

Release Notes

Dell EMC PowerFlex

3.5.1

PowerFlex 3.5.1 Release Notes

Rev. 02

September 2020

Release Notes for PowerFlex 3.5.1.

These release notes contain supplemental information about this release.

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Revision history

Revision history for PowerFlex 3.5.1 release notes

Table 1. PowerFlex 3.5.1 release notes revision history

Revision	Date	Description
01	August 24, 2020	Release of PowerFlex 3.5.1
02	September 14, 2020	Additional known and fixed issues were added to the document.

Product description

PowerFlex, formerly known as ScaleIO and VxFlex OS Software, is a software-defined storage platform designed to significantly reduce operational and infrastructure complexity, empowering organizations to move faster by delivering flexibility, elasticity, and simplicity with predictable performance and resiliency at scale.

The PowerFlex family provides a foundation that combines compute as well as high performance storage resources in a managed unified fabric. PowerFlex comes in fully managed flexible deployment options for rack or appliance that enable Server SAN, HCI and storage only architectures. A Ready Node is also available. PowerFlex is ideal for high performance applications and databases, building an open private cloud, or consolidating resources in heterogeneous environments.

New and changed features

Learn about new and changed features in this version of PowerFlex.

New features for PowerFlex

Learn about the new features introduced in PowerFlex 3.5.1 software.

New in this version

There are no new features in this version of PowerFlex.

Important

The following aspects of PowerFlex 3.5.1 must be understood before deploying or upgrading your system:

1. Native asynchronous replication
 - Native asynchronous replication is not supported on VMware hyperconverged configurations
 - Bidirectional replication between two sites only is supported
 - Refer to the [PowerFlex Sizer](#) for sizing guidelines for correct replication system specifications, including WAN bandwidth sizing. When using the PowerFlex Sizer, take into account existing workload and existing hardware, and the possible need to add additional nodes to enable replication without impacting the current workload.
 - Replication capability has higher I/O overhead, as explained in the v3.5 *Getting to Know PowerFlex Guide* ([Replication](#) section) and the white paper [Dell EMC PowerFlex: Introduction to Replication](#). Refer to these recommendations in order to size your system correctly, and make sure that you have sufficient existing storage capabilities to enable this ability.
2. HTML5-based UI
 - The new HTML5-based UI is not backward compatible with older versions of VxFlex OS
 - The Java-based UI of older VxFlex OS versions will not work with PowerFlex 3.5.1
3. vSphere 7
 - The PowerFlex 3.5.1 vSphere plug-in (VxFlex OS vSphere plug-in in previous versions) does not support VMware vSphere 7. This is due to technical changes in vSphere 7. As a result, in order to configure a Hyperconverged

configuration based on vSphere 7, you will need PowerFlex Manager (formerly VxFlex Manager) support of vSphere 7. Support for VMware vSphere 7 is planned in a 2H 2020 release of PowerFlex Manager.

- In configurations without PowerFlex Manager, vSphere 7 can be configured as the compute layer, with the storage layer being a supported operating system version published in the operating system support matrix for PowerFlex 3.5.1
4. vSphere plug-in
 - The vSphere plug-in in PowerFlex 3.5.1 continues to support vSphere versions 6.5 and 6.7
 - No further development of the vSphere plug-in is planned
 5. AMS
 - AMS is not supported by PowerFlex 3.5.1. An AMS package will not be available for download with this release. This is in accordance with the End of Life notification for AMS that was sent out to all regions on August 1st, 2019.
 - Today, VxFlex Ready Node customers can choose to continue running VxFlex OS versions that support AMS (for example, VxFlex OS v3.0.x). These versions will continue to support AMS with the current feature set until they reach End of Life. No new capabilities/features will be added to AMS in these releases.
 - Prior to upgrading to PowerFlex 3.5.1, customers must remove AMS from their configuration
 - In order to run the AMS removal procedure, customers must be running VxFlex OS v3.0.1.x
 - Removal of AMS will remove hardware lifecycle management or hardware monitoring capabilities in these configurations
 - Please contact your account team or [PowerFlex product management](#) for AMS removal procedures. The procedures remove AMS from the system and transition to the management functions of the VxFlex OS Gateway. After AMS is removed, follow the documented procedure to upgrade from VxFlex OS v3.0.1.x to PowerFlex 3.5.1, and take advantage of the new HTML-5 based PowerFlex UI. If you are looking for AMS-like hardware lifecycle management or hardware monitoring, contact [PowerFlex product management](#) to assess the need and determine eligibility for the "PowerFlex Manager For All" (PFXM4ALL, previously VXFM4ALL) program. For VMware hyperconverged Ready Node configurations, removing AMS can leave the configuration in an unmanaged condition. Run the AMS removal process ONLY when you have a clear procedure to transition to a PowerFlex Manager configuration. Contact [PowerFlex product management](#) to assess the need and determine eligibility for the "PowerFlex Manager For All" (PFXM4ALL, previously VXFM4ALL) program.
 - More information about the PFXM4ALL program will be available with the PowerFlex Manager 3.5 release in June 2020
 6. CloudLink
 - CloudLink 6.9 and 7.0 are supported by PowerFlex 3.5.1
 - Customers running earlier versions of CloudLink must upgrade to CloudLink 6.9 or 7.0 prior to upgrading to PowerFlex 3.5.1. Refer to the CloudLink support matrix for more information.
 7. Upgrade paths
 - Upgrade of Linux-based systems from VxFlex OS v2.6.1.1 to PowerFlex v3.5.1 is supported
 - VMware-based HCI systems running VxFlex OS v2.6.x must first upgrade to VxFlex OS v3.0.x. For VMware HCI systems, be sure to follow the correct SVM replacement procedure.

Changed features

Learn about the enhanced features for this version of PowerFlex.

Changed features

There are no changed features in this version of PowerFlex.

Updated operating system support matrix

Added operating system support:

- - RHEL 8.1 and 8.2
 - SLES 15.2

For more operating system-related information and supported components, refer to the PowerFlex simple support matrix: <https://elabnavigator.emc.com/eln/modernHomeSSM>

Support deprecation

Learn about the features that are no longer supported in PowerFlex 3.5.1.

DAS Cache


DAS Cache is no longer supported for PowerFlex running on any operating systems.

System Analysis Tool

The System Analysis Tool is no longer included in PowerFlex.

AMS

Systems managed by AMS system will not be able to upgrade to PowerFlex v3.5 or later. Prior to performing an upgrade, contact PowerFlex Product Management for possible alternatives.

 **NOTE:** AMS artifacts will be removed from the support site. For guidance, contact PowerFlex Product Management.

VxFlex OS GUI client

The GUI from previous versions of this product is no longer supported.

Deprecated operating systems

For the most current information, see the *Dell EMC Simple Support Matrix* (ESSM) at <https://elabnavigator.emc.com/eln/modernHomeSSM/>.

Fixed issues

The following table lists the issues that were fixed in PowerFlex 3.5.1.


 **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 PowerFlex issue number.

Table 2. Fixed issues

Issue number & SR number	Problem summary
SCI-55850	When performing log collection using getinfo.sh tool, if the file system name is too long a df command in the log collection will fail, which will fail the log collection for this node.
SCI-55828	When performing VMware-based storage migration of a VM running on a VASA-based datasure (volume) to another such datastore, the operation fails.
SCI-55691	Non-disruptive upgrades (NDUs) from versions 3.0-3.0.1 to higher versions might cause a Data Unavailable event. This applies to systems that use Fine Granularity Storage Pools with SDS device paths like: /dev/disk/by-id/<device name> or /dev/disk/by-path/<device name> or /dev/mapper/<device name>. Some of the devices encrypted with Cloudlink might fail.
SCI-55657	During SDR restart and failover to another SDR, there might be a Data Integrity issue in the replicated copy.

Table 2. Fixed issues (continued)

Issue number & SR number	Problem summary
SCI-55656	When setting up a system with replication, if the admin creates an RCG (Replication Consistency Group) prior to adding an SDR, and the master MDM is restarted, the initial copy process will get stuck.
SCI-55596	The presentation server's default certificate expires 90 days after the presentation server was installed.
SCI-55545	PowerFlex API doesn't expose the properties for the RPL_CAPACITY_ALERT_LEVEL query.
SCI-55527, SCI-55528	When deploying or upgrading a system of 100 nodes or more, the PowerFlex Gateway refresh might take several minutes or the upgrade might fail due to long query time. This is caused by password encryption for JSON serialization, which slows down the process.
SCI-55505	It is not possible to install the presentation server without sudo installed on the server.
SCI-55466	Various Apache Tomcat security vulnerabilities addressed in 8.5.57 release.
SCI-55450	After upgrading a Windows-based PowerFlex Gateway, the lockbox is locked, and content cannot be read from it.
SCI-55448	In rare cases, during the NDU workflow, the PowerFlex Gateway reports that the SDS failed to exit maintenance mode.
SCI-55361	In a rare scenario where replication is running and an SDR is entering or exiting Maintenance mode, while both the SDR and the MDM are restarted, the initial copy might get stuck.
SCI-55275 SR# 18115954	During NDU to PowerFlex v3.5, there is a large amount of 256 KB read I/Os against the SDS backend disk devices driven by a temporary background metadata update.
SCI-55191	When upgrading larger systems (over 200 nodes) with AutoRefresh selected, the PowerFlex gateway might experience some of the following issues: <ul style="list-style-type: none"> ● High CPU utilization ● Slow NDU status update in the UI ● Prematurely presenting a phase complete
SCI-55184	When trying to stop the presentation service for maintenance operations, it might not stop successfully. The service might seem to be stopped, even though the process is still running when using ps -ef.
SCI-55150	When performing VM cloning on a datastore running on vVol mapped volumes, some VMs might not start successfully after the clone operation is finished.
SCI-55063 SR# 17991736	When using an IPv6 network between the PowerFlex Gateway and the MDM, during network failure, the PowerFlex Gateway fails to reconnect, resulting in an HTTP 500 error via REST API.
SCI-55062	In rare cases, during MDM switchover, if additional SDSs fail, one or more SDSs might be decoupled and will not be able to reconnect to the system.
SCI-55020	Upgrade from PowerFlex 3.0.x might cause the PowerFlex Gateway to fail with an error message: "unexpected error has occurred".
SCI-55016	The command <code>scli --query_system_limits</code> has output that differs from documentation: https://cpsdocs.dell.com/bundle/PF_KNOW/page/GUID-480ABD0F-4DB5-4F07-9EC4-4779CBF5E9A4.html The maximum number of SDRs as documented is 64, and not 512 as listed in the command output.
SCI-54914	In rare cases, an SDR might fail, and show the following error in the exception file:

Table 2. Fixed issues (continued)

Issue number & SR number	Problem summary
	Panic in file /data/builds/workspace/ScaleIO-Common-Job/src/mos/umt/mos_umt_uthread.c, line 1370, function mosUmt_ResumeUThread, PID 80440.Panic Expression pUmt->state == MOS_UMT_STATE__SUSPENDED
SCI-54913	The presentation server has excessive logging of the SDS device data. The size is 8 KB data per device, per minute.
SCI-54808 SR# 17933245	When removing volumes and running the REST call: /api/instances with a GET request, the request returns an http 500 status with an invalid JSON object.
SCI-54749	In rare cases, during RCG removal, the Failover test volume will not be automatically removed from the system.
SCI-54601	During a PowerFlex Gateway upgrade, an error might appear if a firewall is not installed. Error example: linux_update_ports.sh finished with error: firewall-cmd not found.* error: %preun(EMC-ScaleIO-gateway-x.x-xxx.nnn.x86_64) scriptlet failed, exit status 255
SCI-54588	In HCI systems with Fine Granularity Storage Pools, the SDS might fail due to insufficient RAM. This issue occurs only in HCI Fine Granularity-based systems. It will occur during the SDS upgrade flow as part of NDU, or after a fresh deployment when restarting the SDS.
SCI-54561	When running the command: scli --query_system_limits it returns wrong output for Number of fault sets: Max: 32768 (wrong value) The correct value is: Number of fault sets per protection domains: Max: 64
SCI-54557	When running getinfo.sh on AIX, the file get_info_run.log is missing.
SCI-54520 SR# 17734455	Attempting to initiate log collection using the PowerFlex Gateway fails with the error "Server didn't respond, code 400".
SCI-54519	I/O errors during V-Tree migration if both source and destination Storage Pools have inflight checksum disabled, and a user enables inflight checksum on the destination Storage pool while migration is in process.
SCI-54413 SR# 17823669	The following event is received in the MDM: SDS_DEV_MOVED_TO_FAILURE_STATE. The events continue to be reported even after the device has entered Error state.
SCI-54412	During NDU of large scale systems, the PowerFlex Installer might fail exit maintenance mode for SDS, stating at least one SDS device is in error state.
SCI-54385, SCI-53114, SCI-54880	In AIX-based systems, when there is a high I/O load, the SDC might fail.
SCI-54363	In rare cases, during SDR enter\exit maintenance mode, the SDR might fail with the following exception: Panic in file /data/builds/workspace/ScaleIO-Common-Job@2/src/sdr/obj_mgr/obj_mgr.c, line 365, function baseObjMgr_ObjRemovalTimerExpired
SCI-54358	Application I/O is prioritized over Initial Copy I/O. This minimizes the effect that Initial Copy I/O load has on the RPO adherence of other RCGs and pairs, but on the other hand, may slow Initial Copy progress when there is a high I/O load.
SCI-54233	Online help link in WebUI points to a blank page.
SCI-54226	SDR might fail with the following error in the exception file: Panic in file /data/builds/workspace/ScaleIO-Common-Job/src/sdr/replicator/replicator_cg.c, line 1572, function replicatorCg_UpdateClose

Table 2. Fixed issues (continued)

Issue number & SR number	Problem summary
SCI-54212	When running <code>/opt/emc/scaleio/sdc/bin/drv_cfg --mod_mdm_ip --ip <some_non_existing_mdm_ip_address> --new_mdm_ip 3.3.3.3 --file /etc/emc/scaleio/drv_cfg.txt</code> instead of modifying an IP address, a new line is added as if it were a new system.
SCI-54105	During creation of a replication initial copy, if the MDM is unavailable, replication might freeze for the relevant pair.
SCI-54073	Running log collection via the PowerFlex Gateway to a Windows SDC might fail.
SCI-54025	When enabling Restricted SDS Mode followed by SDC installation, SDC is not shown in the web interface or SDC might appear as disconnected. When trying to approve it, an error message is returned stating that it is already approved.
SCI-53898	In some cases, the Web GUI is not able to login to the system after several days due to a Chrome extension issue.
SCI-53883 SR# 17456691	When using the "Native and LDAP" authentication method, most of the CLI events by the user admin are logged by MDM with "User: " 0x7fc5a6645db8:mosEventLog_PostInternal:00608: New event added. Message: "Command query_users received, User: ". [36020990]". Additional info: "" Severity: Info
SCI-53812 SR# 17581338	When adding the SDS host's system disk as an SDS device, if the device file is <code>/dev/sda</code> , the device cannot be added, with the error message: Error: MDM failed command. User Content is present on device
SCI-53729	In rare cases, during RCG removal, the SDR might fail with the following exception: Panic in file <code>/data/builds/workspace/ScaleIO-Common-Job/src/sdr/obj_mgr/obj_mgr.c</code> , line 365, function <code>baseObjMgr_ObjRemovalTimerExpired</code> The SDR watchdog recovers the process.
SCI-53722	In rare cases, on a system where the replication feature is active, if an SDR is disconnected due to the firewall blocking the port to remote SDR, the MDM might fail at the source site, with the following exception: Panic in file <code>/data/builds/workspace/ScaleIO-Common-Job/src/mdm/replication/peer_mdm/mdm_mdm_msg.c</code> , line 288, function <code>mdmMdmMsg_TimerExpired</code>
SCI-53716	The background scanner does not correct the corrupted the data as expected. The following appears in the MDM event log: SCANNER_READ_REPORT ERROR Background device scanner reported read error on SDS: SDS3, Device: <code>/dev/sdf</code> (Found: 62, Fixed: 0)
SCI-53650	While replication is running when multiple failures occur both on nodes and on the network, SDR might fail with the exception: <code>data/builds/workspace/ScaleIO-Common-Job/src/sdr/replicator/replicator_reporter.c</code> , line 1907, function <code>replicatorReporter_UpdateCe</code>
SCI-53344	While replication is running, if an SDR fails or is disconnected, an I/O spike is seen every 120 seconds and can have a short impact on replication.
SCI-53022	Clearer descriptions of LDAP settings in PowerFlex Gateway.
SCI-52174 SR# 16651864	Login to the PowerFlex Gateway is not possible using LDAP when the LDAP search is configured to use the option <code>"--base_dn_list"</code> . The login operation to the PowerFlex Gateway returns the message: Error: Unable to authenticate with LDAP: The URL does not match the corresponding setting in the Lockbox

Table 2. Fixed issues (continued)

Issue number & SR number	Problem summary
SCI-51985	In rare cases, the SDR might fail with exception: Panic in file /data/builds/workspace/ScaleIO-Common-Job/src/sdr/obj_mgr/obj_mgr.c, line 365, function baseObjMgr_ObjRemovalTimerExpired
SCI-48730 SR# 15616808	After running the "Run script on Host" capability (also known as operating system patching) from the PowerFlex Gateway, the following SNMP message will be constantly sent: INFO c.e.s.s.snmp.TrapSender - SNMP Alert for entity = [0], alert = [System.Credentials.MDM_CREDENTIALS_ARE_NOT_CONFIGURED] code = [SIO01.04.0000002] sent successfully
SCI-47981 SR# 15547075 v754914	ESXi might hang in a highly intensive I/O load when a single VM is the only active virtual disk on a datastore\LUN. The SDC-exposed controller's I/O request queue is filled. This causes a kernel slab resource to become exhausted and, consequently, causes requests to fail.
SCI-52022 SR# 16718335	During upgrade from v2.5.1 to v3.0.201 on a fully utilized cluster, the PowerFlex Gateway fails to place an SDS in IMM due to insufficient resources.
SCI-45007 SR# 14510727	In extremely rare cases, the MDM might fail due to the OS disk being too slow. In such a case, the MDM process might still keep the sockets open to the SDCs, even though a switchover occurred. Such a failure prolongs the MDM disconnection from SDCs, and might cause I/O errors.
SCI-44997	Addition of pre-partitioned NVMe disks to a PowerFlex system will cause removal of the partitions instead of failing the operation.

Software packages

Learn about the contents of the PowerFlex 3.5.1 software packages.

Download location

The PowerFlex 3.5.1 complete software package, containing all the packages listed below, can be downloaded from the following location:

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

Table 3. Software packages

Package Name	Operating System	GW	MDM	SDS	SDR	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
RHEL_OEL7		X	X	X	X	X	X	X	Core components for Red Hat, CentOS and Oracle Linux 7.x
RHEL8_OEL8		X	X	X	X	X	X	X	Core components for Red Hat, CentOS and Oracle Linux 8.x
SLES11.4	SUSE Linux	X				X			SDC component for SLES 11 SP4
SLES12.4		X	X	X	X	X	X	X	Core components for SLES 12 SP4

Table 3. Software packages (continued)

Package Name	Operating System	GW	MDM	SDS	SDR	SDC	LIA	Xcache	Content
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
SLES15.1		X	X	X	X	X	X	X	Core components for SLES 15 SP1
SLES15.2		X	X	X	X	X	X	X	Core components for SLES 15 SP2
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
Ubuntu20.04		X	X	X	X	X	X	X	Core components for Ubuntu 20.04
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
Complete_VMware_SW	vSphere	X	X	X	X	X			Contains all PowerFlex , VMware-related software artifacts (OVA file, drv_cfg file, SVM patching, SDC package, vSphere plug-in, and VASA provider) i NOTE: PowerFlex vSphere plug-in is not compatible with ESXi 7.0 and later.
Complete_Windows_SW	Windows Server	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
AIX7.2	AIX					X			SDC component for IBM AIX 7.2
Presentation_Server									Contains PowerFlex WebUI server (Linux and Debian)

Table 3. Software packages (continued)

Package Name	Operating System	GW	MDM	SDS	SDR	SDC	LIA	Xcache	Content
Gateway_for_Linux		X							PowerFlex Gateway, which includes the following: Installer, Gateway (for REST API, Alerts, SNMP/ESRS) for Linux/Ubuntu (can be used to deploy PowerFlex on Linux-based operating systems only). CSV deployment templates are also included
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 PowerFlex simple support matrix at <https://elabnavigator.emc.com/eln/modernHomeSSM>
- PowerFlex version 3.5 and later provides a Web UI. GUI packages are no longer available.

Documentation

Read about the online documentation portal, and late additions and corrections to PowerFlex documentation.

Online Documentation Portal

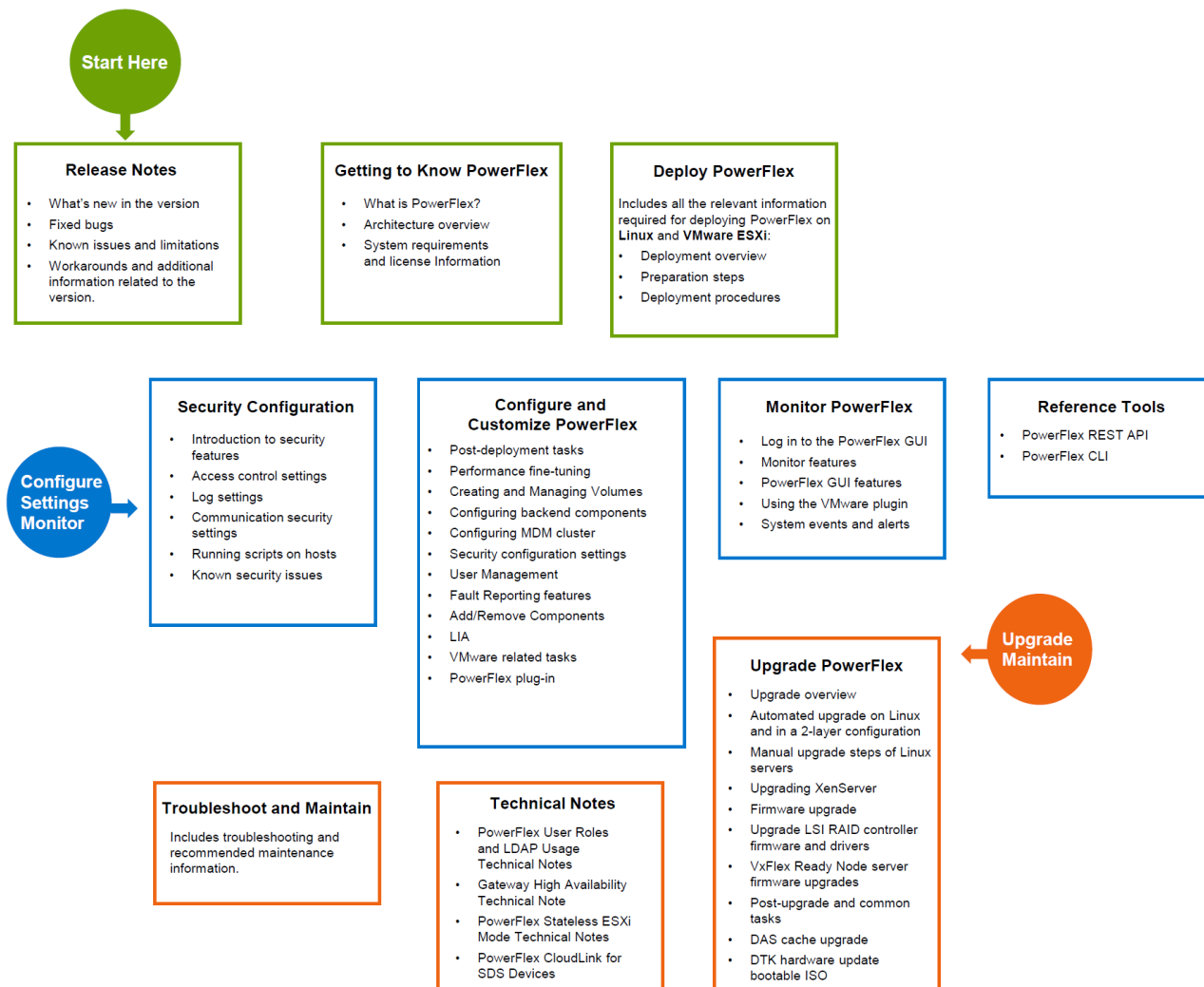
PowerFlex documentation is now available on the Dell EMC Technical Resource Center; click [here](#) to view and download the latest version of the documentation. You can also access this link from the PowerFlex GUI, by clicking the **?** icon and selecting **Online Documentation**.

The screenshot displays the Dell EMC PowerFlex dashboard interface. On the left, a navigation menu is open, listing: DASHBOARD, CONFIGURATION, REPLICATION, ALERTS (with a notification count of 4), and MDM. The main dashboard area shows a 'HEALTH' section with four status indicators: HEALTHY (0), CRITICAL (0), MAJOR (1), and LATENCY (0ms). Below this, there are two performance widgets: 'IOPS' featuring a gauge with a needle pointing to 0, and 'Overall Performance'. A red arrow points to the 'Online Help' link in the top right corner of the dashboard.

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

Welcome to the PowerFlex Documentation Library

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



Install and upgrade

PowerFlex 3.5.1 can be installed on a clean system or used as an upgrade. Learn important information about installing or upgrading to this version.

Installation

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

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

Licensing

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

Upgrade

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

Table 4. Upgrade support matrix

ScaleIO / VxFlex OS / PowerFlex base version	Upgrade path	Supporting documentation
v2.0.1.4, v2.6.x	Two-step upgrade flow: 1. Upgrade to latest version of v3.0.1.x 2. Upgrade to v3.5.1	<i>Upgrade VxFlex OS to v3.0.x Guide</i> <i>Upgrade PowerFlex to v3.5.1 Guide</i>
v2.6.1.1 two-layer systems only, v3.0, v3.0.0.x, v3.0.1.x, v3.5	Single-step upgrade from VxFlex OS v3.0/ v3.0.0.x/v3.0.1.x or PowerFlex v3.5 to PowerFlex v3.5.1	<i>Upgrade PowerFlex to v3.5.1 Guide</i>

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 PowerFlex SDC in this release is compatible with previously released systems that are currently supported (for example, VxFlex OS v3.0.1). In addition, the PowerFlex 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:

- Replication is not supported on SDC releases earlier than PowerFlex v3.5.
- The CHAP component authentication feature cannot be enabled unless every MDM, SDC and SDS in the system is at least version 3.5, and conversely, if the feature is enabled, no pre-v3.5 SDCs can be added.
- 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 VxFlex OS v3.0.

Known issues and limitations

The following table lists known issues and limitations that exist in PowerFlex 3.5.1.

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 PowerFlex issue number.

Table 5. Known issues and limitations—PowerFlex Gateway

Issue number & SR number	Problem summary	Workaround
SCI-55819	During NDU to v3.5.1, in rare cases, the PowerFlex Gateway might have high CPU usage and get stuck at the upload phase.	Perform a restart of the gateway service this command in an SSH session to the gateway: service scaleio-gateway restart Then, in the Installer user interface, click Retry to continue the upgrade.
SCI-55795	The Run Script on Host feature has a package upload capability. In this case, the Upload ability might fail due to insufficient resources with the error:	Copy the script to be run on the server to the relevant LIA folder, and execute the "Run script on Host" capability without the upload option.

Table 5. Known issues and limitations—PowerFlex Gateway (continued)

Issue number & SR number	Problem summary	Workaround
	<p>Failed to upload package. ResultCode: REMOVE_COMMAND_FAILED</p> <p>The LIA process did not have sufficient memory to finish the upload process.</p>	
SCI-54887	<p>When performing the log collection via the PowerFlex Gateway with the "exception only" check box marked, the log collection fails.</p>	<p>Perform log collection with the default settings via the PowerFlex Gateway.</p>
SCI-54799	<p>If Auto Collect logs is configured in the system during an NDU session, when the NDU ends, the PowerFlex Installer will display a button asking to start the first phase of the NDU, even though the previous one was completed successfully (instead of displaying the "Mark operation as done" button).</p>	<p>Disable auto log collection prior to starting the NDU, and run the NDU. After NDU completion, enable auto log collection again.</p>
SCI-55438	<p>During NDU to v3.5.1, in rare cases, the LIA might time out during the upload phase.</p> <p>Examples of errors:</p> <p>"Command failed: Could not upload sdc package to 1.1.0.7,2.2.0.7 due to: A timeout occurred"</p> <p>"Command failed: Failed getting the OS on node 1.1.0.236,2.2.0.236 due to: Invalid LIA session. A login is required"</p>	<p>Click Retry in the PowerFlex Gateway user interface, and the NDU will continue.</p>
SCI-55405	<p>When installing a system, removing it, and then installing again using the same PowerFlex Gateway (without re-installing the PowerFlex Gateway), deployment fails during the Configuration stage.</p>	<p>Remove the PowerFlex Gateway RPM, and re-install it as a clean installation.</p>
SCI-50992	<p>After configuring Email Call home notification, alerts about ESRS not being configured are still generated by the system. Email call home uses ESRS, so this is a false alert.</p>	<p>Restart the PowerFlex Gateway process using the command:</p> <p><code>etc/init.d/scaleio-gateway restart</code></p> <p>The alert should disappear.</p>

Table 6. Known issues and limitations—MDM

Issue number & SR number	Problem summary	Workaround
SCI-55686	<p>When an Admin configures more SDSs than supported in the Protection Domain max limit, during the configuration step the error received will be uninformative: "Communication error"</p> <p>In the MDM logs, the error will be:</p> <p>Command <code>add_sds</code> was not successful. Error code: There are too many SDSs in Protection Domain</p>	<p>None</p>
SCI-55439	<p>In systems that have a large quantity of objects (more than 250 SDSs , 250 SDCs, thousands of volumes, etc.), if the system disk is not fast enough, the MDM repository might have delays that are too long for committing changes. The system disk, which is used for both logs and the high level of updates, must be fast enough for</p>	

Table 6. Known issues and limitations—MDM (continued)

Issue number & SR number	Problem summary	Workaround
	these activities. Refer to PowerFlex guidelines for the required system disk specification.	
SCI-54198	When a Protection Domain is disabled, throttle settings are not preserved when the Protection Domain is enabled again.	Reconfigure the settings using one of the system's management interfaces.
SCI-54017	If a process is killed during preparation of devices for checksum protection, progress for enabling this feature might get stuck.	Disable and then enable checksum protection to resume the operation. Note: The relocation work that has been done on this and/or other devices is not lost, and will resume from the last point (implicitly).
SCI-53973	In rare cases, after SDS failure, if rebalance is in process the rebalance rate might be very slow. There is no impact on service or performance.	Increase the rebalance rate to 25 MB/sec (default = 10 MB/sec)
SCI-53894	Initial copy of volumes might get stuck at 100% with no progress if the MDM process in the source system experiences several crashes after the copy progress reaches 100%	Remove pairings that are stuck at 100% and re-add them
SCI-53810	Traces produced using the get_info script will not include the latest 128 KB of traces	Increase trace verbosity before using get_info to ensure that relevant traces are flushed
SCI-14632	Changing the size of a device that is in use by an SDS is currently not supported. To change a device size, first remove the device from the VxFlex OS/PowerFlex system, then change the device size.	None

Table 7. Known issues and limitations—Network

Issue number & SR number	Problem summary	Workaround
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 8. Known issues and limitations—SDC

Issue number & SR number	Problem summary	Workaround
SCI-56088	On ESXi 7.0 based servers, in very rare cases, after deployment of an SDC, an ESXi PSOD crash might occur. This only occurs when changing the SDC performance profile from High (Default) to Compact (used for very old CPUs). There is no reason to change this setting, and it should not be done with out first contacting Customer Support.	Avoid changing the default performance profile (High).
SCI-54074	When running SDC upgrade from the PowerFlex Installer in Ubuntu and SLES, the SDC driver upgrade will be completed successfully, but in rare cases the driver will load from cache instead of from the Binary location. When loading from cache, it will load the old driver. This can be determined by checking the driver version. For example, use "modinfo scini" to check the version.	Run the following command: mv /bin/emc/scaleio/scini_sync/driver_cache/Ubuntu/3.0.* /tmp/ and restart the driver \ node (if volumes are in use a reboot of the operating system is needed)

Table 8. Known issues and limitations—SDC (continued)

Issue number & SR number	Problem summary	Workaround
SCI-52611	<p>When deploying an HCI system with 4 data networks (PowerFlex manager configuration preparing for future replication support in HCI), some SDCs may raise alerts for SDC socket oscillating failure (in the PowerFlex Gateway or PowerFlex Manager it will appear as network oscillating failures). For example, the following line will appear when querying an SDC:</p> <p>sdc_socket_allocation_failure:</p> <p>Short window: 492 failures in 60 seconds (limit is 300).</p>	<p>Run the following scli commands from the master MDM (after performing login with admin user to MDM via scli)</p> <pre>scli --set_performance_parameters --all_sdc --tech --sdc_tcp_send_buffer_size 2048</pre> <pre>scli --set_performance_parameters --all_sdc --tech --sdc_tcp_receive_buffer_size 2048</pre> <pre>scli --reset_oscillating_failure_counters --all_counters --all_sdc</pre>
SCI-11026	<p>When volume size changes, the SDC should return 'sense-data' on the next I/O, to indicate that the volume size was changed.</p>	<p>Rescan All adapters.</p>

Table 9. Known issues and limitations—SDR

Issue number & SR number	Problem summary	Workaround
SCI-55965	<p>During a replication Initial Copy operation, when the initial copy is at 100%, if connection to the remote site fails and the MDM at the local site is not able to communicate with the MDM in the remote peer system, the initial copy might never finish creating the full copy.</p>	<p>Possible workarounds (in order of least to most effort):</p> <ul style="list-style-type: none"> - Pause and then resume USER RCG of the pair. - Restart the MDM master at the remote site (which will cause a switch over) - Delete the pair and then create it again (only to be used if the two previous workarounds above did not work)
SCI-54067	<p>During replication fail-over at a new destination site (was source), journal capacity can grow to above the expected size. Reclamation will occur over time. This issue will happened only if two or more SDRs fail.</p>	<p>None</p>
SCI-53892 SCI-53371	<p>Creation of a RCG (Replication Consistency Group) might take a long time during creation of multiple initial copies of several volumes.</p>	<p>Follow PowerFlex best practice guidelines for replication: perform an initial copy of one volume at a time. When the volume has finished creating the initial copy and has reached a stable replication state, continue by adding another volume to the RCG and initiate the creation of its initial copy. Optimization will be added in future versions to automate this process.</p> <p>Note: If the volumes are empty (without any data) initial copies can be created in parallel.</p>
SCI-52509	<p>When the replicated volumes are all from one pool, and the journal is also allocated from the same pool, if that pool becomes Data Unavailable (DU), then as a result of journal unavailability the replication is broken and does not recover automatically after the pool is recovered. In order to recover replication, replication must be recreated.</p> <p>Notes:</p>	<p>Recovery from this issue requires creating the RCGs again, and performing a full initial copy of the RCGs in the Protection Domain.</p> <p>Note: Following best practices, which require that the journal is spread over multiple pools, eliminates the risk of this issue.</p>

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

Issue number & SR number	Problem summary	Workaround
	<p># If the application volumes are spread over other pools, the journal unavailability means that the replication cannot handle I/O to those volumes and *must* be broken.</p> <p># If the journal is spread over multiple pools, and there is free journal capacity in other pools, replication will not fail.</p>	

Table 10. Known issues and limitations—SDS

Issue number & SR number	Problem summary	Workaround
SCI-55441	<p>In rare cases, when a device fails and then after that an SDS crashes, the following error appears in the exp.0 file of the SDS:</p> <p>ScaleIO-Common-Job/src/nv_ds/change_log/change_log_set.c, line 1936, function changeLogSet_GetRecords the disk failed to avoid an unrecoverable error.</p>	Clear the disk error for the failed disk, using the Web UI\REST\scli clear disk error command.
SCI-44515	<p>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. In this case, after the reboot ends, the devices in the SDS are automatically attached as "new" devices (bFormat=TRUE). 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 fails to attach the devices since it does not have enough space in NVRAM for both the old NVRAM data and the new data.</p>	Remove the disks from the SDS and add them back again.
SCI-44410	Volume snapshot deletion seems stuck or might take a long time to be completed.	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-19551 SR# 84174508	The VxFlex OS system only supports the UNMAP SCSI command to free up capacity in Medium Granularity (MG) Storage Pools in cases where the volume has no snapshots.	None. Planned to be added in future versions.

Table 11. Known issues and limitations—vSphere PowerFlex plug-in

Issue number & SR number	Problem summary	Workaround
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.

Table 12. Known issues and limitations—vVols

Issue number & SR number	Problem summary	Workaround
SCI-54057	Unmapping a VMware virtual volume, and then immediately afterwards trying to overwrite its content, might generate the error: "volume n is in use".	None. Try again shortly after, because some volume operations are executed in an asynchronous fashion.

Operating system known issues and limitations

Learn about known issues and limitations for specific operating systems.

Table 13. Known issues and limitations—operating systems

Issue number & SR number	Problem summary	Workaround
VXFB-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

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

Where to get support

Go to Dell EMC Online Support and click **Support**. 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.