SANtricity® Unified Manager 3.0, SANtricity Storage Manager 11.50, and SANtricity OS 11.50 (includes SANtricity System Manager)

Product Release Notes

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Contents

Deciding whether to use this guide

This document includes release notes for SANtricity Unified Manager 3.0, SANtricity Storage Manager 11.50, and SANtricity OS 11.50 (includes SANtricity System Manager).

Where to find the Latest information about the product

You can find information about the latest version of the product, including new features and fixed issues, and a link to the latest documentation at the NetApp E-Series Systems Documentation Center.

Note:

- The optional iSCSI host interface cards in the E5700/EF570 controllers do not auto-negotiate speeds. You must set the speed for each port to either 10 Gb or 25 Gb. All ports must be set to the same speed.

- If you have a StorageGRID Webscale Appliance, do not update the E2800 controller with SANtricity OS version 11.50. In general, do not apply SANtricity OS upgrades to StorageGRID appliances unless they are specifically stated to be compatible. Contact technical support with any upgrade-related questions.

- For E-Series storage systems attached to FlexArray (V-Series), confirm that the E-Series software version is supported with FlexArray by consulting the NetApp *Interoperability Matrix Tool* (IMT) (login required).

- For E-Series storage systems attached to FlexArray, FPVR is required for FlexArray support.

- With FlexArray, the ONTAP (RDAC) host type is no longer supported with E-Series SANtricity OS 8.30 or later. If you are running SANtricity OS 8.20 or earlier, follow the procedures documented in *KB article 000028023* and *KB article 000028024* to convert the host type to ONTAP ALUA.

What's new

New features in SANtricity OS 11.50

New feature	Description
NVMe over RoCE interface	An NVMe over RoCE host connection can now be ordered for EF570 or E5700 E-Series controllers. System Manager includes new functions for configuring the network connection to the host (available from the Hardware page or from **Settings > System**), and functions for viewing data about the NVMe over RoCE connections to the storage array (available from Support > Support Center or from **Settings > System**).
Manual drive selection for volume groups	In addition to convenient automatic selection, a new option is available for selecting individual drives when you create a volume group. In general, automatic drive selection is recommended, but the individual drive selection option is available for environments with special drive location requirements.
Remote mirror setup	You can now configure a mirroring relationship between combinations of E2800 series controllers and E5700 series controllers from within System Manager. Previously this setup required using the Enterprise Management Window (EMW) from SANtricity Storage Manager; however, the EMW is still required if an older version storage array is involved in the setup.
SANtricity Unified Manager	Unified Manager is a separately installed, browser-based application that discovers and manages E2800 series controllers and E5700 series controllers. While this new application is not a new feature of System Manager, it does provide a new browser-based enterprise framework from which System Manager can be launched for discovered storage arrays. The new Unified Manager can be downloaded from the Support software downloads area.

Restrictions

SANtricity OS 11.50 - System Manager

With SAML enabled, if both controllers are replaced, you may be unable to login to System Manager

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

Security Assertion Markup Language (SAML) uses a time-based protocol and user sessions are valid for a configured amount of time. If both controllers are replaced, the system clock on the replacement controllers may be significantly different from the original controllers' system clocks, which may cause the session to be rejected due to falling outside the session duration. If the session is rejected, the user will not be authenticated and cannot access System Manager.

Workaround

Contact NetApp Technical Support

Reference number

201105338

With NVME over RoCE, VLAN configuration must be performed on the Ethernet Switch

Severity: 2 functional

Operating system

All

Hardware/software/firmware

NVME over RoCE

Problem or restriction

With iSCSI, Ethernet VLAN and QoS settings can be configured on the storage array, but with NVMe over RoCE, these settings must be configured on the Ethernet switch.

Workaround

Configure VLAN settings on the Ethernet Switch

Reference number

201104176

Embedded Web Services activity occasionally terminated due to out of memory condition

Severity: 2 functional

Operating system

All

Hardware/software/firmware

E2800/EF280, E5700/EF570

Problem or restriction

With embedded Web Services, occasionally, an out-of-memory (OOM) condition occurs and any activity happening within Web Services is terminated. The Web Services process restarts automatically as a recovery action but might not resume whatever operations were in progress.

Workaround

The Web Services process restarts automatically if killed due to the OOM condition, however, any operations in progress need to be restarted.

Reference number

201102487

System manager error messages only partially translated

Severity: 3 minor

Operating system

All

Hardware/software/firmware

System Manager

Problem or restriction

When the application is displayed in Spanish or Japanese, error messages might be only partially translated, resulting in some text being English.

Workaround

None.

Reference number

201127899

System Manager does not accept extended character set in text fields

Severity: 3 minor

Operating system

All

Hardware/software/firmware

System Manager

Problem or restriction

Text fields for user-defined labels in System Manager allow only a limited set of English ASCII characters. A name can consist of only letters, numbers, and the special characters underscore (_), dash (-), and the hash sign (#).

Workaround

None.

Reference number

201127901

Unable to open browser from EMW window

Severity: 2 functional

Operating system

All

Hardware/software/firmware

E2800, E5700/EF570

Problem or restriction

Occasionally, if the default browser is Firefox or Chrome and an instance of the browser is not already open, the browser fails to open when attempting to launch the browser from the SANtricity Storage Manager Enterprise Management Window (EMW) to manage an E-Series system.

Workaround

If Chrome or Firefox is the default browser, ensure it is already open before attempting to manage an E-Series system. Launch a browser instance from the EMW, or set a different browser as the default browser.

Reference number

201100485

SANtricity OS 11.50 - Controller Firmware

System unmanageable after downgrading SANtricity OS

Severity: 2 functional

Operating system

All

Hardware/software/firmware

E2800/EF280, E5700/EF570

Problem or restriction

A controller might be held offline if the array is downgraded from SANtricity OS 11.50 to 11.42. There is no indication that the controller is offline, but you will be unable to manage the array.

Workaround

If the array remains unresponsive 30 minutes after the downgrade, power-cycle the system, and wait for the LEDs on the back of the controllers to go dark before reapplying power.

Reference number

201120547

With NVME/RoCE, incorrect LEDs illuminated for connected ports on the Infiniband (IB) host interface card (HIC)

Severity: 2 functional

Operating system

All

Hardware/software/firmware

E5700/EF570 with IB HIC operating in NVMe/RoCE mode

Problem or restriction

The IB HIC installed in E5700/EF570 operating in NVME/RoCE mode illuminates the incorrect LED for the connected port. If port 1 is connected, the LED for port 2 is illuminated and vice versa.

Workaround

None.

Reference number

201116878

In an NVMe over RoCE environment, Priority Flow Control or Global Pause Control must be enabled on the Ethernet switch to eliminate the risk of data loss

Severity: 2 functional

Operating system

All

Hardware/software/firmware

E5700/EF570 with NVMe/RoCE

Problem or restriction

Data blocks being written to volumes with Data Assurance enabled can be added to the list of unreadable sectors in an NVMe over RoCE environment unless Priority Flow Control or Global Pause Control is enabled in the Ethernet switch. If both Priority Flow Control and Global Pause Control are disabled, volumes configured as follows are at risk:

- Data Assurance is enabled, write caching is enabled, but write caching with mirroring is disabled.

- Data Assurance is enabled, write caching is enabled, write caching with mirroring is enabled, but cache mirror Data Assurance checking is disabled for the storage array.

- Data Assurance is enabled, write caching is enabled, write caching with mirroring is enabled, cache mirror Data Assurance checking is enabled for the storage array but caching mirror Data Assurance checking is disabled for the volume.

Workaround

The preferred workaround is to enable either Priority Flow Control or Global Pause Control in the Ethernet switch as per the instructions in the NVMe over RoCE Express Setup Guide. Enabling either of these options eliminates the risk of data loss regardless of the volume configuration. If it is not possible to enable one of the options in the switch, you can either ensure that volumes with Data Assurance enabled and write caching enabled also have write caching with mirroring enabled and cache mirror Data Assurance checking enabled, or you can disable either Data Assurance or write caching on all volumes.

Search for "cache mirror data assurance check" in the E-Series Documentation Center for information about using SMcli to check and set the storage array configuration for the cache mirror Data Assurance check feature. You must also ensure that checking is enabled for each volume with Data Assurance enabled by using the /storage-systems/{system-id}/volumes/{id} API to ensure that cacheMirroringValidateProtectionInformation is set to true for each volume. Note that cache mirror Data Assurance checking cannot be enabled for volumes created on storage arrays running releases prior to SANtricity OS 11.42.

Reference number

201091171

SANtricity OS 11.50 - IOM Firmware

With DE6600 expansion shelves, a power outage can cause failed volumes

Severity: 2 functional

Operating system

All

Hardware/software/firmware

DE6600 Expansion Shelves

Problem or restriction

In very rare circumstances, customers using DE6600 expansion shelves might experience failed volumes after a total power outage. The issue might occur if I/O is running and power is restored to expansion shelves at the same time as the controller shelf.

Workaround

Restore power to expansion shelves before restoring power to the controller shelf. Do not resume I/O after a power outage until the array is optimal.

Reference number

201109243

SANtricity Storage Manager 11.50

After importing the Web Services CA signed certificates in EMW, some processes continue to communicate through HTTPS but with self-signed certificate

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

After importing the Web Services CA signed certificates in the SANtricity Storage Manager Enterprise Management Window (EMW), the CA certificates are not being applied to all required processes. Some processes continue to communicate through HTTPS but with self-signed certificate.

Workaround

None

Reference number

201116039

SANtricity Storage Manager Script Editor causes CPU usage spikes on management station/server.

Severity: 2 functional

Operating system

Windows

Hardware/software/firmware

SANtricity Storage Manager

Problem or restriction

When the SANtricity Storage Manager Script Editor is the prime focus on the screen, CPU usage spikes may be seen on the management station or server running the software. The issue was seen initially on a Windows 7 virtual machine with limited resources but is suspected to exist for other versions of Windows.

Workaround

Close the script editor or change focus to another application. Use SMcli at the command line.

Reference number

201106695

SANtricity Unified Manager

Unified Manager error messages only partially translated

Severity: 3 minor

Operating system

All

Hardware/software/firmware

Unified Manager

Problem or restriction

When the application is displayed in Spanish or Japanese, error messages might be only partially translated, resulting in some text being English.

Workaround

None.

Reference number

201127900

Third-Party

The following section includes restrictions that apply to third-party components or software that might be used in an E-Series storage environment.

With NVMe/RoCE, a Controller Reboot May Cause a Host Crash

Severity: 2 functional

Operating system

SUSE Linux Enterprise Server Service Pack 3 (SLES12 SP3) kernel 4.4.126-94.22-default

Hardware/software/firmware

E5700/EF570 controllers running NVMe/RoCE

Mellanox ConnectX-4 or ConnectX-5 HCAs

Problem or restriction

In rare circumstances, a controller reboot might lead to an error in the Mellanox HCA driver, causing the host to crash.

Workaround

None.

Reference number

201100184

With NVMe, failover/failback scenarios may not function as expected

Severity: 2 functional

Operating system

SUSE Linux Enterprise Server Service Pack 3 (SLES12 SP3)

Hardware/software/firmware

E5700/EF570 controllers attached using NVMe over Fabrics

Problem or restriction

When managing a large number of paths to NVMe-attached storage volumes, the host can run out of asynchronous I/O (aio) resources resulting in the multipath-tools path checker not being able to function correctly. In this case, multipath tools lists the path as 'active faulty running' rather than 'active ready running', as shown by 'multipath -ll' command on the host, and the paths might not be available for I/O as they should be.

Workaround

To avoid this issue, run the following command on the Linux host to increase the amount of asynchronous I/O resources, and then reboot the host:

```
echo "fs.aio-max-nr = 1048576" >/etc/sysctl.d/aio.conf>
```

Reference number

201082432

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