PM883a	HG56 New	Serial-ATA_Firmware_D7FXF_WN64_HG56_A00.EXE

QLogic NIC support

The following new NIC models are not supported by AMS:

Vendor	Model	Type	Ports / Speeds	DPN	MOD	SKU	Option ID
QLogic	FastLinQ 41262	rNDC	2x 25Gb SFP28	4KF8J	CJHVH	555-BDYC	G90ZK1Y
QLogic	FastLinQ 41262	LP NIC	2x 25Gb SFP28	415DX	TYF7G	540-BBZJ	GGCKOA3
QLogic	FastLinQ 41262	FH NIC	2x 25Gb SFP28	51GRM	NDF8N	540-BBYL	GGC2YN8

ESXi support

The following ESXi versions are supported:

Version	Release name	Release date	Build number
ESXi 6.5 P04	ESXi650-201912002	12/19/2019	15256549
ESXi 6.7 P01	ESXi670-201912001	12/05/2019	15160138

Support deprecation

Learn about the features that are no longer supported in VxFlex OS 3.0.1.2.

AMS compute management support

The Compute and Networking feature is no longer supported on VxFlex Ready Node.

Windows server backend components

MDM and SDS components are no longer supported on Windows servers (SDC, VxFlex OS Gateway and VxFlex OS GUI are still supported).

SATADOM boot device support

VxFlex OS v3.0 cannot be deployed on the 32 GB SATADOM boot device that was sold in the first generation of Dell EMC ScaleIO/VxRack Nodes and VxRack Flex (a hardware solution based on Quanta servers). Customers who have older hardware with 32 GB SATADOM but want to use the CentOS SVM in their ESXi configurations on VxFlex OS 2.6.x should contact their account representative to open an RPQ.

DAS Cache support on SVM

The Storage VM in this release is based on CentOS 7.5, but DAS Cache does not support RHEL\CentOS 7.5. DAS Cache will continue to be supported on Bare Metal RHEL 7.3 and SLES 12.2.

Multiple SDSs on the same server

The installation of multiple SDS instances on the same server is no longer supported. To guarantee a better customer experience and improved stability, VxFlex OS currently only supports a single SDS per server.

As previous releases of VxFlex OS supported the installation of multiple SDS instances per server (up to four), existing nodes using the multiple-SDS feature should be reconfigured in order to be eligible for an upgrade. Consult with your Dell EMC Professional Services contact to assist with this configuration change, before you upgrade your system.

Deprecated operating systems

Refer to the ESSM for details.

Fixed issues

The following table lists the issues that were fixed in VxFlex OS 3.0.1.2.

NOTE:

If an issue was reported by customers, the customers' Service Request numbers appear in the "Issue number & SR number" column, and serve to correlate between customer-reported issues and the VxFlex OS (SCI) issue number.

Table 2. Fixed issues

Issue number & SR Number	Problem summary
SCI-54520 SR# 17734455	Attempting to initiate log collection using the VxFlex OS Gateway fails with the error message "Server didn't respond, code 400".
SCI-54385 SR# 17833961	In AIX-based systems, when there is a high I/O load, the SDC might crash.
SCI-54361 SR# 17804141	During NDU from v2.x to v3.x, in rare scenarios, if the system has a large amount of volumes and SDS server memory is low or very fragmented, v2.x SDS(s) may experience a segmentation fault (crash) after the MDM cluster is upgraded.
SCI-54360 SR# 17429919	In systems with over 2000 devices, the VxFlex OS GUI and Gateway might not receive some device objects, causing the GUI to not display those devices, and the Gateway and GUI to falsely send an alert for the Storage Pool not meeting the minimum number (3) of fault units.
SCI-54185	During NDU from v2.x to v3.x, in systems with thousands of VTrees, the MDM may crash several times in the upgrade post-processing phase (after all SDSs were upgraded and before the finalize_upgrade command is allowed).
SCI-54083 SR# 17693786	Initiation of log collection using the VxFlex OS Gateway fails.
SCI-53961	The command <code>drv_cfg --query_block_device_id</code> does not work on AIX-based SDCs.
SCI-53895	While upgrading a system with Windows SDC using the Installer, upgrade of LIA might fail.
SCI-53615	Following a user password change, inactive GUI sessions might generate a large amount of failed login retries.
SCI-53114 SR# 17318949	AIX-based SDC might crash under high I/O load.
SCI-53105 SR# 17312708	Installation of the VxFlex Gateway component fails when installing it on SUSE Linux Enterprise Server 15. The installation may fail due to a known issue: https://superuser.com/questions/554855/how-can-i-fix-a-broken-pipe-error/554896#554896 The error in the rpm install script will exit with the message: grep: write error: Broken pipe
SCI-52904 SR# 17273707	When using Java 8u241, MDM and LIA certificates have to be re-approved upon every VxFlex OS Gateway restart.
SCI-52513	When using the command <code>sg_dd</code> to test I/O to <code>/dev/sciniX</code> devices, the server might crash.
SCI-52479	On Windows operating systems, after removing the VxFlex OS Gateway using Add \Remove Programs, a new VxFlex OS Gateway cannot be installed. This happens because the VxFlex OS Gateway service was not removed. In many cases, this is caused by not performing a reboot prior to a new installation.
SCI-52368 SR# 17017018	In large scale systems with a large number of SDCs, the following message may fill up the log files: <code>multiheadRow_InitiateRoleSwitchIfNeeded</code> Example of full message: <code>multiHeadMgr_FillMultiHeadsInfoBuff:03715: SDC 71892b3800000000 Adding multihead ID: 72370000 gennum: 1</code>
SCI-52341 SR# 17028785	The MDM may have socket disconnection issues, causing the MDM cluster to enter degraded state. This issue disappears after a short time and connection is restored to MDM members.

Table 2. Fixed issues (continued)

Issue number & SR Number	Problem summary
SCI-52147 SR# 16933891	AMS mistakenly reports "Errors have been detected on the Physical Disk" on drives from slots 0 and 1 in all nodes. The issue is caused due to a text change in iDRAC 4.00.00.00 that causes sampling to raise a false alert.
SCI-52093	When installing the Gateway on CentOS\RHEL8.x, the installation may fail due to a known issue: https://access.redhat.com/solutions/3242741 The error will cause the rpm install script to exit with the message: grep: write error: Broken pipe
SCI-52036 SR# 16858218	The command enter_maintenance_mode may take longer than expected, sometimes resulting in an MDM crash, after which MM entrance will continue normally. This has a higher chance of happening during NDU from v2.x to v3.x.
SCI-52035 SR# 16858218	After upgrading the VxFlex OS Gateway to version 3.X, the logs include frequent occurrences of the following error: authSession_GetSessionFromTokenForReadOrWrite:00293: Session mismatch This issue is resolved in version 3.0.1.2 and later.
SCI-52022 SR# 16718335	During an upgrade from v2.x to v3.x on a highly populated cluster with mostly thick volumes, the VxFlex OS Gateway might fail to place the SDS into instant maintenance mode due to insufficient resources.
SCI-51315 SR# 16761678	While trying to run an orchestrated script execution using the VxFlex OS Installer in v3.x, the operation fails during the pre-check process, with an error stating that the available spare capacity is lower than the largest fault set.
SCI-50386	Upgrade from v3.0 to v3.x using the VxFlex OS Installer might fail on Ubuntu and/or RHEL based nodes due to incompatibility with the ifconfig tool on Linux.

Software packages

Learn about the contents of the VxFlex OS 3.0.1.2 software packages.

Download location

VxFlex OS 3.0.1.2 software packages can be downloaded from the following locations:

VxFlex OS Software:

<https://www.dell.com/support/home/en-us/product-support/product/scaleio/overview>

ScaleIO Ready Node 13G:

<https://www.dell.com/support/home/en-us/product-support/product/scaleio-ready-node-powerededge-13g/overview>

VxFlex Ready Node 14G:

<https://www.dell.com/support/home/en-us/product-support/product/scaleio-ready-node--powerededge-14g/overview>

VxRack Node:

<https://www.dell.com/support/home/en-us/product-support/product/vxrack-node/overview>

Table 3. Software packages

Package Name	Operating System	GW	GUI	MDM	SDS	SDC	LIA	Xcache	Content
RHEL_OEL6	Red Hat / CentOS / Oracle Linux	X	X	X	X	X	X	X	Core components for Red Hat, CentOS and Oracle Linux 6.x

Table 3. Software packages (continued)

Package Name	Operating System	GW	GUI	MDM	SDS	SDC	LIA	Xcache	Content
RHEL_OEL7		X	X	X	X	X	X	X	Core components for Red Hat, CentOS and Oracle Linux 7.x
RHEL8		X	X	X	X	X	X	X	Core components for Red Hat, CentOS and Oracle Linux 8.x
SLES12.4	SUSE Linux	X	X	X	X	X	X	X	Core components for SLES 12 SP4
SLES12.5		X	X	X	X	X	X	X	Core components for SLES 12 SP5
SLES15		X	X	X	X	X	X	X	Core components for SLES 15
Ubuntu16.04	Ubuntu	X	X	X	X	X	X	X	Core components for Ubuntu 16.04
Ubuntu18.04		X	X	X	X	X	X	X	Core components for Ubuntu 18.04
XEN7.1	XenServer / Citrix Hypervisor			X	X	X	X	X	Core components for Citrix XenServer 7.1.2 LTSR
XEN7.3				X	X	X	X	X	Core components for Citrix XenServer 7.3-7.6
XEN8.0				X	X	X	X	X	Core components for Citrix XenServer 8.0
macOS			X						GUI package for macOS (10.12, 10.13)
Complete_VMware_SW	vSphere								Contains all PowerFlex, VMware-related software artifacts (OVA file, drv_cfg file, SDC package, vSphere plug-in) i NOTE: VxFlex OS vSphere plug-in is not compatible with ESXi 7.0 and later.
Complete_Windows_SW	Windows Server	X	X			X	X		Contains all Microsoft Windows (2012-2019) server related software artifacts, including the gateway and CSV deployment templates
CoreOS	CoreOS					X			SDC component for CoreOS
Gateway_for_Linux									VxFlex OS Gateway, which includes the following: Installer, Gateway (for REST API, Alerts, SNMP/ESRS) for Linux/Ubuntu (can be used to deploy VxFlex OS on Linux-based operating systems only). CSV deployment templates are also included

Table 3. Software packages (continued)

Package Name	Operating System	GW	GUI	MDM	SDS	SDC	LIA	Xcache	Content
GPG-RPM-KEY									Contains RPM key (RSA for Linux, DSA for Xen) to authenticate the RPM packages using manual install/upgrade procedure

NOTE: Please refer to the latest VxFlex OS simple support matrix at <https://elabnavigator.emc.com/eln/modernHomeSSM>

VxFlex OS 3.0.1.2 Complete Software Download

Contains all software artifacts for VxFlex OS 3.0.1.2 (same as the above structure)

VxFlex Ready Node 3.0.1.2 AMS

- Upgrade .ZIP file*

Contains the `upgrade.tar` file for upgrading the VxFlex OS Core components (MDM/SDS/SDC/LIA) for ESXi, and Linux, and the `Upgrade-replacesvm-<VERSION>.tar` file for replacing the SVM.
 - VxFlex OS 3.0.1.2 AMS Download Linux .ZIP file*

Contains the AMS software for Linux and Windows, the AMS GUI, RHEL 7.5 ISO (patched), and the Windows GUI package.
 - VxFlex OS 3.0.1.2 AMS Download ESXi .ZIP file*

Contains the AMS software for Linux and Windows, the ISO for ESXi 6.7 P01, ESXi 6.5 P04, and the AMS Windows GUI package.
- NOTE:** ISOs are patched with Specter and Meltdown fixes.
- Standalone packages*

`upgrade.tar` file
 - Standalone ISOs*

RHEL 7.3 ISO, patched with Specter and Meltdown fixes.

RHEL 7.4 ISO, patched with Specter and Meltdown fixes.

AMS management ISO (Kylin image), used to deploy a SLES 12.2 image on an R640 management node (AMS). Includes the AMS .RPM install package.

Install and upgrade

VxFlex OS 3.0.1.2 can be installed on a clean system or used as an upgrade. Learn important information about installing or upgrading this version.

Installation

For complete instructions for installing VxFlex OS, see the *Deploy VxFlex OS Guide*.

For complete instructions for installing VxFlex Ready Node, see the *VxFlex Ready Node Deployment Guide*.

Licensing

VxFlex OS use requires a license. Please call your Dell EMC account representative to purchase a license for VxFlex OS.

Upgrade

The following table lists the versions from which the upgrade can be performed:

Table 4. Upgrade support matrix

ScaleIO / VxFlex OS base version	Upgrade path	Supporting documentation
Earlier than v2.0.1.4	Consult Customer Support	
v2.0.1.4	<ol style="list-style-type: none"> Upgrade to VxFlex OS v2.5 (intermediate step). Upgrade to VxFlex OS v3.0.1.2. 	<i>Upgrade VxFlex OS v3.x Guide</i>
v2.5, v2.6.x, v3.0, v3.0.0.x, v3.0.1, v3.0.1.1	Upgrade to VxFlex OS v3.0.1.2	<i>Upgrade VxFlex OS v3.x Guide</i>

To upgrade from earlier versions, contact Dell EMC Support.

The *VxFlex OS Upgrade Guide* and *VxFlex Ready Node Upgrade Guide* contain detailed upgrade instructions for your specific product.

Supported operating systems

The user documentation contains a list of supported operating systems. For the most current information, see the *Dell EMC Simple Support Matrix* (ESSM) at <https://elabnavigator.emc.com/eln/modernHomeSSM>.

SDC compatibility

By design, the VxFlex OS SDC in this release is compatible with previously released VxFlex OS/ScaleIO systems (backend) that are currently supported (for example, ScaleIO v2.5 or VxFlex OS v2.6.1.1). In addition, the VxFlex OS system (backend) in this release is backward compatible with previously released SDC versions that are currently supported.

Some limitations may apply to mixed-version systems, such as:

- Fine Granularity Storage Pool-based volumes cannot be mapped to a ScaleIO/VxFlex OS v2.x SDC
- Snapshot Policy management is not available with SDC releases earlier than v3.0.

Known issues and limitations

The following table lists known issues and limitations that exist in VxFlex OS 3.0.1.2. Each table is sorted according to issue severity (from high to low).

NOTE:

If an issue was reported by customers, the customers' Service Request numbers appear in the "Issue number & SR number" column, and serve to correlate between customer-reported issues and the VxFlex OS (SCI) issue number.

Table 5. Known issues and limitations—AMS

Issue number & SR number	Problem summary	Workaround
SCI-56173 SR# 18510788	<p>In very rare cases, when AMS tries to connect to the LIA service, a timeout error occurs due to the LIA process crashing endlessly. In the lia exception file exp.0, for example, the following line is recorded multiple times:</p> <p>Termination due to signal 11. PID 20598 Faulting address (nil). errno 0</p>	<p>Steps to reinstall LIA with its original configuration:</p> <ol style="list-style-type: none"> 1. Make a copy of the LIA cfg files: <code>mkdir -p /tmp/lia/cfg; cp /opt/emc/scaleio/lia/cfg/* /tmp/lia/cfg/</code> 2. Uninstall LIA: <code>rpm -e EMC-ScaleIO-lia</code>

Table 5. Known issues and limitations—AMS (continued)

Issue number & SR number	Problem summary	Workaround
		<p>3. Install LIA: <code>rpm -ivh /root/install/EMC-ScaleIO-lia-<version>.rpm</code></p> <p>4. Copy back the config files: <code>rm -rf /opt/emc/scaleio/lia/cfg/*; cp /tmp/lia/cfg/* /opt/emc/scaleio/lia/cfg/</code></p> <p>5. Restart LIA: <code>pkill lia</code></p>
SCI-50342	When using iDRAC 3.21.26.22 or lower, AMS upgrade to 3.0.1.1 (iDRAC 4.00.00.00) might fail with the following error message in the AMS and iDRAC Job queue log: 'unable to extract a payload'	Upgrade iDRAC manually to 3.34.34.34.34, and then click Retry in AMS to perform the upgrade to 4.00.00.00. This needs to be done on all relevant nodes. Refer to iDRAC upgrade guidelines on how to perform a manual upgrade of firmware, or refer to the Upgrade VxFlex OS Guide.
SCI-47595	In some scenarios, following a non-disruptive upgrade (NDU) from v2.6.x to v3.0.x, some of the nodes might not exit maintenance mode.	<ol style="list-style-type: none"> 1. In AMS, go to the Backend tab -> Storage in the SDS view. 2. Look for the SDSs that are in maintenance mode and expand their device lists. 3. Find devices that are in error state, right click them and clear device errors. <p>When all device errors are cleared, the SDSs can exit maintenance mode.</p>
SCI-42253	When there are many requests sent to the 'perccli' utility it may become stuck and respond with empty answer. If this happens during deployment, the deployment may fail during VD creation on the physical disks.	Wait a little until the sampler successfully samples the 'perccli' utility, and then click "Retry".
SCI-41950 SR# 13244526	<p>AMS might report false hardware alerts after receiving incomplete data from iDrac. For example:</p> <p>SIO07.05.1000004 NODE_FAILED_TO_CONNECT_TO_BMC_CLOSED</p> <p>SIO07.02.1000001 STORAGE_CONTROLLER_INVALID_STATE_CLOSED</p> <p>SIO07.05.0000015 NODE_INVALID_CMOS_BATTERY</p> <p>SIO07.03.0000004 CPU_SOCKET_INVALID_TEMPERATURE</p> <p>SIO07.05.0000002 NODE_INVALID_VOLTAGE</p> <p>SIO07.03.1000007 CPU_SOCKET_INVALID_VOLTAGE_CLOSED</p> <p>They are not actual alerts, rather false positives caused by incorrect data received from iDrac (i.e. due to network issues between AMS and BMC).</p>	Compare AMS alerts with iDrac status; if an issue is not reported in iDrac console, it means it is a false-positive alert.
SCI-39387 SR# 12011318	AMS requires the certificate imported for its "renew certificate" process to be an intermediate CA certificate. However, the AMS can successfully import a non-intermediate-CA certificate, that is one which is not valid for	Generate a new certificate for the AMS that is valid for signing further certificates. Perform the AMS "renew certificate" process using the new certificate.

Table 5. Known issues and limitations—AMS (continued)

Issue number & SR number	Problem summary	Workaround
	signing further certificates. If that happens, it negatively impacts the ability to manage and support the system when there is need to perform a function which is not available through the AMS or when the AMS is not available.	
SCI-41564	In the AMS GUI, when performing an ownership migration, without specifying a Monitor user, AMS will hang in "taking ownership" state. This state blocks the addition of new nodes.	Re-run the query with a Monitor user specified. AMS will return to a normal state after a connectivity error is generated.
SCI-44806	When performing a "Replace SVM" procedure on a v2.6.X system from SLES 12.2 to CentOS 7.5, the Upload OVA stage might fail after the SVM was successfully replaced. If this happens, the error message "There are no nodes that require OVA deployment" is generated.	Restart the AMS service, and the Replace SVM Upload OVA process should continue as expected.

Table 6. Known issues and limitations—AMS GUI

Issue number & SR number	Problem summary	Workaround
SCI-16900	When trying to remove a standby MDM, while the SVM is running and the MDM is down, a failure message is returned. This is caused because the AMS is also trying to remove the rpm.	The error message can be ignored. The MDM running on the node is not part of the VxFlex OS system anymore.
SCI-40019	When a new software version is added to the AMS repository it will result in other future operations like "Add Node" to fail with a "version too old" message.	None
SCI-46339	Having a different number of NVDIMMs per node across a cluster may create a problem if one is manually trying to change the default AMS wizard selection of SDS devices at the "Add Devices" stage of the wizard. Manually changing this selection can violate the rules by which AMS assigns SDS devices to Storage Pools. This will create an error alert in the deployment wizard. However, the alerts are not specific enough to indicate how to reverse the last (manual) action.	<ol style="list-style-type: none"> 1. Do not click the "Abort" button. If you click "Abort", you will have to start the deployment all over again, including re-installation of the nodes. 2. Click "Close". 3. In the "Backend > Devices" view, filter the display using "by SDSs". 4. For each SDS, check how many Acceleration Pools it has. Usually there will be one NVDIMM per Acceleration Pool. 5. From "System Settings", click "Add Nodes". You will be back to the last step of the deployment wizard. 6. You can only add SDS devices to a Storage Pool accelerated by an Acceleration Pool which has an assigned NVDIMM on the same node.
SCI-23351	In AMS, when upgrading the GUI (Windows Server) the installation path option is modifiable, but it should be unavailable during an upgrade.	Avoid changing the installation path in the upgrade wizard.
SCI-54877	During NDU, after the node has finished the reboot cycle for Firmware, Driver and SDC upgrade, the following issue may occur in rare cases on ESXi nodes. AMS sends a request to vCenter for the ESXi to exit maintenance mode. The upgrade of the ESXi patch sometimes changes the ESXi certificate, and a reconnect	If this error message is displayed in the AMS GUI, click Retry.

Table 6. Known issues and limitations—AMS GUI (continued)

Issue number & SR number	Problem summary	Workaround
	<p>process is needed. During the reconnect process, AMS receives the following error: Command Exiting node from maintenance mode failed: "Could not open VMware connection on Node <Node Name> with IP <Node Mgmt IP> due to VMWare exception". This is due to the VMware exception: VI SDK invoke exception:java.net.ConnectException: Connection refused: connect</p>	

Table 7. Known issues and limitations—Gateway

Issue number & SR number	Problem summary	Workaround
SCI-50867	<p>When running the upgrade process via the VxFlex OS Gateway, a problem may occur when upgrading RHEL based nodes. When the upgrade process tries to check the IP address of a node, the following message may appear for some of the RHEL nodes: "Could not get IPs of <ip address>."</p>	<p>VxFlex OS upgrade still relies on the ifconfig command, which should be installed separately on the host.</p> <p>Once it is installed, click Retry on the VxFlex OS Installer window.</p>
SCI-12370	<p>In some scenarios, when using IPv6, Installation Manager (IM) might fail to identify that several IP addresses represent the same physical node. This can result in redundant install/upgrade operations.</p>	None
SCI-20141	<p>The "auto collect logs" feature starts due to an error, and prevents the user from doing anything in the VxFlex OS Installer, until log collection is finished.</p>	<ol style="list-style-type: none"> 1. Stop the automatic log collection. 2. Disable the feature, so that it will not start again until you finish your task. 3. Enable the "auto collect logs" feature again.
SCI-38801	<p>The replace SVM utility does not address static routes configured in the system.</p>	<p>If you have static routes configured in your SLES SVM, reconfigure them after you run "Replace SVM" process on your newly created Centos SVMs.</p>
SCI-42967	<p>When initiating an upgrade of a ScaleIO/VxFlex OS system (from v2.6 and below to v3.0) with a large number of objects in the system, in some rare scenarios, the VxFlex OS Gateway might fail to complete the retrieval of the system topology from the MDM.</p>	<p>Perform an MDM ownership switch to resolve the issue.</p>
SCI-47833	<p>The SVM patching feature might not work properly on a Windows Server-based VxFlex OS Gateway.</p>	<p>Use a Linux-based VxFlex OS Gateway.</p>
SCI-5466	<p>Configuration changes of an existing system using a modified CSV file are not supported.</p>	<p>Use one of the VxFlex OS management user interfaces to configure the system.</p>
SCI-40372	<p>During the VxFlex OS Gateway rpm upgrade flow, when lockbox is configured, the upgrade displays an error message: "missing information in mdm credentials (username or password) - cannot update lockbox".</p>	<p>Ignore this message, as the Lockbox has been configured successfully.</p>
SCI-13157	<p>When trying to collect logs using the VxFlex OS Installation Manager while the system utilizes 100% of the disk space on all nodes, the log</p>	None

Table 7. Known issues and limitations—Gateway (continued)

Issue number & SR number	Problem summary	Workaround
	collection operation takes a very long time, and eventually a misleading time-out error is returned.	

Table 8. Known issues and limitations—GUI

Issue number & SR number	Problem summary	Workaround
SCI-41101	Mapping a very large amount (thousands) of volumes to an SDC in a single GUI session might fail due to connectivity issues.	Use CLI/API and/or map volumes gradually in smaller groups
SCI-43176	During a system upgrade, while trying to log in using the GUI, an "Internal Error #34" message might appear in the login window.	Retry login.
SCI-41817	In the GUI, when all snapshots are expanded in a V-tree, the 60th snapshot cannot be viewed.	Navigate to the required snapshot from this preset and then switch to the Volumes preset in order to see all the relevant information.
SCI-42781	When configuring NVDIMMs in systems using the GUI, all discovered memory modules should be assigned to Acceleration Pools, and cannot be left undefined.	Before adding NVDIMM devices, from the Unmount NVDIMM option, choose a region or regions and unmount only those regions. The rest of the regions will be available for AMS. Note: There is a region per single NVDIMM.
SCI-42944	VxFlex OS v3.0 GUI connected to a ScaleIO v2.0.1.x cluster is missing the Inflight checksum option	Use the CLI to enable checksum for a storage device.

Table 9. Known issues and limitations—MDM

Issue number & SR number	Problem summary	Workaround
SCI-47388	<p>RFcache devices are not addressed when invoking the CLI command:</p> <pre>--update_sds_original_paths.</pre> <p>The command updates path configuration for all devices with the currently assigned SDS devices path.</p>	<p>Use the following SCLI command to fix the device path:</p> <pre>scli --update_device_original_path</pre> <p>Usage: scli --update_device_original_path (--device_id <ID> ((--sds_id <ID> --sds_name <NAME> --sds_ip <IP> [--sds_port <PORT>]) (--device_name <NAME> --device_path <PATH>)))</p> <p>Description: Changes the device's original path configuration to the path currently assigned to the device</p> <p>Parameters:</p> <pre>--sds_id <ID> SDS ID --sds_name <NAME> SDS name --sds_ip <IP> SDS IP address --sds_port <PORT> Port assigned to the SDS --device_id <ID> Device ID --device_name <NAME> Device Name --device_path <PATH> SDS storage device path or file path</pre>

Table 9. Known issues and limitations—MDM (continued)

Issue number & SR number	Problem summary	Workaround
SCI-11969	Under heavy load, on a VxFlex OS installed device on a slave MDM, the slave MDM might become temporarily out-of-sync (degraded). This happens because Master MDM updates cannot be written to the device within a one-second timeout period.	As degradation is temporary, the risk to the system is minimal and is auto-corrected. To avoid this issue, it is recommended to install VxFlexOS MDM on faster media (NVMe/SSD). In larger systems, it is also recommended to install the MDMs on separate machines.
SCI-16315	After configuring virtual IP addresses, if the Master MDM discovers that its virtual IP addresses are unreachable, it will try to perform a switch-over. Virtual IP addresses may be unreachable because the data network switch is down and the cluster is actually using a different network. If no MDM is able to obtain the virtual IP addresses, the MDM processes might shut down.	Once the network problem is fixed, start the MDM processes again using create_service.
SCI-19588	In an extremely non-uniform Storage Pool configuration (SDS or Fault Set that accounts for more than half of the Storage Pool capacity), some of the capacity will not be used by the system, even though it appears to be "free".	
SCI-41601	The snapshot policy mechanism allows for offsets of up to 1 minute in snapshot creation, due to delays caused by MDM reboots and switch-overs. This might present an inconsistent snapshots view.	The snapshot's creation time is a display-only attribute of the snapshot, and has no affect on snapshot maintenance or the order in which snapshots are eventually deleted
SCI-42408	When using the snapshot capability with Fine Granularity (FG) Storage Pools, the Base volume physical capacity and Snapshot physical capacity size calculation (post compression) in the GUI/CLI might not be accurate.	This issue will be addressed in a future release.
SCI-8508	It is not possible to add an MDM when the network latency is greater than 200 msec.	None
SCI-12999	When an LDAP user is assigned to both Security and BackEndConfig groups, upon CLI login, the message "User role is SuperUser" appears, even if the user is not assigned to all the groups.	Since the actual permissions are set according to the assigned groups, the message can be ignored.
SCI-27564	Original snapshot deletion time might not represent the actual deletion time. Deviations might occur due to MDM crashes or switch-overs of up to 1 minute per crash.	Actual deletion time can be calculated from system information with the help of Customer Support.
SCI-11046	When there are device-related and SDS-related oscillating failures in the system and an MDM switch-over occurs, those oscillating failures may not be updated in the current Master MDM.	When an additional MDM switch-over occurs, these oscillating failures counters will be available.
SCI-14632	Changing the size of a device that is in use by an SDS is not supported.	To resize a device, first remove the device from the VxFlex OS system, resize it, and add it back to the system.
SCI-21795	By default, the SDS will not add new devices that allow less than ~50 MB/s in 1 MB writes. During the disk initialization phase, the SDS writes ~200 MB. This might be prominent when using multiple partitions on a device.	When using multiple partitions, add the devices to the SDS, one-by-one. Change the SDS add new device timeout by changing the following parameter in conf.txt: mdm_to_tgt_net__send_timeout (in milli-seconds)

Table 10. Known issues and limitations—Network

Issue number & SR number	Problem summary	Workaround
SCI-11405	SDS IP addresses must not be ambiguous. For instance, 127.0.0.1 must not be used, as it refers to several machines.	None
SCI-12038	The MDM and SDSs might restart due to a known issue in glibc version 2.12-1.166 or earlier of RH6. The issue is likely to occur when there is heavy traffic on the network.	Update the glibc to version 2.12-1.167. More information can be found in Red Hat Bugzilla (Bug 1243824): https://bugzilla.redhat.com/show_bug.cgi?id=1243824
SCI-27540 SR# 08520639, 07724183	The SDS connectivity test (SDS network test) tool might return inconsistent results in networks with configuration issues (Routing, MTU, etc), and when non-vxFlex OS traffic is running on the data subnet (SDS-SDS, SDC-SDS).	None.

Table 11. Known issues and limitations—SDC

Issue number & SR number	Problem summary	Workaround
SCI-50039 SR# 16490613	In SLES 12.4 installations, SCSI commands issued via the SG_IO ioctl to /dev/scini* devices will fail and cause a kernel "oops".	None.
SCI-11026	An ESXi host might not recognize a VxFlex OS volume resize operation.	Perform a re-scan of the ESXi host storage adapters.
SCI-2763	When uninstalling a Linux SDC while I/O is running, the process might fail and generate the following error message: "Module scini is in use".	Reboot the node.

Table 12. Known issues and limitations—SDS

Issue number & SR number	Problem summary	Workaround
SCI-44997	Addition of pre-partitioned NVMe disks to a VxFlex OS system will cause removal of the partitions instead of failing the operation.	Prior to adding new disks to a VxFlex OS system, make sure that they do not contain any valuable data.
SCI-44515	In rare cases, when deleting a large number of volumes with snapshots while an SDS reboot occurs, the deletions can be finished in the absence of the rebooting SDS. That would follow with the devices in the SDS are automatically attached as "new" devices. Despite being marked as new, these devices still have data residing in NVRAM (from before the reboot). This data can be erased only after the devices finish their attachment as "new" devices. The SDS does not attach the devices because it does not have enough space in NVRAM for both the old NVRAM data and the new data.	Remove the disks from the SDS and add them back again.
SCI-38954	In a hyper-converged Linux environment, if more than 2,000 volumes are mapped to a given SDC, restarting the SDS on the same machine may cause the SDS devices on the machine to enter an error state.	This error state can be resolved by using the "clear device error" command.
SCI-43259	An attempt to migrate a volume towards an unbalanced Storage Pool where one of the devices is completely full will produce a "No space in destination SP" message.	Make sure that the target Storage Pool is balanced before migrating volumes.

Table 12. Known issues and limitations—SDS (continued)

Issue number & SR number	Problem summary	Workaround
SCI-15736	When almost all capacity in a VxFlex OS system is used, and the system is in maintenance mode, read I/Os may fail. This is due to the fact that in order to assure consistent reads, when a read is performed to a new location, the copy to the temporary copy must be written as well.	None
SCI-44410	Volume snapshot deletion seems stuck or may take long time to complete.	Snapshot deletion is dependent on the system status, and will not complete until system rebuild is over.
SCI-35732	When a disk has failed in an ESXi HCI node, the Storage VM might freeze. This will result in SDS failure, and commencement of a rebuild operation.	<ol style="list-style-type: none"> 1. Shut down the SVM. 2. Enter the ESXi host into maintenance mode (Shut down or migrate any VM located on the host). 3. Reboot the host. 4. Identify the faulty device and remove it from the SVM, using "edit virtual machine". 5. Start the SVM. The SDS should start, the device should be removed and rebuild should be initiated.
SCI-3526	Multipath devices cannot be added as SDS devices.	None

Table 13. Known issues and limitations—vSphere VxFlex OS plug-in

Issue number & SR number	Problem summary	Workaround
SCI-26137	When re-mapping a volume to an SDC on an ESXi node, the device appears to be in detached state. This occurs because when the vSphere VxFlex OS plug-in unmaps the volume, it first detaches the device to make sure that it is not being used, and the ESXi "remembers" that detached state.	Perform an attach command on the device using vSphere web client, PowerCLI, etc.
SCI-15183	The vSphere VxFlex OS plug-in does not allow unmapping a volume from the SDC when the SDC is disconnected.	Unmap using the VxFlex OS GUI or VxFlex OS CLI.
SCI-28108	vSphere VxFlex OS plug-in: When deploying a system with a mix of storage and acceleration devices of both VMDK and RDM datastores, the deployment is not successful, and generates the error: "Cannot create datastore. Error details: VI SDK invoke exception:com.vmware.vim25.HostConfigFault"	Do not use VMDK mixed environments, because they are not supported.
SCI-38905	When installing VxFlex OS using the vSphere VxFlex OS plug-in, and rolling back from a failed installation, upon re-launching the installation wizard, some of the previously chosen configuration parameters might be missing.	Cancel the operation, and start deployment again.
SCI-9912	In VMware environments, when an MDM cluster configuration fails, only the 'Roll-Back entire deployment' button appears. There is no 'Roll-Back failed Tasks' option.	Roll back the entire system and re-deploy.

Table 13. Known issues and limitations—vSphere VxFlex OS plug-in (continued)

Issue number & SR number	Problem summary	Workaround
SCI-13862	When using the vSphere VxFlex OS plug-in to add SDS devices to an existing system, the plug-in uses the device ID identifier (which is not unique across nested/virtual ESXs) to check if the device was already added. Attempting to add an SDS device post-deployment might fail.	Try to perform this operation using the VxFlex OS GUI or CLI.
SCI-19609	In an ESXi environment, when the SDC was installed manually using the CLI, if you attempt to upgrade the SDC using the vSphere VxFlex OS plug-in, the SDC upgrade fails with a 1009 error message. This indicates that an unexpected error was encountered.	Set a name for the SDC to be used by the VxFlex OS system, in the following format: ESX-<IP_ADDRESS_OF_ESX> For example: ESX-10.103.110.54 Alternatively, upgrade the SDC manually.
SCI-22879	In the vSphere VxFlex OS plug-in, if the password field of a non-selected ESXi is empty in the "Pre-Deployment Actions" screen, the "Run" button is disabled and the operation cannot be started.	Enter the vCenter/datacenter password, and it auto-fills the ESXi hosts below them.
SCI-27158	In the vSphere VxFlex OS plug-in, during a device removal from an Acceleration Pool, it might not be possible to close/cancel the pop-up window. The issue occurs when trying to exit the credentials page.	Click the OK button with the correct credentials, or refresh the web browser.
SCI-33443	In some cases, when performing a restart to the vSphere-client service, the vSphere VxFlex OS plug-in is deleted from the vCenter.	Register the plug-in again to the vCenter. Refer to the Deploy VxFlex OS Guide for the detailed procedure.
SCI-33572	In some cases, when upgrading the vSphere VxFlex OS plug-in (by unregistering the old version and registering the new version), the plug-in remains in the old version.	The browser's cache needs to be cleared. After clearing the browser's cache, the SWF file will be automatically downloaded again.
SCI-38603	In the vSphere installation wizard, switching back and forth between installation screens during deployment might miss the option of replicate selection (in the Add devices screen).	Close the wizard and restart the deployment.
SCI-26831	Use of the vSphere VxFlex OS plug-in to map a non-named volume to an SDC fails.	Make sure the volume to be mapped has a name prior to mapping it.
SCI-35880	During plugin deployment, in some cases an error is raised because of timeout, and the following message is displayed: "Failed to setSdsPerformanceProfile - SDS does not exist."	Click Retry to continue with the deployment.
SCI-7385	When running the PluginSetup script, a message may appear indicating that the script is not trusted. The script is trusted. It is possible to select Always trust, and this message will not be shown again.	None

Operating system known issues and limitations

Learn about known issues and limitations for specific operating systems.

Table 14. Known issues and limitations—operating systems

Issue number & SR number	Problem summary	Workaround
VXFV-157	NVMe disks are not supported on RHEL 8.0 due to the following issue: https://access.redhat.com/solutions/4280341 Failure to observe this limitation might cause RHEL-based SDSs with NVMe to experience kernel panic during a disk removal flow.	None
N/A	The appropriate VMware licensing is required for persistent memory support; an Enterprise Plus license might be required.	To check whether your license includes persistent memory support, refer to VMware Compare vSphere Editions and Features .

Additional resources

Use these resources to find more information about this product, get support and provide feedback.


Product information

For documentation, release notes, software updates, or information about Dell EMC products, go to Dell EMC Online Support at: <https://support.emc.com/>

Where to get support

Go to Dell EMC Online Support and click **Service Center**. You will see several options for contacting Dell EMC Technical Support. Note that to open a service request, you must have a valid support agreement. Contact your Dell EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

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.