

Dell EMC OpenManage Server Administrator Release Notes Version 10.2.0.0

Current Release Version: 10.2.0.0

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Product description

Server Administrator

Dell OpenManage Server Administrator (OMSA) provides a comprehensive, one-to-one systems management solution in two ways: from an integrated, web browser-based graphical user interface (GUI) and from a command line interface (CLI) through the operating system.

Server Administrator is designed for system administrators to manage systems locally and remotely on a network. It allows system administrators to focus on managing their entire network by providing comprehensive one-to-one systems management.

This document contains updated information for the **Dell EMC OpenManage Server Administrator User's Guide** and any other technical documentation included with Server Administrator.

 **NOTE:** System Management software, including the Server Administrator (Server Administrator), is available only on the **Dell EMC Systems Management Tools and Documentation** software.

The OpenManage Server Administrator documentation includes the User's Guide, Messages Reference Guide, CIM Reference Guide, Command Line Interface (CLI) Guide, SNMP Reference Guide, and Compatibility Guide.

You can access the documentation from dell.com/openmanagemanuals.

Priority and recommendations

Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

OMSA customer survey

Survey link: <https://secure.opinionlab.com>.

Dell Technologies is exclusively surveying OMSA customers, collecting feedback, and implementing suggestions. As a customer, the above link is available for you to take the survey at various phases of OMSA usage such as Windows or Linux based installation, while using the OMSA GUI and CLI, and VMware ESXi.

Platforms affected

For a complete list of supported Dell PowerEdge systems and supported operating systems, see the *Dell EMC OpenManage Systems Software Support Matrix* available in the required version of **OpenManage Software** at dell.com/openmanagemanuals.

Requirements

Hardware requirements


- Minimum of 2 GB RAM
- Minimum of 512 MB free hard drive space
- Administrator rights
- Monitor with a minimum screen resolution of 800 x 600. The recommended screen resolution is at least 1024 x 768

Software requirements


- Supported operating system and web browser.
- TCP/IP connection on the managed system and the remote system to facilitate remote system management.
- Supported systems management protocol standard. For more information, see *Dell EMC Supported Systems Management Protocol Standards*.
- The OpenManage Server Administrator Storage Management Service requires Server Administrator to be installed on the managed system. For more information on the software and hardware requirements, see *Dell EMC OpenManage Server Administrator Storage Management User's Guide*.

Supported operating systems

- Microsoft Windows 2016
- Microsoft Windows 2019
- Microsoft Windows 2022

 **NOTE:** Microsoft Windows operating systems are supported on PowerEdge YX2X to YX5X servers.

- Red Hat Enterprise Linux 7.9
- Red Hat Enterprise Linux 8.5
- SUSE Linux Enterprise Server 15 SP3
- Ubuntu Server 20.04.3
- VMware ESXi 6.7 U3
- VMware ESXi 7.0 U3

 **NOTE:** Red Hat Enterprise Linux 7.9, Red Hat Enterprise Linux 8.5, VMware ESXi 6.7 U3, VMware ESXi 7.0 U3, Ubuntu Server 20.04.3, and SLES 15 SP3 operating systems are supported only on PowerEdge R250, R350, T150, T350, and T550 servers.

What is new in this release

The following are the release highlights of OpenManage Server Administrator and Storage Management.

- New operating systems are:
 - VMware ESXi 7.0 U3 supported on PowerEdge R250, R350, T150, T350, and T550 servers
 - Red Hat Enterprise Linux 8.5 supported on PowerEdge R250, R350, T150, T350, and T550 servers
 - Ubuntu Server 20.04.3 supported on PowerEdge R250, R350, T150, T350, and T550 servers

- Microsoft Windows 2022
- New client operating systems that are supported on Dell EMC Precision R7920 are:
 - Red Hat Enterprise Linux 8.0
 - Ubuntu Desktop 20
- New supported platforms are:
 - PowerEdge R250
 - PowerEdge R350
 - PowerEdge T150
 - PowerEdge T350
 - PowerEdge T550

NOTE: Red Hat Enterprise Linux 7.9, Red Hat Enterprise Linux 8.5, VMware ESXi 6.7 U3, VMware ESXi 7.0 U3, Ubuntu Server 20.04.3, and SLES 15 SP3 operating systems are supported only on PowerEdge R250, R350, T150, T350, and T550 servers.

- New features in Server Administrator:
 - Oracle Java Runtime Environment 11.0.11 and Tomcat 9.0.46 are bundled with Server Administrator.
 - TLSv1.1 is removed and TLSv1.3 is added to the list of supported SSL Protocols. By default, Server administrator supports TLSv1.2 and TLSv1.3.
- New features in Storage Management:
 - Sanitize erase feature is supported only on Microsoft Windows 2022 operating system.
 - NVMe Telemetry feature is supported for Direct-attached NVMe devices only on Microsoft Windows 2022 operating system.
- New controllers are:
 - PERC H355 Adapter and PERC H355 Front are supported on all PowerEdge YX5X generation of servers.
 - PERC H350 Adapter is supported only on PowerEdge R640, R740, R840, R940, R940xa, R440, R540, T440, T640, C6520, and C6525 servers.
 - PERC H750 Adapter is supported only on PowerEdge R640, R740xd, R740, R840, R940, R940xa, R440, R540, T440, T640, C6520, and C6525 servers.
 - HBA355e Adpt is supported on all PowerEdge YX4X generation of servers.
 - HBA350i Adpt is supported only on R640, R740, R740xd, R840, R940, R940xa, R440, R540, T440, and T640 PowerEdge servers.

NOTE: OM 10.2.0.0 supports these controllers only on Microsoft Windows operating system.

NOTE: The HBA355e Adpt is supported on all PowerEdge YX4X servers, to fully replace 12 Gbps Ext. SAS HBA cards.

NOTE: It is recommended to manage the Windows and Linux nodes through the managed node web interface or CLI, though OMSA allows managing remote systems through the central web interface, Distributed Web Server (DWS).

NOTE: For the list of supported operating systems and Dell servers, see *Dell EMC OpenManage Software Support Matrix* in the required version of OpenManage Software at **Dell.com/openmanagemanuals**.

NOTE: For more information about any features, see *Dell EMC OpenManage Server Administrator Online Help*.

NOTE: From 9.3.0, the RPM packages have been signed with Dell SHA-512 signature key. If using noninteractive or silent method of installation, to verify the authenticity, you must download the key from the following location: https://linux.dell.com/repo/hardware/dsu/public_gpg3.key, and then import the key to each host with `rpm --import <key file>` before installing or upgrading to the current version of Server Administrator. Once the key is imported, you are not required to import the key every time while installing, or upgrading to the current version of Server Administrator.

Installation procedure

For complete installation instructions, see the *Dell EMC OpenManage Server Administrator version Installation Guide*.


This section provides information to enhance your experience with Server Administrator implementations and environments.

- To install Server Administrator on Windows Server Core operating system, Windows-on-Windows (WOW) mode must be enabled.

- Port 1311 is the default port for Server Administrator. It is a registered port number of Server Administrator. If another application is configured to run on port 1311 before Server Administrator is installed, the DSM SA Connection Service does not start after installation. Before you install Server Administrator, make sure that the port 1311 is not in use.
- Before starting Server Administrator, you must enable the client-side scripting in Internet Explorer.

To do so, perform the following:

1. In Internet Explorer, navigate to the **Tools** menu.
2. Click **Internet Options**.
3. Click the **Security** tab.
4. Select the security zone to which the system running Server Administrator belongs.

 **NOTE:** This option should be set to **Trusted sites**.

5. Click the **Custom Level** button.

The Security Setting dialog box is opened.

6. Perform the following in the Security Setting dialog box:
 - a. In **Miscellaneous**, select the **Allow META REFRESH** radio button.
 - b. In **Active Scripting**, select the **Enable** radio button.
 - c. Under **Active scripting**, select the **Allow scripting of Microsoft web browser controls** radio button.
7. Click **OK** and restart your browser.


- To allow Single Sign-on for Server Administrator, perform the following steps:

1. In Internet Explorer, navigate to **Tools**.
2. Click **Internet Options**.
3. Click the **Security** tab.
4. Select **Trusted sites**.
5. Click the **Custom Level** button.
6. Under **User Authentication**, select the **Automatic Logon with current username and password** radio button. Click **OK** to exit the **Custom Level** window.
7. Select the **Advanced** tab and in **HTTP 1.1 settings**, make sure **Use HTTP 1.1** is selected.
8. Select **Trusted sites**. Click **Sites**. Add the server to the website.
9. Click **Close**.
10. Click **OK** and restart your browser.

- If you run a security scanner tool such as Nessus, against the Server Administrator Web server, security warnings may be displayed against port 1311, the port running the Server Administrator Web server. The warnings have been investigated by engineering and are determined to be "false positives" (invalid security warnings) that you can ignore. The following are the warnings:
 - The Web server on 1311 allows scripts to read the sensitive configuration and/or XML files.
 - The Web server on 1311 allows to delete "/" which implies that the web server will allow a remote user to delete the files in root on the server."
 - The web server on 1311 may be susceptible to a 'www Infinite Request' attack.
- It is possible to make the remote tthttpd server execute arbitrary code by sending a request like: GET If-Modified-Since:AAA[...]AAAA

Solution: If you are using tthttpd, upgrade to version 2.0. Else, contact the vendor for a patch or change the web server. CVE on this one is CAN-2000-0359".

- Enabling Integrated Windows Authentication in Internet Explorer is not required to activate the Single Sign-On feature.
- The Server Administrator security settings are not applicable for Active Directory users. Active Directory users with read-only login can access Server Administrator, even if the access is blocked in the Server Administrator Preferences page.
- Dell SNMP MIB files for Dell systems allow you to obtain and verify information provided by supported software agents. The current MIB files supported by PowerEdge software agents are located at \support\mib on the *Systems Management Tools and Documentation* DVD.

 **NOTE:** A MIB-II-compliant, SNMP-supported network management station is required to compile and browse MIB files.

- OpenManage support for Encrypting File System (EFS) : To improve security, Microsoft allows encrypting files using EFS. Note that SERVER ADMINISTRATOR will not function if its dependent files are encrypted.
- Server Administrator UI and CLI Response Time

On 10th generation of PowerEdge servers or later, the response time for some components of the Server Administrator UI and CLI has increased to several seconds as Server Administrator does not cache some of the DRAC/iDRAC data. The data is retrieved from the DRAC/iDRAC when you request for it.

Following are the Server Administrator UI pages for which the response time may have increased:

- On Server Administrator home page, log in to **Remote Access > Users > Alert Management > Platform Events**

Following are the Server Administrator CLI commands for which the response time may have increased:

```
omreport chassis remoteaccess config=user
omreport system platformevents
omreport system pedestinations
```

The time variation depends on the hardware and operating system.

Known issues and workarounds for Server Administrator

This section provides information on open issues and workaround/resolutions with this release of Server Administrator.

Issues of Server Administrator on all supported operating systems

The issues are applicable to Server Administrator on all the supported operating systems.

Table 1. Issues of Server Administrator on all supported operating systems

Issue ID	Functional area	Description	Workaround/Resolution
Not available	The omreport command	After installing Server Administrator from the command prompt, typing an <code>omreport</code> or <code>omconfig</code> command from the same prompt can cause an error.	Open a new command prompt window and type commands.
Not available	Error on Command Log page	If the command log page in the Server Administrator UI displays an error message indicating that the XML is malformed, you must clear the command log from the CLI using the <code>omconfig system cmdlog action=clear</code> command.	Not available
DF384362	Redundancy Status	Redundancy Status displays as Not Applicable in ESXi even when NICs are teamed. On VMware ESXi systems, NIC teaming status may not display up in the Server Administrator network section. This is an expected behavior due to the operating system limitation and has no functional impact to the system.	Not available
DF531509	Blank OMSA password	The setup and/or system password configuration from the Server Administrator UI or CLI is successful, but the password is displayed as blank instead of asterisk (*) on the F2 BIOS page.	Not available
BITS086423	Support link on the Preferences page	After an upgrade to the current version, Server Administrator does not retain the support link information on the Preferences page.	Not available

Table 1. Issues of Server Administrator on all supported operating systems (continued)

Issue ID	Functional area	Description	Workaround/Resolution
BITS040184	iDRAC user privileges	User in iDRAC user authentication page showing operator privilege(iDRAC user privileges) is displayed as Custom in Server Administrator.	Not available
Not available	BIOS Setup	On clicking the Apply button twice on the BIOS Setup page, the Server preference page and SNMP configuration page, the Server Administrator will log out from the current session.	Not available
Not available	Device Driver Modules	By default, OpenManage Server Administrator trusts the device driver modules that are provided by the operating system and signed by the operating system vendors.	Not available
Not available	Reset to Defaults	After a Reset to Defaults operation of the iDRAC, the first user configuration, operation fails if it is a single-user configuration item (such as enabling or disabling a user or changing username).	Always change a combination of two-user configuration items (such as enabling or disabling a user and changing username) concurrently during your first configuration operation.
Not available	XML parsing errors	Typing <code>omreport system esmlog/alertlog/cmdlog -fmt tbl</code> command on the CLI results in XML parsing errors if the size of the log is large. Use the UI or the <code>omreport system esmlog/alertlog/cmdlog</code> CLI command to view the contents of the log.	Not available
Not available	Complex CLI commands	For complex <code>omconfig</code> CLI commands that contain multiple set commands in one command line, the CLI may report a success status for the command even if a part of the command failed.	To avoid this issue, run only one command per command line. The current settings can be confirmed by performing the corresponding <code>omreport</code> command.
Not available	Illegal combination of parameters	Some complex <code>omconfig</code> CLI commands that contain multiple set operations have been modified to avoid the above problem. While running a CLI command if the message, Error! Illegal combination of parameters is displayed, modify your command into several simpler commands. Each command should change only one setting.	Not available
Not available	Configure BIOS settings	After configuring BIOS settings on certain systems, a second reboot is required for the Server Administrator to display the updated BIOS settings properly.	Not available
Not available	Invalid root certificate	If you import an invalid root certificate into Server Administrator from Preferences > General Settings > Web Server > X.509 Certificate , and try to log in to the application after restarting the Web server, a blank page is displayed.	To fix this issue, restore your original <code>keystore.db</code> file before importing a valid root certificate. To restore the <code>keystore.db</code> file, use both the basic operating system commands and the Server Administrator Command Line Instrumentation (CLI).

Table 1. Issues of Server Administrator on all supported operating systems (continued)

Issue ID	Functional area	Description	Workaround/Resolution
			<p>Perform the following steps from your operating system command line:</p> <ol style="list-style-type: none"> 1. Type <code>omconfig system webserver action=stop</code> 2. Locate the <code>keystore.db.bak</code> file. The default path is <code>C:\program files\dell\SysMgt\apache-tomcat\conf</code>. 3. Copy <code>keystore.db.bak</code> to <code>keystore.db</code> 4. Type <code>omconfig system webserver action=start</code>
Not available	Temperature drop below threshold	A temperature drop below a minimum failure threshold does not cause a system reset even if this alert action is set.	Not available
Not available	Boot sequence	Selecting the boot sequence under the BIOS Setup tab does not reenables boot devices that have been disabled in the System Setup Program earlier.	Not available
Not available	Unsecured HTTP requests	All unsecured HTTP requests to Server Administrator receive an invalid response. Server Administrator runs only one instance of the Web server, which is secure. Make all connections through https://<ip address>:<port number> . Any http://<ip address>:<port number> request for connection with the server receives an invalid response.	Not available
Not available	Temperature in whole numbers	On some systems, temperature probe values and settings are only supported for whole degrees, not tenths of a degree. On those systems, setting a fractional value for the minimum warning temperature threshold results in the set value being rounded off to the next whole number value. This behavior may cause the minimum warning threshold to have the same value as the minimum failure threshold.	Not available
Not available	Session Management	If you close the browser using the Close button on the browser or log off from the operating system, the Server Administrator session is not terminated. This session is listed in the Session Management page until the session time-out occurs, or DSM SA connection service is restarted, or the operating system reboots.	Not available
Not available	Operating system time zone	If you change the operating system Time Zone to a new time zone, Server Administrator session management does not display the time in the new time zone specified.	Restart Server Administrator to display the accurate time for the time zone in the Session Management page.
DF152755	OMSA GUI response	The Server Administrator UI does not respond when the alerts log has many events. If the Alert Log contains several	Not available

Table 1. Issues of Server Administrator on all supported operating systems (continued)

Issue ID	Functional area	Description	Workaround/Resolution
		entries and if you try to navigate to another page, the Server Administrator GUI may take about 30 seconds to display the content.	
DF172125	Power monitoring probes	Power monitoring probes are displayed on certain systems that do not support power monitoring. On certain systems that do not support power monitoring, Server Administrator reports the two platform event filters related to a power monitoring as System Power Probe Warning and System Power Probe Failure . These two filters are not supported on these systems. That is, you can view and configure these filters, but no action is taken.	Not available
Not available	Simultaneously logging into multiple browsers using SSO	Due to some limitations, you cannot log in simultaneously to multiple browsers instances/tabs using SSO login, as only one session remains active while the other sessions expire.	Not available
DF549057	BIOS attributes as read-only	When an operating system is installed through USC, the BIOS attributes in Server Administrator are displayed as read-only. You can edit the BIOS attributes 18 hours after the operating system installation.	To enable editing of the Server Administrator BIOS attributes, launch Lifecycle Controller while booting.
BITS040169	Boot/HDD/UEFI sequence	In case of Boot/HDD/UEFI sequence, if they are read-only, then toggle buttons (+ and -) and submit button are not visible. On the BIOS setup page, dependencies may exist between the various attributes for Bios settings. Setting an attribute value may change the state of the dependent attributes to noneditable or editable. For example, changing the Boot Mode to UEFI from the Boot Settings page does not allow you to configure the Boot or Hard-Disk Drive Sequence in the BIOS Boot Settings page. When the page is noneditable, the toggle buttons on the page allow toggling the order of the boot sequence. However, settings cannot be configured since Apply button will not be available to submit the settings.	Not available
Not available	Restore the previous certificate	If a new certificate imported to Server Administrator is not active after restarting the web server, restore the previous certificate.	To restore the previous certificate, do the following: <ol style="list-style-type: none"> 1. Stop the web server. 2. Perform one of the following as applicable: <ul style="list-style-type: none"> • On systems running Windows: <ul style="list-style-type: none"> ○ Delete the file <code>keystore.db</code> at <code><installed directory>\Dell\SystemMgt\apache-tomcat\conf\</code> ○ Rename the file <code>keystore.db.bak</code> at

Table 1. Issues of Server Administrator on all supported operating systems (continued)

Issue ID	Functional area	Description	Workaround/Resolution
			<pre><installed directory>\Dell\Sy sMgt\apache- tomcat\conf\ to keystore.db</pre> <ul style="list-style-type: none"> ● On systems running Linux: <ul style="list-style-type: none"> ○ ■ Delete the keystore.db file at /opt/dell/srvadmin/lib64/openmanage/apache-tomcat/conf ■ Rename the keystore.db.bak at /opt/dell/srvadmin/lib64/openmanage/apache-tomcat/conf to keystore.db <p>3. Start the web server.</p>
112708	Memory critical error	<p>Memory critical error not clearing from OMSA even after replacing the DIMM and clearing SEL logs.</p> <p>If a dual-inline memory module (DIMM) generates errors, memory states of the DIMM's are not automatically cleared even after the failing DIMM in that slot is replaced.</p>	<p>The command to clear the memory error is <code>dcicfg command=clearmemfailures</code>. The binary <code>dcicfg</code>, needed to launch the command from a shell command, is included in the OpenManage Server Administrator (OMSA) suite.</p>
131581	Unresponsive OMSA when iDRAC is Reset to Default	Open Manage Server Administrator Services will be unresponsive when Integrated Remote Access Controller (iDRAC) is rebooting or when Reset to Default is in progress.	Not available
148035	vFlash support	On Server Administrator, vFlash is not supported from YX5X generation of servers and above.	Not available
148988	non-ASCII characters	While logging to the Server Administrator UI, the login may fail if the password contains the non-ASCII characters. For example, Euro symbol €.	Not available
139048	Command Log Size	The Command Log Size value if modified on Server Administrator Preferences page as Local user and then logging into the same server via Server Administrator Managed System Login. The changes of the attribute are not reflected in the Preferences page of Server Administrator Managed System Login.	Not available
158772	OMSA de-brand settings	On a de-branded Server, if Server Administrator services are not running, the <code>omreport</code> command line utility and the Server Administrator UI defaults to display the Server as a Dell EMC Server.	Not available

Table 1. Issues of Server Administrator on all supported operating systems (continued)

Issue ID	Functional area	Description	Workaround/Resolution
		This occurs as the server is unable to access the de-brand settings of the Server Administrator.	
162678, 163534	OMSA memory event	The memory event on the Server Administrator alert log displays the corresponding alert more than once occasionally.	Not available
161422	OMSA keysigning	On generation of the certificate on the Server Administrator UI, keysigning algorithm preference is disabled. If an attempt is made through the Server Administrator CLI to configure a different keysigning algorithm, a return code of success is displayed but will not reconfigure. The keysigning algorithm remains the same as the one with which the certificate was generated.	Not available
182493	Adapter properties information	On the Server Administrator GUI slots page, the adapter properties information is shown as "Not Obtained. This is a known issue in Server Administrator.	To get these values, refer to either the Card documentation or iDRAC interface.
186602	Alert timestamp	When two or more alerts are intermittently generated but with the same timestamp, then the order in which they are listed in the logs may not be sequential.	Not available
196519	Importing PKCS#7 certificate using OMSA CLI	There is no CLI command available to upload PKCS#7 certificate chain using OMSA CLI.	In OMSA UI: <ol style="list-style-type: none"> Go to Preferences > General Settings > X.509 Certificate page. Select Import a certificate chain and click Next. Select the PKCS#7 file and click Import. The file will be imported successfully, and will ask to Activate the new certificate. Restart the web server to activate the new certificate
192275	Unable to change the IntNic1Port1BootProto BIOS option	Server Administrator is unable to change the BIOS setup option, IntNic1Port1BootProto in YX4X PowerEdge Servers with legacy BIOS because of the BIOS limitations.	Use the RACADM utility to change the LegacyBootProto of the associated NIC.
200265	SSL Protocol configuration is set to TLSv1.1	Server Administrator fails to respond, if SSL Protocol configuration of the web server is set to TLSv1.1. Because the TLSv1.1 option is disabled by default from JRE 11.0.11 and later.	Do not explicitly set SSL protocol to TLSv1.1 after fresh installation. While upgrading, ensure that SSL protocol is set to the default option TLSv1.1, TLSv1.2 .
198013	DWS to Windows 2022 Systems	From any system, the Server Administrator fails to connect to the Server Administrator Web server (DWS) which has Windows 2022 operating system.	Restart the connection services on the local node to continue using the Server Administrator Web server.

Table 1. Issues of Server Administrator on all supported operating systems (continued)

Issue ID	Functional area	Description	Workaround/Resolution
208145, 207920	MegaRAID 12GSAS/PCIe Secure SAS38xx	The PERC H350 Mini, PERC H355 Adapter, PERC H355 Front, PERC H350 Mini, and PERC H350 Adapter are enumerated as MegaRAID 12GSAS/PCIe Secure SAS38xx under the Slots page, in the Server Administrator.	Not available
210260	Deleting SSL ciphers in Server Administrator Web Server	The Server Administrator GUI fails to load, when all the SSL ciphers are deleted (or cleared) in OMSA Web Server Preferences settings and the Web Server restarts.	Not available
214565	Subject Alternative Name (SAN) field in the Certificate Signing Request (CSR) page	The Subject Alternative Name (SAN) field is missing in the Certificate Signing Request (CSR) page, while creating a CSR using Certificate Maintenance option in Server Administrator.	Not available

Issues of Server Administrator on Microsoft Windows operating systems

The issues are applicable to Server Administrator on Microsoft Windows operating systems.

Table 2. Issues of Server Administrator on Microsoft Windows operating systems

Issue ID	Functional Area	Description	Workaround/Resolution
Not available	Active Directory group	You may not have appropriate privileges on the Server Administrator UI if you belong to an Active Directory group that is part of another group.	Try to launch Server Administrator using the desktop icon when single sign-on is enabled.
BITS080169	Documentation for PSU alerts	Documentation for Power Supply unit alerts mentions only AC power supply units, but the alerts are valid for both AC and DC power supply units.	Not available
DF551365	Network adapters for VMs	Server Administrator does not display the IP Address for Network Adapters that are used for virtual machines. In a Microsoft Hyper-V environment, the Server Administrator Network page may indicate network adapters that are connected to a network and display Ethernet statistics but, the IP address is displayed as 'Unknown'. This is because Hyper-V virtualizes adapters that are bonded to its virtual switch. The Server Administrator only discovers physical network adapters and displays their IP addresses that are fully controlled by the operating system and not by hypervisors.	Not available
DF94201	Credentials on Microsoft Internet Explorer	When you double-click the Server Administrator icon on your desktop, a dialog box may appear, prompting you to enter credentials in Microsoft Internet Explorer for certain settings.	You can perform either one of the following workarounds: <ul style="list-style-type: none"> You can cancel the dialog box and enter the credentials to access Server Administrator. Enable SSO (Single Sign On) by changing the browser settings.

Table 2. Issues of Server Administrator on Microsoft Windows operating systems (continued)

Issue ID	Functional Area	Description	Workaround/Resolution
			<p>To enable SSO on Internet Explorer:</p> <ul style="list-style-type: none"> ○ Cancel the dialog box. ○ Go to Tools > Internet Options > Security > Trusted sites > Custom Level. ○ Under User Authentication Logon option, change the settings to "Automatic logon with current username and password". ○ Add the server URL to Trusted sites under Tools > Internet Options > Security > Trusted sites > Sites.
139591	Sequence to start OMSA services	When the DSM SA Event Manager service is still running, if DSM SA Data Manager service is restarted, duplicate alerts and pop-ups are generated.	The correct sequence is to stop DSM SA Event Manager service, restart DSM SA Data Manager service, and then start DSM SA Event Manager service.
200748	Connection Service memory space	The memory space associated with Connection Service that represents the Server Administrator web interface might increase gradually over a period of time.	Restart Connection Service to liberate the memory space.
220302	Setting alert actions in Windows Server to execute applications	The Interactive Services Detection required to execute applications from alert actions in the Server Administrator is not supported on Windows build 1703 or later.	Not available
206122	Operating system details in Server Administrator	On Dell EMC Precision R7920, the Windows 11 operating system enumerates as Windows 10 in Server Administrator CLI and UI.	Not available

Issues of Server Administrator on Linux operating systems

The issues are applicable to Server Administrator on Red Hat Enterprise Linux and SUSE Linux Enterprise Server Linux operating systems.

Table 3. Issues of Server Administrator on Linux operating systems

Issue ID	Functional Area	Description	Workaround/Resolution
DF275424, DF332775	Windows MN from Linux	<p>Domain users are unable to log in to Windows MN from Linux web server.</p> <p>Negotiate authentication is not supported while remotely managing a Windows-based managed node from a Linux-based Server Administrator web server. If you run the Server Administrator web server on a Linux-based operating system and try to manage a remote Windows managed</p>	You can manage a Windows/Linux- based managed system remotely from a Windows-based Server Administrator Web server.

Table 3. Issues of Server Administrator on Linux operating systems (continued)

Issue ID	Functional Area	Description	Workaround/Resolution
		system as a domain user, a login failed message is displayed.	
BITS119710	Windows credentials on Linux server	<p>On Server Administrator, you cannot use Windows domain user credentials to manage a system running Linux. If you try to do, the following login failed message is displayed.</p> <pre> "systemd-udevd[XXXX]: Process '/bin/sh -c '[-x /opt/dell/srvadmin/ sbin/dataeng.hotplug] && /opt/dell/srvadmin/sbin/ dataeng.hotplug pci'' failed with exit code 1. "systemd-udevd[XXXX]: Process '/bin/sh -c '[-x /opt/dell/srvadmin/ sbin/dataeng.hotplug] && /opt/dell/srvadmin/sbin/ dataeng.hotplug usb'' failed with exit code 1. </pre>	Not available
164183	Firmware version on secure boot mode	On systems running SUSE Linux Enterprise Server or Red hat Enterprise Linux in secure boot mode, the Server Administrator displays an older network interface cards firmware version even if it has been upgraded to a newer version.	Not available
193638	Authentication failure while logging in	On Linux operating systems, logging into a local node using the Manage Remote Node login page results in the following failure message: Authentication failure. For more information see Online help.	To log in to the local node, users must use the Manage Local Node login page.
211430	Latest version of Server Administrator displayed in About page	<p>On Linux operating system, the latest Server Administrator version is enumerated incorrectly as 10.2.0.0.</p> <p>On Linux operating system, the latest Server Administrator version must be 10.2.0.0 only for PowerEdge R250, R350, T150, T350, and T550 servers. For other supported platforms, the latest Server Administrator version must be 10.1.0.0.</p>	Not available
215031	Alert action events	On Linux operating system, the CLI command <code>omconfig system alertaction event=watchdogasr execappath='/usr/sbin/om_alerts.sh "Watchdog ASR</code> displays the following error message for Storage Management events and system events: <code>Error! XML Transformation failed.</code>	Not available

Table 3. Issues of Server Administrator on Linux operating systems (continued)

Issue ID	Functional Area	Description	Workaround/Resolution
		The error is displayed only in the Server Administrator CLI and not seen in the Server Administrator UI. This error is not affected in Microsoft Windows operating system.	

Issues of Server Administrator on Red Hat Enterprise Linux operating systems

The issues are applicable to Server Administrator on Red Hat Enterprise Linux (RHEL) operating systems.

Table 4. Issues of Server Administrator on Red Hat Enterprise Linux operating systems

Issue ID	Functional Area	Description	Workaround/Resolution
Not available	Kernel log messages when using RHEL	When starting Server Administrator from the Red Hat Enterprise Linux console, kernel log messages may appear.	To avoid these messages, perform the following steps: <ol style="list-style-type: none"> 1. Edit the <code>/etc/sysconfig/syslog</code> file and modify KLOGD_OPTIONS to KLOGD_OPTIONS="-c 4". 2. Restart syslog by executing <code>/etc/init.d/syslog restart</code>.
Not available	AAC-ChardevOpen kernel driver message	For systems running a supported Red Hat Enterprise Linux operating system, kernel driver messages such as AAC_ChardevOpen may be displayed in the console at the login prompt. These messages are displayed in the console when the driver initialization is delayed by the installation of Server Administrator services and can be ignored.	Not available
Not available	OMSA SELinux	For systems running a supported Red Hat Enterprise Linux operating system with SELinux in enforcing mode and Server Administrator's SELinux policy installed, 'Execute application' alert actions might not work as intended due to restrictions by SELinux in enforcing mode. This is valid only for the users who have opted for Remote Enablement.	Not available
Not available	Update to RHEL 8.x or RHEL 9.x	When there is major update to an operating system version, for example, from RHEL 8.x to RHEL 9.x then the OpenManage Server Administrator dependencies are updated based on the versions provided by the respective operating system.	Update your system software if any vulnerable versions are detected.
194716	OMSA SELinux	For systems running RHEL with SELinux on enforcing mode, while installing Server Administrator's SELinux Policy, the following error message is displayed.	This error message can be ignored and it doesn't affect any functionality of OMSA.

Table 4. Issues of Server Administrator on Red Hat Enterprise Linux operating systems (continued)

Issue ID	Functional Area	Description	Workaround/Resolution
		<p>Failed to resolve typeattributeset statement at /var/lib/selinux/targeted/tmp/modules/400/omsa_connsvc/cil:78 semodule: Failed!</p> <p>This issue is observed only when ipa-selinux package is not installed.</p>	

Issues of Server Administrator on VMware ESXi

The issues are applicable to Server Administrator on VMware ESXi.

Table 5. Issues of Server Administrator on VMware ESXi

Issue ID	Functional area	Description	Workaround/Resolution
DF277439	Persistence of Configuration and Log File Changes in VMware ESXi	<p>Persistence of Configuration and Log File Changes in VMware ESXi on systems running VMware ESXi, the file system is ramdisk.</p> <p>Modifications made to the files within the file system are generally not persistent after a reboot, with the exception of designated configuration and log files.</p> <p>These files are updated to the disk periodically and on system shutdown. If the system is reset without a graceful shutdown before the update to the designated configuration are made and before log files are updated to the disk, the changes are lost.</p>	Not available
DF354388	Remote OMSA Web Server connection	<p>Remote Server Administrator Web Server connection to a managed node stops responding, if a redundant virtual disk containing syslog dumps fails.</p> <p>If you configure the syslog to store logs in to a remote virtual disk (VD), and remove the remote VD without reconfiguring the syslog to a valid location, the Server Administrator web server screen stops responding.</p>	To continue using the Server Administrator web server, restart the management services on the managed node.
BITS072069	Unclear shutdown on ESXi	<p>On ESX/ESXi, Server Administrator configuration changes are not persisted after an unclear shutdown.</p> <ul style="list-style-type: none"> If the server abruptly reboot, configuration changes to Server Administrator Preferences are not retained on VMware ESX or ESXi. Once an hour, VMware runs a scheduled backup to update any configuration changes to the installed applications (VIBs). 	For more information, see the Knowledge Base article at http://Kb.vmware.com/kb/2001780 .
BITS119710	Network controller ToE status	On systems running VMware ESXi, the TOE status of a network controller is not available.	Not available
Not available	Native drivers on OMSA	On VMware ESXi 5.5 and later versions, NIC cards using Native drivers display limited information about Server Administrator.	Not available

Table 5. Issues of Server Administrator on VMware ESXi (continued)

Issue ID	Functional area	Description	Workaround/Resolution
194043	OMSA Web Server	<p>The following error message is displayed in vmkernel log on servers running VMware ESXi while connecting to the Server Administrator from Server Administrator web server (DWS):</p> <pre>LinuxThread: 381: sfcdb-dcim: Error cloning thread: -1 (bad0117)</pre>	The error message can be ignored because there is no functionality loss.
205713	Installing OpenManage Server Administrator using vSphere Lifecycle Manager (vLCM) Image-based method in vSphere Client (VC)	<p>On servers running VMware ESXi 7.0 U2, when installing OMSA using vSphere Lifecycle Manager (vLCM) image-based method in vSphere Client (VC), during remediation process, the following non-complaint error message is displayed in vSphere Client (VC).</p> <p>A failure occurred when starting a host compliance check operation on host: Error: com.vmware.vapi.std.errors.internal_server_error Messages: com.vmware.esx.task.exec.error<Failed to start the task. Please ensure the system has enough resources and retry.></p> <p>However, OMSA is successfully installed on ESXi host.</p>	Reboot ESXi host and re-run the Check Compliance option in vSphere Client (VC) to resolve the non-complaint error message.

User notes

User privileges

The iDRAC user privileges and attributes have changed. Therefore, you will see a difference in Server Administrator and iDRAC user privileges and attributes. For more information on iDRAC user privileges and attributes, see the latest iDRAC user's guide.

User notes for Server Administrator

On YX2X generation or later PowerEdge server with iDRAC7 1.30.30 and later versions, you can set the Platform Event Destination as IPv4 or IPv6.

User notes for Instrumentation Service

- On YX1X generation or later PowerEdge server, if conflicting BIOS settings exist while configuring BIOS setup options through Server Administrator, the update attempt may fail at system reboot and none of the BIOS setup options may be updated. For example, when you configure Embedded SATA Controller to RAID and Boot Mode to UEFI simultaneously (UEFI does not support RAID option), the conflict prevents the BIOS configuration updates (at system reboot).
- On certain systems, user-defined thresholds set under Server Administrator become the default thresholds after uninstalling Server Administrator. If you change the threshold value of a probe on certain systems, running Server Administrator, and then uninstall Server Administrator, the changed threshold value becomes the default threshold value.
- While modifying the warning threshold settings, the values are stored in the firmware as discrete integer values and scaled for display. If the modified value is not a discrete integer, it may change when saved.
- Fan redundancy can have the following states:
 - Fully Redundant — The sensors display this status if all the fans in the system are present and are in a non-failed state.

- Redundancy Lost — The sensors display this status whenever any system fan fails or is removed from the chassis.
- If a system with memory redundancy enabled enters a **redundancy lost** state, it may not be clear which memory module caused it. If you cannot determine which DIMM to replace, see the **switch to spare memory detected** log entry in the ESM system log to find the memory module that failed.
- If you run Server Administrator when the system is in **OS Install Mode**, it may report the memory incorrectly. To avoid this issue, you must disable **OS Install Mode** before running the application.
- If you have to uninstall and reinstall the operating system SNMP service, then reinstall Server Administrator, so that the Server Administrator SNMP agents are registered with the operating system SNMP agent.
- Server Administrator Device Drivers for Linux: Server Administrator includes two device drivers for Linux: Systems - Management Base Driver (dcdbas) and BIOS Update Driver (dell_rbu). Server Administrator uses these drivers to perform the systems management functions. Depending on the system, the application loads one or both of these drivers. These drivers have been released as open source under the GNU General Public License v2.0. They are available in Linux kernels from kernel.org starting with kernel 2.6.14.
- CMC USB ports attached to a blade are not enumerated by Server Administrator.
- Except for AC power cord traps, SNMP traps for server instrumentation are not generated when the state of the device sensor changes from unknown to normal.
- **BITS125071**: While migrating the chassis of PowerEdge M520, M620, or M820 server running Windows operating system from M1000e to VRTX chassis, reboot the server after the new drivers are detected and installed. If not, the DSM SA Data Manager service crashes on startup and OMSA fails.

User notes for Remote Access Service

- The remote access service is available on supported systems only in this release. It enables remote access to a server that has lost its network connection or that has become unresponsive. In the current release of Server Administrator, the Remote Access Service uses Integrated Remote Access Controller (iDRAC).
- iDRAC also has its own CLI that is accessed through the **racadm** command. You can add **racadm** commands to a batch or script file to automate various user tasks. To limit the stress load on the managed system, and RAC, add **sleep** or **delay** commands of one or two seconds between the individual **racadm** commands.
- On systems prior to YX1X generation PowerEdge server, Server Administrator slot page displays iDRAC information, but on YX2X generation or later PowerEdge servers, the slot page does not display any iDRAC7 information.

Storage Management Service

The following section describes the issues and workaround in Server Administrator Storage Management.

Installation prerequisites

Storage Management does not display controllers and their features on systems that do not meet the driver and firmware requirements. At Storage Management runtime, you can determine whether the system meets the firmware requirement or not, by checking the application log files for notifications on outdated firmware. At runtime, On SCSI controllers, Storage Management displays the firmware version at runtime while on SAS controllers it displays the firmware and driver versions.

Known issues and workarounds for Storage Management Service

The issues are applicable to Storage Management Service.

Table 6. Known issues for Storage Management Service

Issue ID	Functional area	Description	Workaround/Resolutions
Not available	Advanced Create Virtual Disk Wizard	With Chinese or Japanese language browser settings, using the Storage Management Service Advanced Create Virtual Disk Wizard may occasionally result in text overflowing to the bottom of the side-by-side blue text boxes.	Not available
Not available	Physical disk clear operation	Physical disk clear operation is not available on PERC 8 and later family of hardware controllers.	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
Not available	RAID 10 Intelligent Mirroring	RAID 10 Intelligent Mirroring support is not available on PERC 9 and later family of hardware controllers.	Not available
Not available	Physical disk properties	Physical disk properties such as Manufacture day, Manufacture week, and Manufacture year are available for SAS drives only.	Not available
Not available	Creating sliced span virtual disk is delayed	Creating many sliced span virtual disks using the spun-down drives through the command line or UI result may be delayed.	After creating one sliced span virtual disk, wait for some time to create the next sliced span virtual disk.
Not available	Security Key Identifier	<p>A Security Key Identifier can contain numerals, lowercase alphabets, uppercase alphabets, nonalphanumeric characters (except space), or a combination of any of these.</p> <p>i NOTE: If you have used the special characters "/" (forward slash) or "'" (single quote) in the Security Key Identifier, they are displayed as "_" (underscore) on the Change Security Key page and Import Secured Foreign Configurations page. This is applicable only to the Security Key Identifier and not to the Passphrase.</p>	Not available
Not available	Logical Connector	<p>If Storage Management displays a path failure message for a Logical Connector after a reboot, use the Clear Redundant Path View, provided in the Change Controller Properties controller task, and restart the system.</p> <p>i NOTE: Use this command only if you have intentionally removed the multipath connection while rebooting the system.</p>	Not available
Not available	Virtual disk creation task	In the VMware ESXi 6.x environment, when you create a virtual disk using Storage Management, you may see an error message: The task cannot be completed. The VD creation task is completed, but the operating system may not be aware of the new VDs. However, the virtual disk is available for all operations on rebooting the system.	Not available
Not available	Hot plug of enclosures	Hot plug of enclosures takes time to enumerate the enclosure and its components. During this time, there will be a delay in the response time of tasks, such as displaying the physical disks on the physical disk page and in the virtual disk selection page.	Not available
Not available	Connecting enclosures in multipath	Storage Management does not permit connecting the first enclosure in single path and attaching the subsequent enclosures in multipath. All enclosures must be connected in multipath to enable the multipath view.	Not available
Not available	Import foreign configuration task is not successful	The Import Foreign Configuration task can only import virtual disks that have consistent data. A virtual disk with inconsistent data cannot be imported. When importing multiple virtual disks in a single operation, however, the Import Foreign Configuration task may report successful completion even when inconsistent virtual disks are present and have not been imported successfully.	If the "Import Foreign Configuration" task is unable to import an inconsistent virtual disk, then the physical disks that belong to the virtual disk continue to display a "Foreign" state after the "Import Foreign Configuration" task completes. In this case, repeat the "Import Foreign

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
			<p>Configuration" task until one of the following occurs:</p> <ul style="list-style-type: none"> • There are no longer any physical disks in Foreign state after the Import Foreign Configuration task completes. • You receive an error stating that the Import Foreign Configuration task has not completed successfully. This error indicates that there are no longer any consistent virtual disks available to be imported. Therefore, all virtual disks that are not imported are inconsistent and you can either perform a "Clear Foreign Configuration" to remove the virtual disks or remove the physical disks from the controller.
DF60696	Internet Explorer 9.x or 10.x	Storage Management responds slowly when using Internet Explorer 9.x or 10.x on a system with mixed SAS and SATA physical disks. When using the "Create Virtual Disk" wizard from the Storage Management graphical user interface (GUI), you may notice decreased performance when using Internet Explorer 9.x or 10.x on a system with multiple physical disks. The MD1000/MD1400/MD1420 storage enclosures that are heavily populated with mixed SAS and SATA physical disks.	Use a supported web browser other than Internet Explorer 9.x or 10.x or use the Storage Management command line interface (CLI) to create the virtual disk. See the Dell EMC OpenManage Server Administrator Release Notes for information about supported browsers. See the Storage Management online Help or the "Server Administrator Command Line Interface User's Guide" for information about using the Storage Management CLI.
DF152362	Storage Management may not display controllers	Storage Management may not recognize the controller devices that are installed after Storage Management is already running.	If Storage Management does not recognize a newly added device and this problem has not been corrected with a Global Rescan, then reboot the system.
DF120475	Storage Management SNMP traps	Server Administrator allows you to filter SNMP traps that you do not want to receive. To implement SNMP trap filtering, select the System tree > Alert Management tab > SNMP Traps subtab. The SNMP Traps subtab has options for enabling and disabling SNMP traps based on severity or the component that generates the trap. Even when the SNMP traps are disabled, Storage Management generates SNMP traps.	SNMP trap filtering will be provided in a future release of Storage Management.
Not available	omconfig storage	When issuing certain omconfig storage CLI commands with Power User privileges, the Error! User has insufficient privileges to run command: omconfig message may be displayed.	You must be logged in as an Administrator to perform these actions.

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
Not available	Advanced Create Virtual Disk	Using the Storage Management Service Advanced Create Virtual Disk Wizard may occasionally result in a vertical scrollbar of less than normal width. If this occurs, resizing the Server Administrator window causes the vertical scrollbar to be redrawn correctly.	Not available
Not available	Rename virtual disk	Using the GUI, if a virtual disk is renamed to a name containing multiple blank and consecutive spaces, the name is truncated to a single space after Apply is clicked.	Not available
BITS118226	NVMe devices	The representation of NVMe devices residing on backplanes that attach to PCIe Extender cards is inaccurate on Storage Management. This is because Storage Management does not have a process to understand the mapping of the NVMe device, backplane, and the PCIe Extender card. This issue exists only on PowerEdge R920 servers and does not impact the operations on the NVMe device. Multiple backplanes on Server Administrator indicate the presence of multiple PCIe Extender cards on the system.	Not available
Not available	Configuration of enclosures	On a PowerEdge server with maximum configuration of 8 populated enclosures connected to the PERC hardware controller, the user can experience a delay in response. When Server Administrator storage commands such as Create Virtual Disk or Start check consistency are run, the delay in response can range from 10 — 30 minutes.	Not available
Not available	Mock backplane	On PowerEdge T430, C4130, and R220 II, with PERC S130 configuration and no backplane, Storage Management displays a mock backplane which does not support the blink/unblink operation for disks available on this configuration.	Not available
BITS140465	Virtual disk of RAID	When the user tries to create another partial virtual disk of any RAID level, on an existing, but degraded disk group, Storage Management does not allow the user to perform this action. This limitation occurs because Storage Management does not support this functionality. However, this limitation is only observed on certain PERC 9 family of hardware controllers (PERC H330, H830, and H730).	The user can create a partial virtual disk during system restart using the CTRL+R configuration utility.
10452 (BITS236815)	PERC 9	Occasionally, the virtual disk creation process on PERC 9 hardware controllers may fail on GUI and CLI. Workaround: Restart the server to resolve this issue.	Not available
BITS055347	VMware ESXi 5.1	On systems running the ESXi 5.1 or later operating system, the "Device Name" for all virtual disks will be displayed as Not Available. This is an expected behavior on systems running the ESXi 5.1 or later operating system.	Not available
8321 (BITS220411)	Secure virtual disk	Unable to create Partial Secure virtual disk using the GUI when all the available SEDs are selected.	This operation works if any other physical disk, which is not a part of any virtual disk, is connected.
11205 (BITS242664)	Status of Partial virtual disk	When a physical disk, which is a part of multiple partial virtual disks, is reinserted into the system, the status	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
		of the partial virtual disks will be displayed on Storage Management after a short delay.	
8442 (BITS221272), 13988 (BITS257114)	Enclosure alerts	Few enclosure alerts such as Enclosure power on/off and Fan removal, does not appear if the enclosure is connected to the server using a SAS 12 Gbps HBA card.	Restart Data-Manager service to update component status.
10933 (BITS240247)	Displaying the device name	Storage Management does not display the Device name on a system where there are more than 300 virtual disks.	Not available
16919 (BITS270856)	Precision 7910	On Precision 7910 running a client operating system (for example, Windows 8.1 x64), the PERC 9.3 driver version is displayed as outdated and a yellow bang is shown on such hardware configurations. This issue does not cause any functionality limitation.	Not available
43557	Slot occupancy report	In Split Mode, Slot occupancy report displays inaccurate empty slots when there are no drives connected to the backplane. The report shows the message empty slots interchanged between controller. This issue occurs for the server with no drives attached to the backplane in split mode only. Slot occupancy report works fine as expected for servers with a minimum of one drive.	Not available
52091	Cryptographic erase operation	Cryptographic erase operation might take longer time to be visible in the drop-down list for the ISE Capable SATA SSDs after this operation is complete.	Not available
58147	BOSS-S1 controller	In the BOSS-S1 controller properties, slot ID is displayed as "Embedded".	Not available
Not available	Prepare to Remove	If the background IO is in progress, "Prepare to Remove" operation for the NVME devices might fail.	Not available
Not available	Channel/Connector information	From YX4X onwards, no Channel/Connector information is displayed under "PCIe SSD Subsystem". Enclosure/Backplane will be directly connected to the "PCIe SSD Subsystem". There is no change in the display of "NVMe Devices (Arraydisk) and Add-On Card (HHHL Card)". NVMe Devices (Arraydisk) will be displayed under "Enclosure / Backplane" whereas Add-On Card (HHHL Card) will be displayed under "PCIe SSD Subsystem".	Not available
71918	SAS controllers	On YX4X generation of PowerEdge servers when connected with two SAS 12Gbps controllers in Slot 4 and Slot 5 and each controllers are connected with separate MD1400 enclosure, both Enclosure EMMs are listed under "Connector 0" and no device is listed under "Connector 1 ". Slot-4 SAS 12Gbps controller is connected with two redundant EMMs which are listed in "Connector 0". Slot-5 12 Gbps controller is also connected with two redundant EMMs, but both are listed under "Connector 0".	Not available
71919	SAS controllers	On YX4X generation of PowerEdge servers when connected with two SAS 12Gbps controller in Slot4 & Slot5 and each controllers are connected with separate MD1400 enclosure, with two redundant cable i.e. EMM0 & EMM1, then with redundant EMM both enclosures are listed for EMM0 & EMM1, but physical disks are not displayed for EMM1. Slot-4 SAS 12Gbps controller	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
		is connected with two redundant EMMs – Here both EMMs are listed under “Connector 0”, and for EMM0 physical Disk is listed and for EMM1 no physical disks are listed. Slot-5 SAS 12Gbps controller is connected with single EMM (ie.EMM1) – Here one EMM0 is listed under “Connector 0”, and for EMM1 physical Disk are listed.	
76259	Dedicated hot-spare	EMMI alert description for Dedicated hot-spare assigned physical disk should contain meaningful alert description instead of the statement, This alert is provided for informational purposes.	Not available
94666	Non-RAID drives	For Non-RAID drives attached to SWRAID controller enumerates for virtual Disk layout as Non-RAID. Whereas on Storage Management GUI, when you click on virtual disk name the physical drives does not display as Non-RAID.	Not available
96670	sfcdb-watchdog	On systems running VMware operating systems if the sfcdb-watchdog is stopped abruptly before completion of the SNMP traps for storage task is logged. Semaphore leak is observed.	Run the sfcdb-watchdog until SNMP traps for storage task is completed.
97151	Negotiated speed	Full view of Physical Disk Page in Server Administrator GUI, the negotiated speed for a 6Gbps drive capable speed is intermittently shown as 12Gbps.	Not available
94842	storelibR	Storage Management carries SHA1 signed library (storelibR) in the current release.	Not available
104975	Fan speed	In storage management, Fan speed changes will not update dynamically.	Data manager service restart updates the latest fan speed.
106970	Change controller mode	After change controller mode operation is performed, two alerts that are generated have the same alert ID and description.	Not available
Not available	Controller information	If the controller name is not displayed in the alert message, check the controller information for mapping the controller ID and controller name.	Not available
103891	PSU removal	Duplicate alerts for power supply removal are displayed while enclosure power supply cable is removed.	Not available
103962	EMM removal alerts	The Storage Management displays the removal and insertion alerts intermittently on EMM for HBA controllers during physical drive hot-plug-out and hot-plug-in. RECOMMENDATION: Minimum of six seconds gap is required between any hot-plug in or out operations.	Not available
104973	Enhanced mode	On enhanced mode, an alert is displayed as A Device is inserted in the enclosure for both Power unit and FAN inserted into enclosure. The message does not state the specific device inserted.	Not available
103150	Storage tree does not display the Enclosure ID	On PowerEdge R940XA with dual backplane, the Storage tree does not display the Enclosure ID intermittently during insertion or removal of multiple drives.	Restart the Data-Manager service to resolve this discrepancy.
94890	Fully populated chassis	For fully populated chassis, the Storage Management system takes few minutes to load the storage components.	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
95176	Intelligent mirror VDs	The Physical disks available in MX5016s connected to chassis slot 8 does not support RAID-10 intelligent mirror virtual disk creation.	Not available
101739	EMM failure alerts	If an EMM is removed from MX5016s sled, EMM failure or removal alert is not observed on Server Administrator alerts.	Not available
109008, 192253, 198228	Backplane enumeration	On a server with multiple independent backplane type such as SATA, PCIe, or Universal, when a software RAID or PCIe SSD subsystem controller is connected to one of the backplanes, there will be an invalid entry of an enclosure backplane enumerated in OMSS. No operations and physical disks are enumerated for the invalid backplane. The blink/unblink operation might fail for physical disks and virtual disks on the backplane enumerated under software RAID controller.	Not available
98675	Hot-plugged devices	On Server Administrator page, a delay is observed on hot-pluggable devices when hot-plugged in or out on HBA 330 MMZ.	Not available
110132, 194288	Enclosure hot-plug	When the enclosure is hot plug to the HBA controller, in the alert log page an additional physical disk id is observed.	Not available
112768	Intel NVMe P4800x devices	On systems running SUSE Linux Enterprise 15.0 operating system the device protocol of Intel NVMe P4800x devices display NVMe 0.0 instead of NVMe 1.0.	Not available
111625, 112746	Create or delete VDs on systems running ESXi	In a maximum configuration setup i.e. eight enclosures connected to PERC H840 controller, performing creating or deleting virtual disk operation multiple times with more than 160 plus physical drives on systems running ESXi. 168698We observe core or virtual disk creation failure.	Restart sfcdbd service.
108887	XML data generated	On Storage Management, observes intermittently malformed alert log showing "XML Data generated for the selection made is not well formed" on systems running ESXi operating system.	Clear logs and restart the service.
119082	Multipath mode	On multipath mode, if clear redundant path option is performed immediately after removing the enclosure cable, few minutes of delay is observed on Server Administrator UI to refresh. Recommendation : It is recommended to wait for the Redundant path broken alerts before performing the clear redundant path. If in case Server Administrator page delay is observed, wait for few minutes to return to the normal state page or restart the service.	Not available
120251	Orphan drive	The foreign physical disks connected to the system, on reaching the maximum number of supported virtual disk by the controller is displayed on the Import Preview page as Orphan Drive.	Not available
117872	Unblink operation	On performing the unblink operation on physical disk connected to 12Gbps SAS HBA, observing both health and activity LEDs light turn off.	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
128978	Import foreign configuration task is not successful	When there is failed virtual disk in the same controller the Import foreign configuration on controller's task, does not list the available degraded virtual disks to import, recover or clear. The list can be observed after failed virtual disk deletion.	Not available
Not available	The Submit button	On UI if the submit button is clicked more than once an internal error may occur, but the task will be performed successfully.	Not available
132214	Managed preserved task	Few minutes delay occurs to disable the Managed preserved cache task from the task list, after clicking on Discard preserved cache.	Not available
125130	Encrypted VDs	Physical disks, that were part of an encrypted virtual disk that has been deleted, still show 'Encrypted' property as 'Yes.	Not available
136314	NVMe device protocol	The NVMe device protocol for Intel NVMe P4800x devices is displayed as NVMe 1.1 instead of NVMe 1.0 on supported Linux distros .	Not available
147761	Blink and unblink operation is blocked for HHHH add-in card	Blink and unblink operation under virtual disk tasks in software RAID is blocked, if any of the participating physical disk is HHHH add- in card. Blink and unblink operation is also blocked for Non Raid HHHH add in card virtual disk.	Not available
149079	OMSS component versions	Storage Management Component's versions running on Ubuntu operating system will be shown as 9.4.0 whereas for other systems running on Linux operating systems like RHEL or SLES version will be displayed as 6.4.0 in software summary page of Server Administrator.	Not available
Not available	Physical device part number	On BOSS controller, the failed alert for the physical drive part number will be displayed as NULL.	Not available
125128	Import SEKM encrypted VD	Importing an SEKM Encrypted virtual disk on a normal or non-SEKM setup, displays a blank page on Foreign Configuration Wizard.	Not available
Not available	PDR events	On PERC and HBA controllers PDR16, PDR51, PDR7, and PDR22 events are generated once in 24 hours.	Not available
Not available	PDR events	On PERC and HBA Controller use a single event PDR16 for the events PDR16 and PDR19.	Not available
151463	Slot occupancy report	On RHEL 7.7 and SLES 15 SP1 the slots occupancy report does not display the empty slot available for HBA330 controller.	Not available
153490	Slot occupancy report	On PowerEdge R7515 system with 8 SAS or SATA and 16 NVMe backplane configuration, the slot occupancy report for hardware PERC controller displays as 12 slots instead of 8 slots that are connected to hardware PERC controller.	Not available
143512	EMM alert generation	The EMM alert generation is delayed if there are failed drives present in the enclosure.	Not available
Not available	Export log	Export log operation may fail for failed state drive.	Not available
Not available	Failed drive enumeration	Part Number, Serial No, Product ID, Vendor ID, Firmware Revision, Sub-vendor ID, Model Number values may not enumerate for failed state drive.	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
162168 (CR)	Toshiba NVMe drive	Sometimes when the Toshiba NVMe drive on the SWRAID controller is connected (and is part of a Virtual Disk), or a failed NVMe drive is present in the system. There can be multiple PDR211 alerts that are logged in the alert log page. The logs can lead to delayed of response on the GUI.	Not available
161708	Data transfer on M.2 drives	If the data transfer is not performing on M.2 drives while performing hot-plug out operation, then after hot plug-in back the same, the virtual disk rebuild alert will not be generated. The virtual disk status changes from degraded to online.	Not available
Not available	PCIe subsystems	The Device name field of NVMe drives is displayed as char device name on PCIe subsystems running on Linux operating.	Not available
165785	Read-write policy on S130	On S130 and later, any change in read and write policy values while creation of virtual disks does not reflect on virtual disk.	Use Change policy virtual disk task for changing these policies.
165788	Predictive failure drives	Predictive failure drives on HBA controller displays as ready state and the predictive failure alert is also not generated for such drives.	Not available
Not available	Auto-configure RAID 0	When the auto-configure RAID 0 task is performed on PERC 9, only HDDs that are currently in ready state changes to RAID 0. There will be no change for SSDs.	Not available
165719	Storage Alert Log	A blank page of the Storage Alert Log is displayed when the Storage controller generates several alerts and cold boot performed together from iDRAC.	Delete dcsys64.xml and restart the services. The file path where the .xml file is available on systems running Microsoft Window operating system : C:\Program Files\Dell\SysMgt\omsa\log, on systems running ESXi operating system : /etc/cim/dell/srvadmin/var/log/openmanage/ and other operating systems : /opt/dell/srvadmin/var/log/openmanage/.
169111	Partial RAID-10 VDs	On a partial RAID-10 virtual disk creation through Create virtual disk advanced wizard, the drive selection list displayed may not be similar to the actual physical drive associated with the spans.	Not available
168698	Enumeration on ESXi	Read Only Write-Protected drive will not enumerate on systems running ESXi operating systems.	Not available
155954	Hot-plug-in multiple drives of MX5016s	While hot-plug-in multiple drives of MX5016s physically, wait for each insert alert to avoid the wrong enumeration.	Restart the Data manager service to get the updated enumeration.
Not available	Controller ID and name	If the controller name is not displayed in the alert message, check the controller information for mapping the controller ID and controller name.	Not available
92467	Dynamic mapping	The dynamic mapping of an enclosure for the first time also displays the unmapped enclosure for a short period. Refresh the Server Administrator page to remove the unmapped enclosure entries.	Not available

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
Not available	Polling interval	To determine the changes made on an enclosure connected to HBA 11 controller and later versions, the polling interval is set to five minutes. Therefore, it takes approximately six minutes to generate an enclosure event report and update its properties. However, if a change it made to the enclosure environment status but reverted to the previous status within this predefined five minutes, then an event is not recorded. For example, if a fan is removed but installed back within five minutes, then an event is not recorded for this purpose.	Not available
94402	Alerts are not displayed	The alerts are not displayed when a physical disk is inserted or removed on enclosure MX5016s mapping or unmapping.	
186184, 187434	Enclosure alerts	If an enclosure is connected to HBA 355e controller, then some of the enclosure-related alerts such as EMM events, FAN events, PSU events Redundancy lost, Redundancy restored events are not generated.	Restart DataManager service to update a component status.
178110	Non-RAID drives	If non-RAID predictive failure drives are connected to enclosures, then the enclosure status may not always be indicated as READY.	Not available
175332	Operations are delayed or stopped responding	On Storage Management, operations may be delayed or may not respond for some time, whenever the physical disks or enclosures are inserted, mapped, removed, or unmapped from MX5016s.	Not available
179687	Initialization error	If NVMe drive with initialization error is connected, then that slot will not enumerate in slot occupancy report and total slot count will be less.	Not available
Not available	BOSS-related alerts starts from number 0	When OpenManage Server Administrator (OMSA) is installed on a newly installed operating system, it starts reading BOSS-related alerts from sequence number 0. Hence, if there are any earlier events present in memory, then the OMSA will regenerate those events. Performing LC wipe cannot clear the earlier events completely.	Not available
200121	Core dump generated while stopping the dcim service	If PERC 310 controller is present in the server, then OpenManage generates a core dump while stopping the dcim service. The dcim service stops at several other instances such as upgrading OpenManage, uninstalling OpenManage, and so on.	Not available
Not available	Failed drive on HBA controller	When there is a failed drive on HBA controller, any storage-related task execution or the alert processing will take more time.	Not available
191175	BOSS Console driver	If the BOSS Console driver is upgraded when OMSA is started, then you must restart the server to make the updated driver become effective	Not available
196564	Service Control Manager displays a 1053 error	On Windows operating system, if the DataManager service is either stopped or restarted before completing the enumeration of the storage tree, the Service Control Manager displays a 1053 error. Thus, as the result DataManager service stops responding, and the status is displayed as Stopping.	Restart the server

Table 6. Known issues for Storage Management Service (continued)

Issue ID	Functional area	Description	Workaround/Resolutions
199921	Physical drive removal event is not logged	If a connection to an enclosure is terminated and a Communication Lost event (ENC18) for that enclosure is received, then the Physical Drive Removed event for all connected physical drives might not be logged.	Not available
188971	OMSS UI is unresponsive	The OMSS UI might not respond for sometime and enumeration might be incorrect, when the continuous I/O errors are reported on physical drives connected to an enclosure with SAS 12 Gbps HBA controller on Ubuntu 20.04.X operating system.	Not available
198990	Multipath enumeration is not updated	On HBA 355 external controller connected to Array584EMM or MD14XX enclosures, the multipath enumeration might not update intermittently, when the redundant path is disrupted.	Restart the OpenManage DataManager service.
Not available	Sanitize Cryptographic erase operation fails	When SEKM or third-party security software is enabled on Dell PowerEdge Servers, the Sanitize Cryptographic erase operation fails on the processor-attached secured NVMe drives.	Not available
202892	Virtual disk still shows online after deletion	If virtual disk is created using SPUN-down drives and later when virtual disk is deleted on a cabled drives supported server, then the state of physical devices which were part of that virtual disk still shows as online.	Not available
202961	Power status alert is not generated	Power status alert of physical device change from transition to SPUN up is not generating.	Not available
182213	VD creation is complete, but the OS may not be aware of the new VD	When you create VDs by using standby (spun-down) physical devices, the following message is displayed: <code>The task cannot be completed. The VD creation task is completed but the OS may not be aware of the new VDs.</code> However, the virtual disk is available for all operations on rebooting the system.	Not available
204509	Backplane is displayed though there is no backplane present	OpenManage Storage Services display the backplane even though cabled drives are connected directly to controller without backplane. Hence, the blink and unblink task is enabled on physical and virtual disks. On virtual disks, this task runs successfully instead of failing.	Not available
207644	Battery Properties	For PERC H350 Adapter and PERC H355 Front controllers, the battery State is displayed as Missing and the Status is displayed as non-critical, even when the battery is not supported by the controllers.	Not available

User notes for Storage Management Service

Detailed information on the Storage Management Service is available in the *Storage Management Service online help*. After installing and launching Server Administrator, you can access the Storage Management Service online help by selecting the Storage or lower-level tree object and clicking the **Help** button on the global navigation bar.

List of firmware for controllers

Table 7. List of firmware for controllers

Controller	Firmware/BIOS
PERC H800 Adapter	12.10.7-0001
PERC H700 Integrated	12.10.7-0001
PERC H700 Adapter	12.10.7-0001
PERC H700 Modular	12.10.6-0001
PERC H200 Adapter	07.03.06.00
PERC H200 Integrated	07.03.06.00
PERC H200 Modular	07.03.06.00
PERC H200 Embedded	07.03.06.00
6 Gbps SAS HBA	07.03.06.00
Internal Tape Adapter	07.03.06.00
PERC H310 Adapter	20.13.3-0001
PERC H310 Mini Monolithic	20.13.3-0001
PERC H310 Mini Blades	20.13.3-0001
PERC H710 Adapter	21.3.5-0002
PERC H710 Mini Blades	21.3.5-0002
PERC H710 Mini Monolithic	21.3.5-0002
PERC H710P Adapter	21.3.5-0002
PERC H710P Mini Blades	21.3.5-0002
PERC H710P Mini Monolithic	21.3.5-0002
PERC H810 Adapter	21.3.5-0002
PERC S110	3.0.0.0139
PERC S100	2.0.0-0162
PERC S300	2.0.0-0166+00193000
PERC S130	4.3.0-0002
PERC S140	5.6.0.0004
PERC H730P Adapter	25.5.9.0001
PERC H730P Mini Blades	25.5.9.0001
PERC H730P Mini Monolithic	25.5.9.0001

Table 7. List of firmware for controllers (continued)

Controller	Firmware/BIOS
PERC H730P Slim	25.5.9.0001
PERC H730 Adapter	25.5.9.0001
PERC H730 Mini Blades	25.5.9.0001
PERC H730 Mini	25.5.9.0001
PERC H830 Adapter	25.5.9.0001
PERC H330 Mini Monolithic	25.5.9.0001
PERC H330 Adapter	25.5.9.0001
PERC H330 Mini Blades	25.5.9.0001
PERC H330 Embedded	25.5.9.0001
HBA H330 Adapter	16.17.01.00
HBA H330 Mini	16.17.01.00
PERC H740P Adapter	51.16.0-4076
PERC H740P Mini Monolithic	51.16.0-4076
PERC H840 Adapter	51.16.0-4076
FD33XD-PERC Dual	25.5.9.0001
FD33XS-PERC Single	25.5.9.0001
12 Gbps SAS HBA	16.17.01.00
HBA330 MX	16.17.01.00
HBA330 MMZ	16.17.01.00
PERC H745P MX	51.16.0-4076
PERC H730P MX	25.5.9.0001
FD33XD-HBA Dual	16.17.01.00
FD33XS-HBA Single	16.17.01.00
PERC S150	6.2.0.0004
PERC H745 Front	51.16.0-4076
PERC H745 Adapter	51.16.0-4076
PERC H345 Front	51.16.0-4076
PERC H345 Adapter	51.16.0-4076
HBA345 Adpt	15.15.12.00

Table 7. List of firmware for controllers (continued)

Controller	Firmware/BIOS
HBA345 Frnt	15.15.12.00
PERC H755N	52.16.1-4074
PERC H755 Adapter	52.16.1-4074
PERC H755 Front	52.16.1-4074
PERC H755 MX	52.16.1-4074
PERC H750 Adapter	52.16.1-4074
HBA355i Frnt	15.15.15.00
HBA355i Adpt	15.15.15.00
HBA355e Adpt	17.15.08.00
HBA350i MX	15.15.15.00
HBA350i Adpt	17.15.08.00
PERC H350 Adapter	52.19.1-4171
PERC H355 Front	52.19.1-4171
PERC H355 Adapter	52.19.1-4171

List of firmware for BOSS controllers

Table 8. List of firmware for BOSS controllers

Controller	Firmware/BIOS
BOSS-S1 Adapter	2.5.13.3024
BOSS-S1 Modular	2.6.13.3024
BOSS-S2	2.5.13.4008

Microsoft Windows Drivers for controllers

The table lists the firmware version for Microsoft Windows 2016, 2019, and 2022 Drivers.

Table 9. Windows Drivers for controllers

Controller	Windows Server 2016 Driver	Windows Server 2019 Driver	Windows Server 2022 Driver
LSI 1020 on 1600 SC	Not Applicable	Not Applicable	Not Applicable
LSI 1030 on 1750	Not Applicable	Not Applicable	Not Applicable
PERC H800 Adapter	Not Applicable	Not Applicable	Not Applicable
PERC H700 Integrated	Not Applicable	Not Applicable	Not Applicable
PERC H700 Adapter	Not Applicable	Not Applicable	Not Applicable

Table 9. Windows Drivers for controllers (continued)

Controller	Windows Server 2016 Driver	Windows Server 2019 Driver	Windows Server 2022 Driver
PERC H700 Modular	Not Applicable	Not Applicable	Not Applicable
PERC H200 Adapter	Not Applicable	Not Applicable	Not Applicable
PERC H200 Integrated	Not Applicable	Not Applicable	Not Applicable
PERC H200 Modular	Not Applicable	Not Applicable	Not Applicable
6 Gbps SAS HBA	Not Applicable	Not Applicable	Not Applicable
PERC H310 Adapter	Not Applicable	Not Applicable	Not Applicable
PERC H310 Mini Blades	Not Applicable	Not Applicable	Not Applicable
PERC H310 Mini Monolithic	Not Applicable	Not Applicable	Not Applicable
PERC H710 Adapter	Not Applicable	Not Applicable	Not Applicable
PERC H710 Mini Blades	Not Applicable	Not Applicable	Not Applicable
PERC H710 Mini Monolithic	Not Applicable	Not Applicable	Not Applicable
PERC H710P Adapter	Not Applicable	Not Applicable	Not Applicable
PERC H710P Mini Blades	Not Applicable	Not Applicable	Not Applicable
PERC H710P Mini Monolithic	Not Applicable	Not Applicable	Not Applicable
PERC H810 Adapter	Not Applicable	Not Applicable	Not Applicable
Internal Tape Adapter	Not Applicable	Not Applicable	Not Applicable
PERC S300	Not Applicable	Not Applicable	Not Applicable
PERC S110	3.2.0-0014	Not Applicable	Not Applicable
PERC S130	4.3.0-0003	4.3.0-0006	Not Applicable
PERC S140	5.6.0.0004	5.6.0.0004	5.6.0.0004
PERC S150	6.2.0.0004	6.2.0.0004	6.2.0.0004
PERC H730P Adapter	6.604.06.00	Native	Not Applicable
PERC H730P Mini Blades	6.604.06.00	Native	Not Applicable
PERC H730P Mini Monolithic	6.604.06.00	Native	Not Applicable
PERC H730P Slim	6.604.06.00	Native	Not Applicable
PERC H730 Adapter	6.604.06.00	Native	Not Applicable
PERC H730 Mini Blades	6.604.06.00	Native	Not Applicable
PERC H730 Mini Monolithic	6.604.06.00	Native	Not Applicable
PERC H830 Adapter	6.604.06.00	Native	Not Applicable
PERC H330 Mini Blades	6.604.06.00	Native	Not Applicable
PERC H330 Mini Monolithic	6.604.06.00	Native	Not Applicable
PERC H330 Embedded	6.604.06.00	Native	Not Applicable
FD33XD-PERC Dual	6.604.06.00	Native	Not Applicable
FD33XS-PERC Single	6.604.06.00	Native	Not Applicable
PERC H330 Adapter	6.604.06.00	Native	Not Applicable
PERC H740P Adapter	7.716.03.00	7.716.03.00	7.716.03.00
PERC H740P Mini Monolithic	7.716.03.00	7.716.03.00	7.716.03.00


Table 9. Windows Drivers for controllers (continued)

Controller	Windows Server 2016 Driver	Windows Server 2019 Driver	Windows Server 2022 Driver
PERC H840 Adapter	7.716.03.00	7.716.03.00	7.716.03.00
12 Gbps SAS HBA	2.51.25.01	2.51.25.02	Not Applicable
HBA330 Adpt	2.51.25.01	2.51.25.02	Not Applicable
HBA330 Mini	2.51.25.01	2.51.25.02	Not Applicable
HBA330 MX	2.51.25.01	2.51.25.02	Not Applicable
HBA330 MMZ	2.51.25.01	2.51.25.02	Not Applicable
PERC H745P MX	7.716.03.00	7.716.03.00	7.716.03.00
PERC H730P MX	6.604.06.00	Native	Not Applicable
FD33XD-HBA Dual	2.51.25.01	2.51.25.02	Not Applicable
FD33XS-HBA Single	2.51.25.01	2.51.25.02	Not Applicable
PERC H745 Front	7.716.03.00	7.716.03.00	7.716.03.00
PERC H745 Adapter	7.716.03.00	7.716.03.00	7.716.03.00
PERC H345 Front	7.716.03.00	7.716.03.00	7.716.03.00
PERC H345 Adapter	7.716.03.00	7.716.03.00	7.716.03.00
HBA345 Frnt	2.61.14.00	2.61.14.00	Not Applicable
HBA345 Adpt	2.61.14.00	2.61.14.00	Not Applicable
PERC H755N	7.716.03.00	7.716.03.00	7.716.03.00
PERC H755 Adapter	7.716.03.00	7.716.03.00	7.716.03.00
PERC H755 Front	7.716.03.00	7.716.03.00	7.716.03.00
PERC H755 MX	7.716.03.00	7.716.03.00	7.716.03.00
PERC H750 Adapter	7.716.03.00	7.716.03.00	Native
HBA355i Frnt	2.61.14.00	2.61.14.00	Native
HBA355i Adpt	2.61.14.00	2.61.14.00	Native
HBA355e Adpt	2.61.29.02	2.61.29.02	Native
HBA350i MX	2.61.14.00	2.61.14.00	Native
HBA350i Adpt	2.61.14.00	2.61.14.00	Native
PERC H350 Adapter	7.719.06.00	7.719.06.00	Native
PERC H355 Front	7.719.06.00	7.719.06.00	Native
PERC H355 Adapter	7.719.06.00	7.719.06.00	Native

Table 10. Windows Drivers for BOSS controllers

Controller	Windows Server 2016/2019 Driver	Windows Server 2022 Driver
BOSS-S1 Adapter	1.2.0.1051	1.2.0.1052
BOSS-S1 Modular	1.2.0.1051	1.2.0.1052
BOSS-S2	1.2.0.1051	1.2.0.1052

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.