

Quantum®

SANtricity Storage Manager 11.30 Product Release Notes

StorNext QD7000

Firmware 8.30.xx.xx



SANtricity Storage Manager 11.30 Product Release Notes, 6-68581-01 Rev A, April 2017 Product of USA.

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Preface

Note: The 8.30.xx.xx firmware (Lehigh) is used in the QD7000 (E5600, Titan RAID controller, only). Refer to the [NetApp to Quantum Naming Decoder](#) section for additional information.

This section provides the following information:

- [Audience](#)
- [Prerequisites](#)
- [NetApp to Quantum Naming Decoder](#)
- [Product Safety Statements](#)
- [Contacts](#)
- [Comments](#)
- [Quantum Global Services](#)

Audience

This manual is intended for storage customers and technicians.

Prerequisites

Prerequisites for installing and using this product include knowledge of:





- Servers and computer networks
- Network administration
- Storage system installation and configuration
- Storage area network (SAN) management and direct attach storage (DAS)
- Fibre Channel (FC) and Ethernet protocols

NetApp to Quantum Naming Decoder

Use [Table 1](#) to correlate the NetApp product nomenclature to the equivalent Quantum-storage naming conventions.

Table 1 Product Nomenclature

E-Series NetApp Product	Quantum-Storage	Description
Controller-Drive Tray	Base System	Quantum uses Base System when referring to a drive tray with the RAID controllers.
Drive Tray	Expansion Unit	Quantum uses Expansion Unit when referring to a drive tray with the environmental services modules (ESMs).
E5600 (Code Name: Titan)	RAID Controller	Four 16Gb/s FC SFP+ host ports
E5500 (Code Name: Soyuz)	RAID Controller	Four 16Gb/s FC SFP+ host ports
E5400 (Code Name: Pikes Peak)	RAID Controller	Four 8Gb/s FC SFP+ host ports
DE6600 (Code Name: Wembley)	4U 60-drive enclosure	Sixty 3.5 inch disk drives

E-Series NetApp Product	Quantum-Storage	Description
<p>E5560 or E5660 (DE6600 4U drive enclosure with E5500 or E5600 RAID controllers)</p>	<p>Quantum StorNext QD7000</p>	
<p>E5460 (DE6600 4U drive enclosure with E5400 RAID controllers)</p>	<p>Quantum StorNext QD6000</p>	
<p>E5424 (DE5600 24-drive 2U drive enclosure (Code Name: Camden with E5400 RAID controllers)</p>	<p>Quantum StorNext QS2400</p>	
<p>E5412 (DE1600 12-drive 2U drive enclosure (Code Name: Ebbets with E5400 RAID controllers)</p>	<p>Quantum StorNext QS1200</p>	

Product Safety Statements

Quantum will not be held liable for damage arising from unauthorized use of the product. The user assumes all risk in this aspect.

This unit is engineered and manufactured to meet all safety and regulatory requirements. Be aware that improper use may result in bodily injury, damage to the equipment, or interference with other equipment.

WARNING: Before operating this product, read all instructions and warnings in this document and in the system, safety, and regulatory guide.

警告 在使用本产品之前，请先阅读本文档及系统、安全和法规信息指南中所有的说明和警告信息。

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ADVERSAL Læs alle instruktioner og advarsler i dette dokument og i *Vejledning om system-sikkerheds- og lovgivningsoplysninger*, før produktet betjenes.

AVERTISSEMENT Avant d'utiliser ce produit, lisez la totalité des instructions et avertissements de ce document et du *Guide d'informations sur le système, la sécurité et la réglementation*.

HINWEIS Lesen Sie vor der Verwendung dieses Produkts alle Anweisungen und Warnhinweise in diesem Dokument und im System, Safety, and Regulatory Information Guide (Info-Handbuch: System, Sicherheit und Richtlinien).

לפני ההפעלה של מוצר זה, קרא את כל ההוראות והאזהרות הכלולות במסמך זה וכן במדריך מידע בנושאי מערכת, בטיחות ותקינה

אזהרה

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この製品を使用する前に、本文書、および『システム、安全、規制に関する情報ガイド』に記載しているすべての警告と指示をお読みください。

경고

이 제품을 작동하기 전에 이 문서 및 시스템, 안전, 및 규제 정보 안내서에 수록된 모든 지침과 경고 표지를 숙지하십시오.

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Antes de utilizar este producto, lea todas las instrucciones y advertencias en este documento y en la Guía informativa sobre sistema, seguridad y normas.

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SANtricity® Storage Manager 11.30, SANtricity OS 8.30, and SANtricity OS 11.30 (includes SANtricity System Manager)

Product Release Notes

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Deciding whether to use this guide

This document includes release notes for SANtricity Storage Manager 11.30, SANtricity OS (controller firmware) 8.30, and SANtricity OS 11.30 (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 and EF-Series Systems Documentation Center](#).

Note:

- If you have a StorageGRID Webscale Appliance (SG5612 or SG5660), do not update the E2700 controller with SANtricity OS version 8.30. 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).
- With FlexArray, the Data ONTAP (RDAC) host type is no longer supported with E-Series SANtricity OS 8.30. Prior to upgrading to SANtricity OS 8.30, follow the procedures documented in [KB article 000028023](#) and [KB article 000028024](#) to convert the host type to ONTAP ALUA

What's new

Release	Feature	What's New
SANtricity Storage Manager 11.30.XX00.0017 SANtricity OS 11.30.1 SANtricity OS 08.30.10.00	New 60-drive Shelf	Added support for the new DE460C shelf. The DE460C can be used as a controller shelf (E2800 only) or as a drive shelf.
	EMW default web browser	Added setting in Preferences that allows you to set the SANtricity Storage Manager Enterprise Management Window (EMW)'s default web browser. (The EMW uses the web browser to launch SANtricity System Manager.)
SANtricity Storage Manager 11.30.XX00.00010 SANtricity OS 11.30GA SANtricity OS 08.30.01.00	Added Windows Server 2016 support.	
Initial 8.30/11.30 Release: SANtricity Storage Manager 11.30.XX00.004 SANtricity OS 11.30GA SANtricity OS 08.30.01.00	Automatic Load Balancing feature	The new Automatic Load Balancing feature provides automated I/O workload balancing and ensures that incoming I/O traffic from the hosts is dynamically managed and balanced across both controllers. The workload of each controller is continually monitored and, with cooperation from the multipath drivers installed on the hosts, can be automatically brought into balance whenever necessary. For more information, search for <i>What is Automatic Load Balancing?</i> in the Array Management Window (AMW) online help.
	AutoSupport automatic checking	When the Enterprise Management Window (EMW) launches, it checks whether the Event Monitor is running. If the Event Monitor is running, it sends a test message to the technical support AutoSupport server to see whether communication is successful. This helps you know if AutoSupport is set up correctly. For more information, search for <i>Setting the transport protocol for sending AutoSupport messages</i> in the EMW online help.

Release	Feature	What's New
	Battery learn cycles	<p>In storage arrays with two controllers, the learn cycles for the controllers start simultaneously, but they are not linked together. If the learn cycle for one controller stops for some reason, the learn cycle for the other controller keeps going. In previous versions of the software, if one controller failed its battery during a learn cycle, the alternate controller would stop its learn cycle.</p> <p>For more information, search for <i>What are learn cycles?</i> in the AMW online help.</p>
	CLI changes for the E2800 controller	<p>Some command line interface (CLI) commands do not apply to the new E2800 controller because its event monitor is embedded instead of being a separate process as it was for previous controllers.</p> <p>For more information, search for <i>Obsolete SMcli commands for the E2800 storage array</i> in the EMW online help.</p>
	Embedded SNMP Agent	<p>For the E2800 controller, SNMP is supported natively. You no longer need to install and run Event Monitor for generating traps. The embedded SNMP agent is compliant with the SNMP V2C standard and RFC 1213 (MIB-II).</p> <p>For more information, search for <i>Configuring alerts</i> in the EMW online help.</p>
	Maximum volume size for disk pool volumes	<p>The maximum volume size for a standard volume in a disk pool has increased from 64 TB to 1 PB for E2700 and E2800 storage arrays and to 2 PB for E5600 storage arrays. The maximum volume size for a thin volume in a disk pool has increased from 64 TB to 256 TB.</p> <p>For more information, search for <i>Learn about volumes</i> in the AMW online help.</p>
	RAID 3 volume creation removal	<p>You can no longer create RAID 3 volumes through the Array Management Window (AMW). You can still create RAID 3 volumes through the command line interface (CLI). Existing RAID 3 volumes continue to function as they always have.</p> <p>For more information, search for <i>Using the Create Volume Group Wizard</i> in the AMW online help.</p>
	SANtricity Quick Connect	<p>SANtricity Quick Connect is a software utility that provides you with an easy way to set static IP addresses for the storage array.</p> <p>You can download SANtricity Quick Connect from the NetApp Toolchest.</p>

Release	Feature	What's New
	SANtricity Storage Manager and the new browser-based SANtricity System Manager	<p>There are now two versions of the storage management software. SANtricity Storage Manager is the existing Java application consisting of the Enterprise Management Window (EMW) and the Array Management Window (AMW). The AMW is used to manage the E2700, E5600, EF560, and all earlier storage arrays.</p> <p>SANtricity System Manager is the new browser-based application resident on the controller. System Manager is used to manage the E2800 storage array. When you select to manage a storage array from the EMW, the EMW opens the appropriate software (AMW or System Manager) depending on which storage array model is selected.</p> <p>The key features of System Manager include the following:</p> <ul style="list-style-type: none"> • Runs <i>on-box</i> – you do not have to install any storage management software. (You need to install software only if you want to use the functions in the EMW, the script editor, CLI, Asynchronous Mirroring, or Synchronous Mirroring.) • Runs in a browser. • Modern look and feel with a <i>tile-based</i> GUI. • Simplified workflows, simplified terminology. • New functionality including application/workload tagging, enhanced performance data, event monitor, and a graphical view of thin volume usage. <p>For more information, search for <i>Storage management</i> in the EMW online help.</p>
	SSD cache performance improvements	<p>SSD cache now employs a set workload analytics-based algorithms to provide adaptive tuning of the cache based on the specific workload. This results in significant improvements in both IOPS and latency for read-intensive workloads. The new adaptive algorithms also mean that administrators no longer need to specify an application type when configuring the cache; the system figures this out automatically. All read-intensive workloads will benefit, including relational databases (Oracle and SQLServer), NoSQL databases, and analytics applications.</p> <p>For more information, search for <i>Creating SSD cache</i> in the AMW online help.</p>

Release	Feature	What's New
	Terminology changes	<p><i>I/O module (IOM)</i> is a new term that is replacing the term <i>environmental services module (ESM)</i>. Both terms refer to a canister in a drive shelf and mean exactly the same thing. Throughout this documentation, ESM is used to mean both ESM and IOM, but other documents use the term IOM.</p> <p><i>Shelf</i> is a new term that is replacing the term <i>tray</i>. Both terms refer to an enclosure that installs into a cabinet. A shelf can be either a controller shelf—containing controllers and drives—or a drive shelf—containing IOMs and drives. Throughout this documentation, tray is used to mean both shelf and tray, but other documents use the term shelf.</p> <p><i>Bay</i> is a new term that is replacing the term <i>slot</i>. Both terms refer to a location in a shelf where you can install a drive, controller, IOM, or power-fan canister. Throughout this documentation, slot is used to mean both bay and slot, but other documents use the term bay.</p> <p>For more information, search for <i>Terminology differences in SANtricity 11.30</i> in the EMW online help.</p>

Restrictions

SANtricity Storage Manager Software

The following section includes restrictions that apply to the SANtricity Storage Manager software, which is loaded on an I/O-attached host or a management station.

Web server packaged with 11.30 SANtricity Storage Manager causes port conflict on server

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

When you install the SANtricity Storage Manager, a web server is included. The web server listens on ports 80 and 443, and the ports the web server uses cannot be changed. Any other services that use ports 80 and 443, such as external web servers (and potentially even Windows 10 itself), cannot access these ports. If you start other services that use these ports before starting SANtricity Storage Manager, you cannot configure mirroring between E-Series systems using the Enterprise Management Window.

Workaround

Any services or applications that use ports 80 and 443 must be configured to use other ports instead, or must be installed on a different server.

If you do not need to configure mirroring between E-Series systems, disable the web server by doing the following.

Type	Description
Windows	<p>Go to</p> <pre>C:\Program Files\StorageManager\client\</pre> <p>and then open "SANtricity Storage Manager Client.lax" and add "quiesce.web.services=1" to any blank line and save the file; launch SANtricity as normal.</p>

Type	Description
Linux	<p>Open the file</p> <pre style="background-color: #f0f0f0; padding: 5px;">/var/opt/SM/smclient.properties</pre> <p>and add "-Dquiesce.web.services" after "SMGUI_JVM_OPTS=" and then save the file; launch SANtricity as normal.</p>

Reference number

200936413

ASUP may be sending data an invalid address**Severity: 2 functional****Operating system**

All

Hardware/software/firmware

All

Problem or restriction

Initial server address resolution has been fixed for brand new installations with this release. If the previous installation had resolved incorrectly for the AutoSupport server address, upgrading to the current build does not correct that server address. An uninstall/reinstall of SANtricity Storage Manager might also not resolve it for certain OS's.

Workaround

Refer to the knowledge base article 000018766 (login required) for instructions on how to correct the server address.

Reference number

200901234; 200928991

The Hot-add utility does not detect that the Access LUN has been remapped to a LUN number that was previously mapped to a data volume**Severity: 2 Functional****Operating system**

Linux

Hardware/software/firmware

Hot-add utility (included in SMutils)

Problem or restriction

If the Access volume mapping is changed to a LUN that was previously a data volume, the `hot_add` utility is incapable of discovering the old data device as a new Access LUN. The output of the `SMdevices` command shows a data disk with information missing.

Workaround

If you change the mapping of the Access LUN after discovery, rebooting the host causes the change to take effect.

Reference number

200683966

Online Volume Copy operation fails and error messages are unclear on how to recover (SANtricity Storage Manager)

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems
- SANtricity System Manager

Problem or restriction

This problem occurs when you perform an online volume copy, if the amount of data being written to the source volume during the copy operation exceeds the capacity of the volume copy's repository. The **Volume Copy Failed** and **Snapshot Image Purged** recovery gurus are displayed.

There are currently three problems with the **Volume Copy Failed** recovery guru:

- The first step in the **Volume Copy Failed** recovery procedure says to check for and fix any other problems associated with the source or target volumes first. This might lead you to fix the **Snapshot Image Purged** problem in the recovery guru. However, doing so is unnecessary and will not actually solve the problem that caused the recovery gurus to appear.
- For the **Volume Copy Failed** topic, if the volume copy is an online volume copy, the value in the **Source Volume** field of the **Details** area will be the automatically created snapshot volume instead of the volume copy's actual source volume. Step 3 of the recovery procedure asks if the source volume is a snapshot volume, and then describes how to recreate that volume if it is disabled (which it is this case). However, because the snapshot volume displayed in the source volume field is a special type of snapshot volume created specifically for online volume copy operations, it cannot be recreated.
- The directions to recreate a disabled snapshot refer to legacy snapshots instead of the new snapshots.

Workaround

If both the **Volume Copy Failed** and **Snapshot Image Purged** problems are displayed in the Recovery Guru, and the associated group for the **Snapshot Image Purged** topic starts with the prefix 'ONC', take one of the following actions to fix both problems:

- Wait until fewer writes are occurring to the source volume, and then retry the volume copy operation by selecting **Re-Copy** from the **Copy Manager** dialog.
- Retry the volume copy operation by selecting **Re-Copy** from the **Copy Manager** dialog, and select a higher copy priority to shorten the time it takes for the volume copy operation to complete.
- Cancel the volume copy operation by selecting **Remove Copy Pairs** from the **Copy Manager** dialog. Then, retry the copy operation by highlighting the source volume from the **Storage & Copy Services** tab and selecting **Copy Services > Copy Volume > Create**. On the **Allocate Capacity for Repository Volume** card, increase the amount of capacity associated with the volume copy operation's repository.

Reference number

200887010

SANtricity OS 11.30 - System Manager (E2800)

The following section includes restrictions that apply to the SANtricity System Manager, which is the browser-based management software embedded on E2800 systems.

Recovery Guru incorrectly reports fan canister as power-fan canister

Severity: 2 functional**Operating system**

- All

Hardware/software/firmware

- DE460C and DE6600 drive shelves
- Exx60 controller-drive shelves

Problem or restriction

60-drive enclosures contain separate fan canisters and power supplies, but when a fan canister is pulled from the shelf, the Recovery Guru erroneously reports the removed component as a power-fan canister.

Workaround

None.

Reference number

200946393

Delay in opening dialog in Chrome browser

Severity: 2 functional

Operating system

- Windows
- Linux

Hardware/software/firmware

- E2800 systems

Problem or restriction

This problem occurs with the Chrome browser. When you click the browse button in the **Upgrade SANtricity OS Software** dialog box, there is a 10-15 second delay before the file window opens.

Workaround

Either wait for the window to open, or use a different browser.

Reference number

200850297

SANtricity System Manager icons do not display in Internet Explorer version 11.0.9600.17031

Severity: 2 functional

Operating system

Windows

Hardware/software/firmware

- E2800 systems

Problem or restriction

SANtricity System Manager icons do not display properly in Microsoft Internet Explorer version 11.0.9600.17031. Other versions do not have this issue.

Workaround

Use a different version of Internet Explorer, or use a different browser.

Reference number

200860304

Unable to create a certificate signing request or import a signed certificate on certain browsers

Severity: 2 functional

Operating system

OSes that support the browsers listed below.

Hardware/software/firmware

- Microsoft Internet Explorer 11
- Microsoft Edge browser
- Apple Safari 9

Problem or restriction

When you complete a certificate signing request, a dialog asks you to accept the certificate. If you accept the certificate, the same dialog is displayed again because the browser does not accept the certificate.

Workaround

Use a different browser or launch SANtricity System Manager on the alternate controller before you create a certificate signing request, or import a signed certificate.

Reference number

200867058

Online Volume Copy operation fails and error messages are unclear on how to recover (SANtricity System Manager)

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

This problem occurs when you perform an online volume copy, if the amount of data being written to the source volume during the copy operation exceeds the capacity of the volume copy's reserved capacity. The **Volume Copy Failed** and **Snapshot Image Purged** recovery gurus are displayed.

There are currently two problems with the **Volume Copy Failed** and one problem with the **Snapshot Image Purged** recovery gurus. For the **Volume Copy Failed** topic, if the volume copy is an online volume copy, the value in the **Source Volume** field of the **Details** area will be the automatically created snapshot volume (which is not visible in the SANtricity System Manager user interface) instead of the volume copy's actual source volume. The second problem is that The first step in the

Volume Copy Failed recovery procedure says to check for and fix any other problems associated with the source or target volumes first. This might lead you to fix the **Snapshot Image Purged** problem in the recovery guru. However, doing so is unnecessary and will not actually solve the problem that caused the recovery gurus to appear. However, in SANtricity System Manager the snapshot image and snapshot volume associated with online volume copy operations are not visible, which makes it impossible to follow the Snapshot Image Purged recovery procedure to correct the problem.

Workaround

If both the **Volume Copy Failed** and **Snapshot Image Purged** problems are displayed in the Recovery Guru, and the associated group for the **Snapshot Image Purged** topic starts with the prefix 'ONC', take one of the following actions to fix both problems:

- Wait until fewer writes are occurring to the source volume, and then retry the volume copy operation by selecting **Re-Copy** from the **Operations in Progress** page.
- Retry the volume copy operation by selecting **Re-Copy** from the **Operations in Progress** page, and select a higher copy priority to shorten the time it takes for the volume copy operation to complete.
- Cancel the volume copy operation by selecting **Remove** from the **Operations in Progress** page. Then, retry the copy operation by highlighting the source volume from the **Volumes** tile and selecting **Copy Volume** under **Copy Services**. On the **Reserve Capacity** card, increase the amount of capacity associated with the volume copy operation.

Reference number

200887010

Certain browsers have a lengthy timeout if a controller fails during a SANtricity OS Software upgrade

Severity: 2 functional

Operating system

OSes that support the browsers listed below.

Hardware/software/firmware

- Internet Explorer
- Mozilla Firefox
- E2800 systems

Problem or restriction

When you upgrade the SANtricity OS Software using SANtricity System Manager, if a controller reboots, Internet Explorer or Firefox browsers will not time out the operation or return an error for up to 15 minutes.

Workaround

If the upgrade operation has not completed within 5 minutes, refresh the browser, and check the array's health. If the array is optimal, try the upgrade again.

Reference number

200871846

Unable to launch SANtricity System Manager on CentOS**Severity: 2 functional****Operating system**

CentOS

Hardware/software/firmware

- E2800 systems

Problem or restriction

If a default browser has not been set on CentOS, the SANtricity System Manager cannot be launched from the SANtricity Storage Manager Enterprise Management Window.

Workaround

Ensure that a browser is installed and set as the default browser.

Reference number

200874140

Pre-upgrade Health Check fails intermittently**Severity: 2 functional****Operating system**

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

An internal exception causes the Health Check to fail, but no data is returned indicating why it failed. If this check is performed as part of a SANtricity OS software upgrade, the upgrade fails.

Workaround

Re-run the Health Check. If it fails again, information about what caused the failure should be returned. Correct any issues identified by the health check, and then retry the upgrade.

Reference number

200877310

Previously used E2800 controller used as a replacement or second controller causes performance statistics to be cleared

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

This problem occurs when you move an E2800 controller from one storage array to another. The I/O performance statistics are reset, and any historical data is cleared.

Workaround

When you replace a controller in an E2800 system, or upgrade from a simplex to a duplex configuration, use a new controller rather than reusing one from a different storage array.

Reference number

200877357

An IP address conflict occurs after you swap controllers between systems

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

This problem occurs when you move an E2800 controller from one storage array to another. If a static IP address had been configured on one of the arrays, an IP address conflict occurs. As a result, you are not able to connect to the array using SANtricity System Manager. Other inconsistent and random behavior might also be observed.

Workaround

When you replace a controller in an E2800 system, or upgrade from a simplex to a duplex configuration, use a new controller rather than reusing one from a different storage array.

Reference number

200880344

Retrieve Trace Buffers operation does not complete

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

When you attempt to simultaneously collect a controller health image using SMcli and to retrieve trace buffers using SANtricity System Manager, the trace buffer collection operation hangs at 90% complete.

Workaround

Close the Retrieve Trace Buffer progress indicator and retry the operations, but do not attempt to collect the health image and trace buffers at the same time.

Reference number

200895863

Asynchronous Mirroring communication test fails when both iSCSI and Fibre Channel interfaces are present

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems with both iSCSI and Fibre Channel host interfaces
- Asynchronous mirroring

Problem or restriction

If you have both iSCSI and Fibre Channel host interfaces on your array, and you click the **Test Communication** button in the **Asynchronous Mirroring** section in the **Storage** tab, the Port Connections portion of the test fails.

Workaround

None

Reference number

200902118

After clearing staged SANtricity OS software, a subsequent upgrade attempt fails

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

If you upgrade SANtricity OS software and select the **Transfer now but activate upgrade later** option, and then clear the staged software, you cannot upgrade the SANtricity OS software on subsequent attempts.

Workaround

Reset each controller in the system, and then try the upgrade again.

Reference number

200902328

Unable to launch SANtricity System Manager on Linux using X11 Redirection

Severity: 3 minor

Operating system

All

Hardware/software/firmware

- E2800 systems

Problem or restriction

This problem occurs when you are using X11 redirection on a Linux server. When you attempt to launch SANtricity System Manager in the default browser from the Enterprise Management Window, the browser fails to launch.

Workaround

Either use a desktop environment or open the browser manually and point to the array to open System Manager.

Note: If you are planning to configure mirroring, System Manager must be launched from the EMW.

Reference number

200913541

SANtricity OS (controller firmware) 11.30 or 8.30

The following section includes restrictions that apply to the SANtricity OS 11.30 controller software (on E2800 systems) and the SANtricity OS 8.30 controller firmware (on E2700, E5600, and EF560 systems).

Front panel button cannot be used to change shelf ID**Severity: 2 functional****Operating system**

All

Hardware/software/firmware

DE460C, DE212C, and DE224C drive shelves

Problem or restriction

If the front panel button is used to change the shelf ID, the change cannot be made effective in the controller and the LEDs continue to blink.

Workaround

Use the SANtricity storage management software to change the shelf ID.

Reference number

200947010

Fan Attention LED remains lit after replacing IOM in DE460C drive shelf**Severity: 2 functional****Operating system**

All

Hardware/software/firmware

DE460C drive shelf

Problem or restriction

If an IOM from a DE212C or DE224C shelf is used to replace the IOM module in slot A in a DE460C drive shelf, the Attention LED on a fan module might remain lit, even though the fan is optimal. This issue occurs because the replacement IOM might have firmware 1.xx installed, which does not include features for the DE460C drive shelf. The controller will auto sync the IOM code to 2.xx, but the fan LED could remain lit.

Workaround

To avoid this issue, use only replacement IOMs ordered specifically for the DE460C drive shelf. To recover from this issue, power cycle the DE460C drive shelf. Note that if you disabled the IOM auto-sync option in the SANricity System Manager, you will have to upgrade the slot A IOM firmware to 2.xx.

Reference number

200942462

A suspect drive is incorrectly marked as failed**Severity: 2 Functional****Operating System**

All

Hardware/Software/Firmware

- All E-Series storage systems

Problem or Restriction

Rarely, if a controller initiates a forced volume transfer while a drive is powered down, the drive might be incorrectly marked as failed. This only happens during forced volume transfers where the owning controller fails or is removed during the power cycle. Host requested volume transfers do not cause this issue because I/O activity is quiesced before transferring the volume. You might see a degraded or failed volume depending on the data protection scheme that is in use and the redundancy level.

Workaround

You should replace the drive because, even though the drive was incorrectly marked as failed, it is suspect and might fail soon.

Reference Number

200577809

Erroneous event reported after dual controller replacement/upgrade**Severity: 2 functional****Operating system**

All

Hardware/software/firmware

- All E-Series and EF-Series storage arrays

Problem or restriction

The event 0x7900 'Copy on write integrity fault' might appear in the error log after you replace both controllers to upgrade a storage array when the following conditions are present:

- The storage array has a mix of secured and non-secured volume groups.
- At least one snapshot repository or thin volume is present on one or more of the secured volume groups.

No actual error has occurred, and the log entry is incorrect.

Workaround

You should ignore the erroneous event. There is not an actual integrity fault. No new instances of the copy-on-write integrity fault event occur after you restore the Drive Security key and the volume group is adopted.

Reference number

200817816

List of drive security attributes for secondary volumes is not available from the primary array

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

When you create an Asynchronous Mirroring mirrored pair, the primary and secondary volumes should have the same drive security attributes (None, Mixed, FDE, or FIPS). Typically, you would select the secondary volume from a list of candidate volumes that have the same drive security attributes as the primary volume, but the drive security attributes are not available from the secondary volume.

Workaround

Manually select the secondary volume by examining the drive security attributes from the secondary array using SANtricity Storage Manager, SANtricity System Manager, or the CLI.

Reference number

200850860

Controller reboot occurs when you remove a host from a host cluster while performing a volume capacity expansion

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

If you remove a host from a host cluster while performing a volume capacity expansion, a controller encounters an error and reboots.

Workaround

Do not remove a host from a host cluster while performing a volume capacity expansion.

Reference number

200872812

Controller held in reset after dual-controller upgrade

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

When you perform a controller model upgrade by replacing both controllers, if the replacement controllers have different levels of SANtricity OS installed, controller B might be held in reset when the system is powered on, but both controllers appear to be optimal. If controller A is rebooted, the SANtricity OS version might be downgraded to a version prior to the version running on the system before the upgrade.

Workaround

Because you cannot determine the level of SANtricity OS that is loaded on a replacement controller, you should modify the instructions in the *Controller Upgrade Guide* to insert only one controller (instead of inserting both controllers) before powering the system back on. After you power the system on, follow any instructions in SANtricity Storage Manager or SANtricity System Manager. If there are no special instructions, you may insert the second controller.

Reference number

200874695

Port issue and I/O timeout to remote mirror causes temporary loss of access to storage

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- Remote Mirroring

Problem or restriction

This problem occurs when a port is down, so that a host has only one path to the storage array. If an I/O timeout to a remote mirror volume occurs on the controller with the remaining path, the controller reboots. The reboot causes the host to temporarily lose access to both paths to the storage array.

Workaround

None. The controller reboots and reestablish the path.

Reference number

200880795

Security-enabled FIPS drives migrated from an 8.20 or earlier storage array to an 8.25 or later storage array cannot be unlocked

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

SANtricity OS 8.20 and earlier versions do not support FIPS drives, so they are treated as FDE drives. If you move security-enabled FIPS drives from a storage array running SANtricity OS 8.20 or earlier to a storage array running SANtricity OS 8.25 or later, you cannot unlock the drives to access the data.

Workaround

None. Do not migrate FIPS drives from a storage array running SANtricity OS 8.20 or earlier to a storage array running SANtricity OS 8.25 or later. Note that you can migrate FIPS drives that do not have security enabled without encountering this issue.

Reference number

200883704

A dual controller reboot occurs when you hot swap IOMs (ESMs)

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- E2800 systems with multiple SAS-3 (DE212C or DE224C) drive shelves

Problem or restriction

Both controllers panic and reboot when you hot swap 2 or more IOMs (ESMs) on the same channel.

Workaround

None. The controllers reboot and recover successfully.

Reference number

200884099

CLI `start secureErase` command fails if retried within 15 seconds

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- All

Problem or restriction

This problem occurs when you enter the CLI command `start secureErase` and then re-enter the same command within 15 seconds. The second attempt fails with the following error.

```
Error 19 -  
The operation cannot complete because of a general configuration request  
error.  
Please retry the operation. If this message persists, contact your  
Technical Support  
Representative.
```

Workaround

Wait at least 15 seconds before you re-enter the command.

Reference number

200886731

Dual controller reboot during certain operations with SSD Cache enabled

Severity: 2 functional

Operating system

All

Hardware/software/firmware

- Systems with SSD cache

Problem or restriction

This problem occurs during operations such as volume ownership transfer, reconfiguration, snapshot creation, or enabling features that require the controller to temporarily halt I/O. If SSD Cache is enabled, both controllers reboot.

Workaround

To avoid this issue, disable SSD Cache when before you perform any operations that require the controller to temporarily halt I/O. If the issue does occur, the controllers recover automatically after they reboot.

Reference number

200899214

An iSCSI HIC reboots intermittently**Severity: 2 functional****Operating system**

All

Hardware/software/firmware

iSCSI host interface cards

Problem or restriction

This problem occurs after several command timeouts, or if Jumbo Frames are blocked between the host and target because of a configuration issue. The iSCSI HIC resets, then resumes processing I/O.

Workaround

None. The HIC reboots and recovers automatically.

Reference number

20090057

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.

Rare TCP disruption causes data inconsistency with iSCSI on Linux

Severity: 1 major

Operating system

Linux (all releases since 2006)

Hardware/software/firmware

- Open-iSCSI Software Initiator
- Controllers with iSCSI HICs

Problem or restriction

In extremely rare circumstances, iSCSI/TCP does not reset (RST) due to a specific timing issue during error recovery. If this occurs during a host write operation, it can cause data that is being written to be corrupted.

For information, contact Redhat and reference Bugzilla 1322000.

Workaround

The risk of encountering this error cannot be completely eliminated; however, reducing the size of SCSI writes or enabling Jumbo Frames reduces the likelihood of this error.

Reference number

200840412

On Windows 2016 with Hyper V/Cluster, an online SANtricity OS (controller firmware) update can cause I/O timeout under specific circumstances

Severity: 2 functional

Operating system

Windows

Hardware/software/firmware

Windows 2016 with:

- HyperV/Cluster
- Cluster volumes
- Non-Cluster volumes
- Controller Firmware upgrade

Problem or restriction

During an online controller firmware upgrade, the cluster nodes might temporarily lose access to the non-cluster volumes and encounter I/O errors. The problem occurs only if I/O is running from cluster

nodes to non-cluster volumes and from HyperV/Cluster VMs to cluster volumes that reside on the same storage array.

This issue does not occur if I/O is run only to non-cluster volumes or if you have only VMs running I/O to the cluster volumes.

Workaround

Wait until the controller upgrade is completed. The nodes will automatically recover, and then you can restart I/O.

Reference number

200914649

Node failures with Pacemaker Cluster Software version 1.1.15-11 result in fenced-out nodes**Severity: 2 functional****Operating system**

RedHat Enterprise Linux RHEL 7.3

Hardware/software/firmware

- Pacemaker Cluster Software version 1.1.15-11

Problem or restriction

When using persistent reservations, a previously unfenced node rejoining a cluster after a node failure results in the node from which it is reclaiming resources to be fenced out of the cluster. Cluster resources survive and access to data is not lost, but if this scenario repeats and more nodes experience issues the cluster eventually fails. Manual intervention is required to restore the fenced out node. Bugzilla 1380515 has been submitted to RedHat for this issue.

Workaround

To avoid this issue, do not use exportfs resources in Pacemaker Clusters until a fix from Red Hat is provided. Local access to cluster resources is still available without these resources. If exportfs is necessary and you're using persistent reservations, you should be prepared to take manual steps to recover nodes from fencing after a node failure. APC fencing may result in nodes getting bounced after an exportfs failure, but this should settle down after the second node reboots.

Reference number

200935102

Lifted Restrictions

January 2017 Maintenance Release

The following section includes lifted restrictions that apply to the January 2017 Maintenance Release, which includes the following software versions:

- SANtricity Storage Manager 11.30.XX00.0017
- SANtricity OS 11.30.1
- SANtricity OS 08.30.10.00

Asynchronous mirroring volumes are failed during a volume reconfig or Unmap operation if a volume transfer occurs

Severity: 2 functional

Operating system

All

Hardware/software/firmware

All

Problem or restriction

If a volume ownership transfer between controllers occurs while a secondary volume in an Asynchronous Mirroring pair is undergoing a reconfiguration (volume expansion, RAID migration, etc.) or an Unmap operation, the secondary volume transitions to a failed state.

Workaround

To reduce the likelihood of this issue, disable Unmap while performing a reconfiguration operation. To recover from this issue, resynchronize the mirrored pair.

Reference number

200859174

Feature support

	E2700	E2800	E5600	EF560
Snapshot (enhanced)	x	x	x	x
Volume Copy	x	x	x	x
Synchronous Mirroring	x	x	x	
Asynchronous Mirroring	x	x	x	x
Raid 6 Volumes	x	x	x	x
SANshare Storage Partitioning	x	x	x	x
Data Assurance (DA)	x	x	x	x
Solid State Drive (SSD) support	x	x	x	x
SSD Cache	x	x	x	
High Performance Tier	x	x	x	x
Thin Provisioning	x	x	x	x
Disk Pool	x	x	x	x
Drive Security*	x	x	x	x

*The E2700, E5600, and EF560 require a premium feature key. The Drive Security feature is not available in certain countries.

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