HP Server Automation
Storage Visibility and Automation

for the HP-UX, IBM AIX, Red Hat Enterprise Linux, Solaris, SUSE Linux Enterprise Server, VMware, and Windows® operating systems

Software Version: 7.80

Release Notes

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1 What's New in Storage Visibility and Automation 7.80

Storage Visibility and Automation 7.80 is a storage enablement feature in Server Automation (SA) that offers storage management capabilities designed for server administrators by enabling end-to-end visibility and management of the entire storage supply chain. This feature helps storage administrators by providing tools that increase cost savings through application storage, dependency and visibility, storage audits, storage capacity and utilization trending, and scripting and automation.

While Storage Visibility and Automation is included as part of the Server Automation (SA) 7.80 release, it also requires compatible Storage Essentials (SE) for storage data discovery. This document explains storage supply chain information that will be enabled in SA 7.80 only when SE 6.1.1 is released.

The following sections describe all new features, enhancements, and changes in Storage Visibility and Automation.

Storage Essentials (SE) Integration

Storage Visibility and Automation collects storage information from Storage Essentials (SE) discovery and enables storage information in Server Automation (SA), as follows:

- Host server storage information is discovered by the Storage Host Agent Extension in Storage Visibility and Automation—and not by SE discovery.

- Database storage information is discovered by a Storage Scanner in Storage Visibility and Automation—and not by SE discovery.

SE discovers information about the SAN arrays, switches, fabrics, and NetApp filers in your environment. SA obtains information about these storage assets from SE. Storage assets that are enabled in SA include SAN arrays, fabrics, controllers, and zones. Storage Visibility and Automation also provides information about connectivity, such as the relationship of a switch and a managed server.

SE Connector

In this release, a new storage scanner component called *SE Connector* has been implemented. SE Connector collects data from Storage Essentials (SE) about SAN elements and inventory, and their connectivity. These SAN elements include storage arrays, fabrics, switches, and NAS filers. This storage data is transferred to the SA core and stored in the Model Repository.

Host Virtualization Storage

In this release, the Storage Host Agent Extension (SHA) component has been modified to provide visibility into the storage configurations in a host virtualization environment, such as VMware ESX servers and their associated virtual machines attached to SAN. Storage Visibility and Automation provides storage dependency data for both the VMware ESX hypervisors and the guest hosts on the hypervisors.

Database Scanner for Oracle

In this release, a new storage scanner component called *Database Scanner for Oracle* has been implemented. The Database Scanner for Oracle collects information about Oracle storage configurations in a SAN or Network Attached Storage (NAS). This storage scanner retrieves data about Oracle instances, tablespaces, and datafiles, including Automatic Storage Management (ASM).

Deprecated Features in Storage Visibility and Automation 7.80

The following Storage Agents are deprecated in this release:

- Brocade Storage Agent
- CLARiiON Storage Agent
- HiCommand Storage Agent
- McDATA Storage Agent
- NetApp Storage Agent
- Oracle Storage Agent
- Symmetrix Storage Agent

These Storage Agents are being replaced by SE Connector and the Database Scanner for Oracle. See SE Connector on page 7 and Database Scanner for Oracle on page 8.

See the *Storage Visibility and Automation Upgrade Guide* for information about how to upgrade from ASAS 1.0 or ASAS 7.50 to Storage Visibility and Automation 7.80.

Documentation Available

The following documentation is provided with this release:

- *Storage Visibility and Automation Release Notes*

- *Storage Visibility and Automation Installation & Administration Guide*

- *Storage Visibility and Automation User Guide*

- *Storage Visibility and Automation Online Help*

- *Storage Visibility and Automation Upgrade Guide*

For information about new or modified features for Server Automation (SA), Service Automation Visualizer (SAV), Service Automation Reporter (SAR), and Storage Essentials (SE) please refer to the *Release Notes* for those products.

2 Platform & Environment Support for Storage Visibility and Automation 7.80

This chapter identifies the supported operating systems and virtualization technology for the storage components. This chapter also identifies the supported storage devices in Storage Visibility and Automation, as follows:

- Supported Operating Systems for Storage Host Agent Extension

- Supported Virtualization Technology for Storage Host Agent Extension

- Supported Operating Systems & Runtime Environments for SE Connector

- Supported Storage Device Hardware

    — SAN Storage Arrays

    — SAN Fibre Switches

    — Network Attached Storage

    — Fibre Channel Adapters

    — Volume Managers

    — MultiPath Software

    — Databases/Middleware

Supported Operating Systems for Storage Host Agent Extension

Table 1 lists the operating systems that support the Storage Host Agent Extension (SHA).

Table 1   Supported Operating Systems for SHA

Operating System	Version	Architecture
AIX	AIX 5.2	POWER
	AIX 5.3	POWER
	AIX 6.1	POWER
HP-UX	HP-UX 11i v1 (11.11)	PA-RISC and Itanium II
	HP-UX 11i v2 (11.23)	PA-RISC and Itanium II
	HP-UX 11i v3 (11.31)	PA-RISC and Itanium II
Linux	RHEL 3	i386, x86_64, Itanium II
	RHEL 4	i386, x86_64, Itanium II
	RHEL 5	i386, x86_64, Itanium II
Novell SuSE Linux	SuSE Linux Enterprise Server 9	i386, x86_64
	SuSE Linux Enterprise Server 10	i386, x86_64
	SuSE Linux Enterprise Server 11	i386, x86_64
Solaris	Solaris 8	Sun SPARC (sun4u)
	Solaris 9	Sun SPARC (sun4u)
	Solaris 10 (Update 1 through Update 6)	Sun SPARC (sun4u & 4v), x86_64, Niagra
Windows	Windows 2003 (Standard, R2, Advanced Server)	i386, x86_64, Itanium II
	Windows 2008 Advanced Server	i386, x86_64, Itanium II

The runtime version must be at least xlC version xlC.aix50.rte 7.0.0.0 for the Storage Host Agent proxies to run.

See the *Storage Visibility and Automation Installation & Administration Guide* for information about installing and configuring the Storage Host Agent Extension.

Supported Virtualization Technology for Storage Host Agent Extension

The following host virtualization environments, such as a VMware ESX server attached to SAN, support the Storage Host Agent Extension component in Storage Visibility and Automation:

• VMware ESX 3.0.3, 3.5

• VMware ESXi 3.5

See the *Storage Visibility and Automation User Guide* for more information about VMware ESX and ESXi support.

Supported Operating Systems & Runtime Environments for SE Connector

Table 2 lists the operating systems that support SE Connector.

Table 2   Supported Operating Systems for SE Connector

Operating System	Version	Architecture
Linux	RHEL 4	i386, x86_64
	RHEL 5	i386, x86_64
Solaris	Solaris 10	SPARC
Windows	Windows 2003 SP2	i386

The following runtime environments support SE Connector:

• VMware 3 (ESX) running RHEL 4 (i386, x86_64)

• VMware 3 (ESX) running RHEL 5 (i386, x86_64)

See the *Storage Visibility and Automation Installation & Administration Guide* for information about installing and configuring the SE Connector.

Supported Storage Device Hardware

This section identifies the supported storage device hardware from various vendors.

SAN Storage Arrays

Storage Visibility and Automation supports SAN storage arrays from the following vendors:

• EMC

• Hitachi Data Systems

 Note: Storage Visibility and Automation does not support Tagmastore AMS and WMS NAS.

• Hewlett-Packard

 Note: Storage Visibility and Automation supports only HP-XP and EVA subsystems.

See the *Storage Essentials SRM Enterprise Edition Support Matrix* for detailed information about supported subsystems and models for these vendors.

SAN Fibre Switches

Storage Visibility and Automation supports SAN fibre switches from Brocade. See the *Storage Essentials SRM Enterprise Edition Support Matrix* for detailed information about supported switches and directors for Brocade.

Network Attached Storage

Storage Visibility and Automation supports network attached storage from Network Appliance. See the *Storage Essentials SRM Enterprise Edition Support Matrix* for detailed information about supported subsystems and models for Network Appliance.

Fibre Channel Adapters

The minimum requirements for supporting FCAs (HBAs) are:

• The FCA vendor provides both FCA drivers and API libraries that comply with the SNIA FCA API standard.

• The driver and API libraries that came together from a specific vendor are installed and maintained as a matched set. Do not upgrade or install drivers without also upgrading or installing the corresponding API libraries that were shipped with the driver from the vendor.

• HBA drivers used must be SNIA HBA API compliant.

• Emulex HBAnyware is required with all Emulex Drivers to provide the SNIA API.

The following list provides additional information about support for FCAs:

• IBM FCAs on AIX do not require API libraries.

• HBAs were tested with recent firmware and drivers, as of this writing. Contact your management server software representative for additional firmware and driver details.

• Storage Visibility and Automation does not support multiple OEMs of HBAs in the same server.

- Dual-ported HBAs differ in how they appear to the management server software and is dependent on how the vendor implements their API. Some dual-ported HBAs appear as two separate adapters.

- Depending on the HBA Firmware and the API versions that are used to retrieve the information, Storage Visibility and Automation might report the HBA type differently from what it actually is on the HBA.

Refer to the vendor's *Release Notes* to determine which HBAs are supported by which operating system versions.

Table 3 lists the Fibre Channel adapters supported by Storage Visibility and Automation.

Table 3   Supported Fibre Channel Adapters

Vendor	HBA Model	Operating System
Emulex	LP10000ExDC, LP1050Ex, LP10000DC, LP10000, LP1050DC, LP1050, LP9802DC, LP9802, LP982, LP9402DC, LP9002L, LP9002DC, LP9000, LP952L, LP8000, LP8000DC, LP850, LPe11000	Linux, Red Hat Enterprise Linux 3.0, 4.0, 5.0 (AS/ES/WS/Desktop)
	LP10000DC, LP10000, LP9802DC, LP9802, LP9402DC, LP9002L, LP9002C, LP9002S, LP9002DC, LP9000, LP8000, LP8000DC, LP8000S, LP7000E, LPe1102-S-0	Solaris 8, Solaris 9, Solaris 10
	LP10000ExDC, LP1050Ex, LP10000DC, LP10000, LP1050DC, LP1050, LP9802DC, LP9802, LP982, LP9402DC, LP9002L, LP9002DC, LP9000, LP952L, LP8000, LP8000DC, LP850, LP7000E, LP NC7782	Windows 2003 Server, R2, Advanced Server Windows 2008 Server, Advanced Server
	FC6227-Emulex-7000, FC6228-Emulex-9002, FC6239-Emulex-9802, FC5716-Emulex-10000, FC5759/5758-Emulex 11002/11000	AIX 5.2, AIX 5.3, AIX 6.1
HP	Tachyon Fibre Channel, A6684A, A6685A, A5158A, A6795A	HP-UX
	PCI-X Single-Port 4GB Fibre Channel HBA for HP-UX AB378B	HP-UX
	PCI-X Dual-Port 4GB Fibre Channel HBA for HP-UX AB379B	HP-UX
	Dual port 4 GB Fibre Channel, PCI-e AD300A	HP-UX
	Single port 4 GB Fibre Channel, PCI-e AD299A	HP-UX
	Dual Port 4 GB Fibre Channel, PCI-e AD355A	HP-UX
	PCI-X Dual Channel 2GB Fibre Channel HBA A6826A	HP-UX
	PCI-X Single-Port 4GB Fibre Channel HBA for HP-UX AB378B, A6684A	HP-UX
	HP PCI-X Dual-Port 4GB Fibre Channel HBA for HP-UX AB378B	HP-UX
IBM	DF1080F9, DF1000FA	AIX

Table 3   Supported Fibre Channel Adapters (cont'd)

Vendor	HBA Model	Operating System
Qlogic	QLA2200 Series, QLA2202F, QLA2204F, QLA2300 (F), QLA2302F, QLA2310 (F), (FL), QLA231x/2340, QLA 2342	Linux, Red Hat Enterprise Linux 3.0, 4.0 (AS/ES/WS/ Desktop)
	QLA2200 Series, QLA2202F, QLA2204F, QLA2300 (F), QLA2302F, QLA2310 (F), (FL), QLA2340 (L), QLA2342 (L), QLA2344	Solaris 8 Solaris 9 Solaris 10
	QLA2200 Series, QLA2202F, QLA2204F, QLA2302F, QLA2310 (F), (FL), QLA2340 (L), QLA2342 (L), QLA2344, QLA2350, QLA2352, HPAE312A	Windows 2003 Server, Advanced Server Windows 2008 Server, Advanced Server
Sun	SG-XPCI1FC-JN2 SG-CPCI2FC-JN2 (OEM by AMCC)	Solaris 8 Solaris 9 Solaris 10

Volume Managers

Table 4 lists supports the volume managers supported by Storage Visibility and Automation.

Table 4   Supported Volume Managers

Vendor	Volume Manager	Version	Operating System
HP	HP-UX LVM	Same as OS	HP-UX 11i v1 (11.11) HP-UX 11i v2 (11.23) HP-UX 11i v3 (11.31)
IBM	AIX LVM	Same as OS	AIX 5.2 AIX 5.3 AIX 6.1
Microsoft	Native LDM	Same as OS	Windows 2003 Server, R2, Advanced Server, 2008 Server
Red Hat	LVM2	2.6 kernels	Red Hat Linux 4.0
SUN	Solstice Disk Suite	4.2.1	Solaris 8
	Solaris Volume Manager	Same as OS	Solaris 9, Solaris 10
SuSE	LVM	2.02	SuSE 10 (x86) SP2
Veritas	Storage Foundation	v4.0 v4.1	RHEL 4, RHEL 5 SuSE Linux 9110 (64 bit)
	VxVM	3.5	Solaris 8, 9, 10

Table 4　Supported Volume Managers (cont'd)

Vendor	Volume Manager	Version	Operating System
	Storage Foundation	v4.0 v4.1	Solaris 8, 9, 10 (SPARC) Solaris 10 (x64) HP-UX 11i v2
	Storage Foundation	v5.0	AIX 5.2, 5.3, 6.1 HP-UX 11i v2 (PA-RISC and Itanium) RHEL 4 RHEL 5 (x64) SuSE Linux 9110 (64 bit) Solaris 8, 9, 10
	Storage Foundation	v5.1	Windows 2003, 2008

MultiPath Software

Table 5 lists the multipath software supported by Storage Visibility and Automation.

Table 5　Supported MultiPath Software

Vendor	Multipath Software	Version	Operating System
EMC	PowerPath		AIX 5.2, 5.3, 6.1
	PowerPath	v3.0.0, v4.0.x through 4.4.x	Solaris 8
	PowerPath	v3.0.4, v4.1.x through 4.4.x	Solaris 9, 10
	PowerPath		RHEL 3, RHEL 4, RHEL 5
Veritas	DMP	v5.0	AIX 5.2, 5.3. 6.1
	DMP	v4.1	HP-UX 11.10 HP-UX 11i HP-UX 11i v2 HP-UX 11i v3
	DMP	v3.2 Update 1	RHEL 3, RHEL 4
	DMP	v4.0	RHEL 3, RHEL 4
	DMP	v3.5 v4.0 v4.1	Solaris 8, 9, 10
	DMP	v3.1 SP1 v4.0 v4.1 v5.0	Windows 2003

Table 5   Supported MultiPath Software (cont'd)

Vendor	Multipath Software	Version	Operating System
Sun	Native		Solaris 10
Red Hat	Native		RH 4 U2 and later
HP-UX	Native		Supported OS Versions
Windows	Native		Supported OS Versions

Databases/Middleware

Table 6 lists the databases and middleware supported by Storage Visibility and Automation.

Table 6   Supported Databases/Middleware

Vendor	Version	Application Installed on the Operating System
Oracle DB	Oracle 10g	AIX 6.1 HP-UX 11i v3 Red Hat Enterprise Linux v4.0, (AS/ES/WS/Desktop) Solaris 10 Windows 2003, Windows 2008
	Oracle ASM 10g	AIX 6.1 HP-UX 11i v3 Red Hat Enterprise Linux v4.0, (AS/ES/WS/Desktop) Solaris 10 Windows 2003, Windows 2008
	Oracle 11g	AIX 6.1 HP-UX 11i v3 Red Hat Enterprise Linux v4.0, (AS/ES/WS/Desktop) Solaris 10 Windows 2003, Windows 2008
	Oracle ASM 11g	AIX 6.1 HP-UX 11i v3 Red Hat Enterprise Linux v4.0, (AS/ES/WS/Desktop) Solaris 10 Windows 2003, Windows 2008

3 What's Fixed in Storage Visibility and Automation 7.80

> For information about fixed defects for Server Automation (SA), Service Automation Visualizer (SAV), Service Automation Reporter (SAR), and Storage Essentials (SE), please refer to the *Release Notes* for those products or features.

Storage Host Agent Extension

Bug ID:170531 / QCID 81885

Description: Disk devices are not rendered for HP Smart Array devices.

Platform: Linux

Subsystem: Storage Host Agent Extension

Symptom: Disk devices are not rendered in the Server Viewer for all HP Smart Array devices on the Linux platform. These devices are characterized by device names which are located in the path `/dev/cciss`.

Resolution: Fixed

Storage Agent

Bug ID: 158543 / QCID 69897

Description: The serial number in a NetApp filer does not match the known system serial number.

Platform: Independent

Subsystem: Storage Agent

Symptom: The serial number in a NetApp filer does not match the actual serial number for the NAS filer device.

Resolution: Fixed

SA Client

Bug ID: 159958 / QCID 71312

Description: Cannot create new public group without the Manage Public Group for Servers permission.

Platform: Independent

Subsystem: SA Client

Symptom: An error occurs when attempting to create a static or dynamic group with only the Managed Device Group permission for Storage System or Fabrics.

Resolution: Fixed

4 Known Problems, Restrictions, & Workarounds in Storage Visibility and Automation 7.80

▶ For information about known defects for Server Automation (SA), Service Automation Visualizer (SAV), Service Automation Reporter (SAR), and Storage Essentials (SE), please refer to the *Release Notes* for these products or features.

SE Connector

QCID 88755

Description: There is no Target and Target Volume information displayed for a LUN.

Platform: Independent

Subsystem: SE Connector

Symptom: Target and Target Volume display "-" for a LUN in the storage volume access path view.

Workaround: None.

QCID 91582

Description: Provisioning changes on a volume or pool for an EVA array might not immediately display in its corresponding inventory view.

Platform: Independent

Subsystem: SE Connector

Symptom: When you perform a provisioning operation for an HP EVA array (such as create, delete, or modify a volume or pool), the changes for the volume or pool might not be immediately available in SA after running the "Update from Storage Essentials" process.

Workaround: After 30 minutes has lapsed, run the "Update from Storage Essentials" process again. See the *Storage Essentials SRM Software User Guide* for information about provisioning EVA arrays.

QCID 93130

Description: "Last Scan" on the Storage Scanners main panel does not display the correct date and time of when SE Connector last scanned a storage device.

Platform: Independent

Subsystem: SE Connector

Symptom: The current date and time is shown in the "Last Scan" column on the Storage Scanners main panel, instead of the date and time of when SE Connector actually last scanned a storage device.

Workaround: Verify the correct date and time that a storage device was last scanned in Managed Elements.

QCID 93313

Description: When you are creating a new access control, if you type the SE user name in the wrong case (SE is case sensitive about usernames) and then try to edit the SE Scanner access control to change the case (such as from lowercase to uppercase or vice versa), the changes are not implemented in the access control. This occurs when the name is all the same letters and numbers as the name that was originally entered, but only the case of the letters has changed.

Platform: Independent

Subsystem: SE Connector

Symptom: Editing SE Scanner access controls to change the case of letters in the username (from uppercase to lowercase or from lowercase to uppercase) does not work. This occurs when the name is all the same letters and numbers as the originally entered name, but only the case of the letters has changed.

Workaround: Edit the access control and completely change the username. Apply these changes. Edit the access control again and then change the username to the correct name in the correct case. Apply these changes.

QCID 93316

Description: When you are creating a new access control, if you type the password in the wrong case (SE is case sensitive about passwords) and then try to edit the SE Scanner access control to change the case (such as from lowercase to uppercase or vice versa), the changes are not implemented in the access control. This occurs when the password is all the same letters and numbers as the password that was originally entered, but only the case of the letters has changed.

Platform: Independent

Subsystem: SE Connector

Symptom: Editing SE Scanner access controls to change the case of letters in the password (from uppercase to lowercase or from lowercase to uppercase) does not work. This occurs when the password is all the same letters and numbers as the password that was originally entered, but only the case of the letters has changed.

Workaround: Edit the access control and completely change the password. Apply these changes. Edit the access control again and then change the password to the correct password in the correct case. Apply these changes.

Database Scanner for Oracle

QCID 88091

Description: Certain files (utility scripts) are not automatically removed from a managed server. These are Database Scanner for Oracle binaries that are copied to a managed server during each snapshot process.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: Each time you create a Database Scanner snapshot, you will see these files on the managed server because they are copied to it during the snapshot process.

Workaround: If you need to repurpose a managed server and it still has these files on it, you should remove them to *clean* the server. To remove all Database Scanner for Oracle binaries from a managed server, perform the following steps:

1   From the Navigation pane, select **Devices ➤ Servers ➤ All Managed Servers**.

2   Right-click the managed server and then select **Run Script ➤ Select Script**.

3   In the Run Server Script window, click **Select Script** to display the Select Script dialog.

4   In either the Browser Scripts tab or the Browse Folders tab, select the "post-uninstall script for Database scanner for Oracle [unix|win]" script and then click **Select**.

   To view this script, you must have permissions on the "/Opsware/Tools/Server Modules com.opsware.server.module.storage.dbscanner.oracle" folder.

5   In the Run Server Script window, click **Next** and then click **Start Job** in the Options pane. Do not specify any additional parameters.

   When the job successfully finishes, all files related to the Database Scanner for Oracle will no longer be on the *cleaned* managed server.

QCID 91143

Description: The status of an ASM Diskgroup shown in the Properties view is different than the status shown in the Database Configuration Assistant (DBCA) view.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: In the Properties view, the status is CONNECTED. In the DBCA, the status is MOUNTED. By definition, the status of ASM Diskgroup is relative to the database instance. What is reported in the Properties view matches the status for one database instance only.

Workaround: None.

QCID 93690

Description: The Server ➤ Relationships ➤ SAN Switches panel only displays SAN switches to which the given server is directly connected. In some cases, a server may depend on SAN switches that are not displayed in this panel. For example, a virtual server may be using storage allocated from a hypervisor that was allocated storage from a SAN.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: The content pane for Relationships (SAN Switches and SAN Fabrics) on a virtual server is empty ("No items found").

Workaround: None.

QCID 93721

Description: For DISMOUNTED ASM disk groups, a null entry is reported for all ASM disks.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: Under Inventory ➤ Storage ➤ Volumes, the removed physical drive displays as null in the Composition and Connectivity views. This null entry is reported by Oracle and the Oracle Database Scanner for Oracle reports this as such.

Workaround: None.

QCID 93777

Description: When multiple ASM databases are discovered, the scan status of some ASM database instances display as INCOMPLETE.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: You created several ASM instances and then ran the Database Scanner for Oracle snapshot. After the snapshot process, the status of some ASM database instances is INCOMPLETE.

Workaround: None.

QCID 93778

Description: The supply chain for all database instances built on ASM is not reported.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: This problem occurs when the database instances are built on top of Oracle ASM and more than one of these database instances are on the same Oracle server. In this situation, the discovery process saves the ASM files used by only one of the database instances. ASM files used by the other database instances will be not be saved. For example, not all SAN arrays will be reported on for all database instances built on ASM. The SAN arrays will be reported for only one database instance—the database instance that was most recently synchronized.

Workaround: None.

Bug ID: 156909 / QCID 68263

Description: Tablespace's free space view does not match the Oracle Enterprise Manager (OEM) view.

Platform: Independent

Subsystem: Database Scanner for Oracle

Symptom: In the tablespace view, the free space does not match what is displayed in the Oracle Enterprise Manager (OEM) tablespace.

Workaround: None

Note: There is an OEM bug about some tablespaces showing the incorrect used size. The Database Scanner for Oracle gets the tablespace used size directly from all of its data files, which avoid the OEM bug.

Storage Host Agent Extension

QCID 92472

Description: The Composition view does not display volume and disk relationship information for a mirrored volume on SuSE.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: You created a mirrored volume using LVM and then created and ran an inventory snapshot on a SuSE server. In the Server Explorer, in the Inventory ➤ Storage ➤ Volumes view, you selected the mirrored volume and then the Composition view. There was no volume and disk relationship information displayed for the mirrored volume that is created using LVM in the Composition view after running the inventory snapshot.

Workaround: None.

QCID 93521

Description: Virtual server RDM disk Composition and Connectivity information is incorrect for an XP array.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: XP storage LUSE volume is not displayed for the RDM disk.

Workaround: None.

Bug ID: 149406 / QCID 60760

Description: Solaris LVM RAID on Soft Partition on slices stops responding.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: This configuration produces a defective storage supply chain.

Workaround: None

Bug ID: 149707 / QCID 61061

Description: The Storage Host Agent Extension reports two single port cards when a single dual port card is present.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: The SNIA v1 HBAAPI reports ambiguous information with regard to ports on a multi-port card. Some vendors may model dual port cards as two single-port cards. This is the information that ASAS reports on—output that shows a single dual port card with a single serial number, where each adapter has its own unique node WWN.

Workaround: None

Bug ID: 151921 / QCID 63275

Description: There is no distinction between the volume types "Mirror Concatenated" and "Mirror Striped" in the Volume Manager labels.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: When you add a mirror to concatenated or stripe, the volume display labels both as "Mirrored" and does not distinguish between concatenated or striped in the label. Note that "Mirrored Concatenated" and "Mirror Striped" are distinct on the volume manager on the host, such as on the Veritas Volume Manager.

Workaround: None-the type of the volume manager might not match the native tool, such as the Veritas Volume Manager. The STORAGE_TYPE value is the immediate node in the supply graph, which is the storage type of the most decendent volume.

Bug ID: 152016 / QCID 63370

Description: The `STORAGE_DRIVE` value is incorrectly formatted for SunOS 5.10 disks.

Platform: Unix

Subsystem: Storage Host Agent Extension

Symptom: The value stored in `STORAGE_COMPONENTS.STORAGE_DRIVE` is a different format on Solaris 5.10 than on Solaris 5.8 and 5.9. The different format for 5.10 causes a broken storage supply chain on affected servers.

Workaround: Check the version number in the `/etc/format.dat` file on the server. If it is less than 1.28, update the file.

Bug ID: 152942 / QCID 64296

Description: QLogic 9.1.4.15 HBAAPI is defective.

Platform: Windows

Subsystem: Storage Host Agent Extension

Symptom: On a Windows 2003 server with the SNIA library from QLogic, Fibre Channel Adapter and storage volume information might not be discovered by the Storage Host Agent Extension, causing `fibreproxy.exe` to stop responding.

Workaround: For Windows Server 2003 and Microsoft Windows 2000 operating systems, use the native Microsoft SNIA library instead of the SNIA that is provided by the QLogic driver. Download the Fibre Channel Information Tool to add the Microsoft HBAAPI support to the operating system. For Windows 2003 SP1 or later, the Microsoft HBAAPI support is built in. If the SNIA's version of `hbaapi.dll` is installed on the operating system, remove it.

Bug ID: 154418 / QCID 65772

Description: The Unix QLogic snapshot is missing information in the Hardware view and Volumes pane.

Platform: Unix

Subsystem: Storage Host Agent Extension

Symptom: When you snapshot a Unix server that has a QLogic driver installed, there is no FC adapter information in the Hardware view. There is also no composition and connectivity information for any SAN volume in the Volumes pane.

Workaround: Install patches 108434 and 108435 on Solaris 8 SPARC servers. The Storage Host Agent Extension on Solaris 5.8 SPARC requires these patches.

Note: There is no known workaround for Red Hat 3 or Red Hat 4 servers using QLogic controllers.

Bug ID: 154971 / QCID 66325

Description: Veritas Storage Foundation 4.3 with QLogic 9.1.4.15 results in invalid fibre proxy SCSI addresses.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: The SAN storage volume displays both LUN and Root as the Service Type. There are two lines for the physical drives: One line displays LUN and the other displays Root.

Workaround: None

Bug ID: 155476 / QCID 66830

Description: There is no support for mounting Windows 32 file systems on non-drive letter locations.

Platform: Windows

Subsystem: Storage Host Agent Extension

Symptom: The file system is not shown on the server storage file system panel when the partition and format on the Windows server is mounted to an empty NTFS folder.

Workaround: None

Note: The Storage Host Agent Extension does not report file systems that have non-drive letter mount points. The Storage Host Agent Extension does not report file systems that have multiple mount points.

Bug ID: 157044 / QCID 68398

Description: Fibreproxy is broken on Windows 2000 SP4 server with a QLA2310 HBA and vendor driver version 9.1.4.10.

Platform: Windows

Subsystem: Storage Host Agent Extension

Symptom: A storage inventory snapshot does not gather and supply complete data, including storage volume and FCA information.

Workaround: None

Bug ID: 157579 / QCID 68933

Description: Running fibreproxy on a Windows server with Emulex installed returns multiple FibreChannelTargetMappings.

Platform: Windows

Subsystem: Storage Host Agent Extension

Symptom: When you run take a Storage Host Agent Extension snapshot by running fibreproxy on a Windows server where Emulex LP850, LP952, LP9002, or LP9402 is installed, three FibreChannelTargetMappings are returned, two of which are duplicates. This symptom does not occur with Emulex driver 1.30a9.

Workaround: None

Bug ID: 158923 / QCID 70277

Description: Disabling all MPIO paths for a device causes `diskproxy` and `mpioproxy` to stop responding.

Platform: AIX

Subsystem: Storage Host Agent Extension

Symptom: If you run the `chpath` command as shown below to take a Storage Host Agent Extension snapshot for each available path to the device, all the MPIO paths to a logical device become disabled. In this state, the system calls used by the diskproxy and mpioproxy will stop responding.

```
chpath -l hdisk2 -p fscsi0 -s disable xx
```

Workaround: None

Bug ID: 159156 / QCID 70510

Description: After you remove a LUN mapping, the old LUN mapping information still displays in the SAN array volume view and in the server storage volume view. An additional access path is displayed in the SAN array volume view (Access Path subview) for the volume for which LUN mapping was removed. The access path that shows no initiator device and/or initiator port information is the correct one.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: For a mounted SAN volume on a server, when LUN mapping for the same SAN volume on the storage array is updated to remove the initiator ports, the server still reports that it sees the volume. As a result, an incorrect access path for the SAN volume is displayed. The Storage Agent for the storage array correctly updates the LUN mapping when the next synchronization is run and shows no initiator ports for the LUN mapping. The incorrect access path is removed from the display when the next Storage Host Agent Extension snapshot is run.

Workaround: Take a snapshot of the server to which the volume was mapped or partitioned.

Bug ID: 159580 / QCID 70934

Description: SAV displays incorrect information after adding a zone to a fabric.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: A fabric zone to card WWN does not correlate to the server, but a zone to the port WWN does have correct correlation. The zone is not associated to the correct server/port/WWN.

Workaround: None

Bug ID: 164951 / QCID 76305

Description: Multipath information does not display correctly for an HP-UX 11iv2 server in the SA Client.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: The multipath information is not reported correctly for a server that has HP-UX 11iv2 OS installed and Veritas DMP managing the multipathing in the SA Client. The SNIA library does not support `HBA_GetFcpTargetMappingsV2r`.

Workaround: None

Bug ID: 168716 / QCID 80070

Description: Broken supply chain on AIX 5.2 with Powerpath.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: On servers running AIX 5.2 with PCI-X Fibre Channel Adapters, the supply chain does not display after taking an inventory snapshot.

Workaround: None

Bug ID:168889 / QCID 80243

Description: Logical volume devices appear to be under Veritas DMP control when they are not taking a new snapshot.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: If you disable a volume in Veritas DMP and subsequently take a new Storage Host Agent Extension snapshot, the updated volume appears as though it remains managed by Veritas DMP.

Workaround: When constructing LVM modules on the HP-UX 11.31 platform, use agile DSF devices. There is no workaround for other platforms.

Bug ID: 167103 / QCID 78457

Description: The Storage Disk panel appears empty after upgrading to SA 7.50 and ASAS 7.50.

Platform: Independent

Subsystem: Storage Host Agent Extension

Symptom: If you perform a core upgrade to SA 7.50 and ASAS 7.50 and then run the customer extension to upgrade a Storage Host Agent Extension on the host, the host disappears from the INTERFACE table and the host's STORAGE_DRIVE does not appear in the STORAGE_COMPONENT table.

Workaround: It may take one to two hours for the host and drives to repopulate their tables. Verify that the host is present in the INTERFACE table and that the STORAGE_DRIVE element is present in the STORAGE_COMPONENT table.

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Bug ID: 164789 / QCID 76143

Description: File systems mounted to a directory containing more than 255 characters do not appear in the file system list in the SA Client.

Platform: Independent

Subsystem: Storage Agent

Symptom: If you create a mount point folder with a mount name containing more than 255 characters (including spaces), an error similar to the following will appear:

```
twist exception: java.sql.SQLException: ORA-12899: value too large for column
"TRUTH"."AIM_FILE_SYSTEM"."CAPTION" (actual: 259, maximum: 255)
```

Workaround: Do not use more than 255 characters for the entire path to the mounted directory, starting at the root.

Other

Bug ID: 155094 / QCID 66448

Description: Advanced Search results for Storage System Discovery Date do not display correctly.

Platform: Independent

Subsystem: SA Client (Search)

Symptom: If the user profile setting on the SAS Web Client is UTC, all discovered dates will display as expected. If the user profile setting is set to a timezone other than UTC, some discovery dates for SAN arrays, NAS filers, and switches will not display as expected, although they are technically correct.

Workaround: Set the user profile to UTC.

5 Documentation Errata

This chapter updates information in the Storage Visibility and Automation user documentation.

Storage Visibility and Automation User Guide

The following new default value replaces the default described in Chapter 2, Asset Discovery, in the "SE Connector" section:

`com.creekpath.agent.common.devices.scheduled.full.sync.max.wait.minutes=480`

The following new default value replaces the default described in Chapter 2, Asset Discovery, in the "Update From Storage Essentials" section:

`com.creekpath.agent.common.devices.manual.full.sync.max.wait.minutes=480`

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The following new default value replaces the default described in Chapter 5, SE Connector:

`com.creekpath.agent.common.devices.scheduled.full.sync.max.wait.minutes=480`

The following new default value replaces the default described in Chapter 5, SE Connector, in the "Update From Storage Essentials" section:

`com.creekpath.agent.common.devices.manual.full.sync.max.wait.minutes=480`