hp StorageWorks Command View EVA

Product Version: 3.1

First Edition (October 2003)

Part Number: AA-RT6YE-TE

This document contains the most recent product information about the HP StorageWorks Command View EVA 3.1 software and documentation.

For the latest version of these Release Notes and other storage documentation, access the HP storage website at: http://www.hp.com/country/us/eng/prodserv/storage.html.

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Release Notes Contents

These release notes cover the following major topics:

Intended Audience

This document is intended to assist customers who are installing or using HP StorageWorks Command View Enterprise Virtual Array (EVA) v3.1 in conjunction with an installation of a HP StorageWorks EVA 3000 or EVA 5000.

System Support Information

This section contains information about the prerequisites for running Command View EVA v3.1 software and the documentation available for use with Command View EVA v3.1 and related products.

Command View EVA v3.1 Minimum Software Requirements

Before you install Command View EVA v3.1, you must install the software listed in Table 1. The table shows the minimum version of the software required and explains how to check the current version.

Table 1: Minimum Software Requirements

Software	Minimum Version Required	How to Check Current Version
HP StorageWorks Virtual Controller Software (VCS)	ENT-v2.002 for Enterprise Virtual Array 5000 ENT-v2.004 for Enterprise Virtual Array 3000	In Command View EVA: Expand an **Initialized Storage Cell**. Expand the **Hardware Folder**. Expand **Rack1**. Expand **Controller Enclosure**. Select either controller. Verify that the **Software Version** field displays **ENT-V2.002** or **ENT-V2004**.
HP OpenView Storage Management Appliance Software	v2.1	From the Storage Management Appliance Home Page: Click **Help** on the Storage Management Appliance primary toolbar. View the version number displayed on the **Welcome** page.
Visit the Storage Management website at: http://h18006.www1.hp.com/products/sanworks/managementappliance/index.html and download all mandatory updates and patches.		

Enterprise Virtual Array Documentation

Enterprise Virtual Array documentation is available at:

http://h18006.www1.hp.com/storage/arraysystems.html

On this web site:

1. Under **Virtual Array Systems**, select your EVA model.
2. **Technical Documentation** under **Product Information**.

Software Compatibility Matrices

The Enterprise Virtual Array uses various firmware and software that work with each other to manage the storage solution. During installation, it is important to ensure that all of the software and firmware versions are compatible. This section provides tables that summarize which versions of software are compatible with each other. Use Table 2, Table 3, and Table 4 to ensure that you are using compatible software versions.

The HP StorageWorks Command View EVA v3.1 software is compatible with the following:

Software

■ HP StorageWorks Virtual Controller Software v3.010 (recommended version)

■ HP OpenView Storage Management Appliance software v2.1

Hardware

■ HP OpenView Storage Management Appliance

■ HSV110 controller (EVA5000)

■ HSV100 controller (EVA3000)

Table 2 indicates the compatible versions of element manager software and storage system software. Command View EVA v3.1 is compatible with several versions of VCS; however, the required VCS version is VCS v3.010. If you are running a version of VCS that is not listed in this table (for instance, VCS v1.01), you should upgrade to a later version of VCS.

Note: After you have upgraded a storage system to v3.000 (or higher), you should not downgrade the initialized storage system to v2.xxx. If you attempt to downgrade an initialized storage system, you will lose any configuration information or data in that storage system. All existing data will be destroyed when you downgrade from v3.xxx to v2.003 (or higher).

Table 2: Element Manager Software and Storage System Software Compatibility

Storage System Software Version	HSV Element Manager v2.0a	Command View EVA v2.1	Command View EVA v3.0	Command View EVA v3.0a	Command View EVA v3.1
VCS v2.002	Yes	Yes	Yes	Yes	Yes
VCS v2.003	No	Yes	Yes	Yes	Yes
VCS v2.004	No	Yes	Yes [1]	Yes [1]	Yes [1]
VCS v2.005	No	Yes	Yes	Yes	Yes
VCS v2.006	No	Yes	Yes	Yes	Yes
VCS v3.000	No	No	Yes [2]	Yes [2]	Yes [2]
VCS v3.001	No	No	No	No	Yes
VCS v3.010	No	No	No [3]	No [3]	Yes

1 VCS v2.004 is compatible with only EVA3000.
2 VCS v3.000 cannot be used on an EVA3000 system.
3 While Command View EVA v3.0 and v3.0a can manage controllers running VCS v3.010, you will not have access to any v3.010-specific features. HP recommends that you upgrade to Command View EVA v3.1.

Table 3 indicates with which versions of VCS each Enterprise Virtual Array is compatible. The EVA3000 storage system uses the HSV100 controller, and the EVA5000 storage system uses the HSV110 controller.

Table 3: Enterprise Virtual Array Type and VCS Compatibility

	EVA3000	EVA5000
VCS v2.002	No	Yes
VCS v2.003	No	Yes
VCS v2.004	Yes	No
VCS v2.005	Yes	Yes
VCS v2.006	Yes	Yes
VCS v3.000	No	Yes
VCS v3.001	No	Yes
VCS v3.010	Yes	Yes

Table 4 indicates the compatible versions of element manager software and Storage Management Appliance software. Command View EVA v3.1 is compatible with the Storage Management Appliance software v2.1. If you are running Storage Management Appliance software v1.0c or Storage Management Appliance software v2.0, you must upgrade the Storage Management Appliance software to v2.1.

Table 4: Element Manager Software and Storage Management Appliance Software Compatibility

Storage Management Appliance Software	HSV Element Manager v2.0a	Command View EVA v2.1	Command View EVA v3.0	Command View EVA v3.0a	Command View EVA v3.1
v1.0C	Yes	No	No	No	No
v2.0	Yes	Yes *requires Service Pack 1a.	Yes *requires Service Pack 3.	Yes *requires Service Pack 4	No
v2.1	No	No	No	Yes	Yes

For future product support release information, visit:

http://welcome.hp.com/country/us/eng/prodserv/storage.html

This website provides downloadable files for storage products.

To download future Storage Management Appliance updates, visit:

http://h18006.www1.hp.com/products/sanworks/managementappliance/index.html

You can access the latest update by choosing **Software Updates** under **Product Information**.

Browser Support

Table 5 describes browser support by operating system. Using browser versions other than the recommended versions could result in some pages not displaying correctly (blank or distorted pages) or some buttons not working.

Table 5: Browser Support by Operating System

Operating System	CV EVA Browser	JRE Version
Windows NT 4.0 SP6a	Internet Explorer 6.0 SP1	JRE 1.4.1_03
Windows 2000 SP3	Internet Explorer 6.0 SP1	JRE 1.4.1_03
Sun Solaris 8, 9	Netscape 7.0	JRE 1.4.1_03
HP-UX 11i, 11.23	Netscape 7.0	JRE 1.4.1_02
Red Hat Linux AS 2.1 (32)	Netscape 7.02	JRE 1.4.1_03
Windows Server 2003 (IA32)	Internet Explorer 6.0 (v6.00.3790.0000)	JRE 1.4.1_03

Configuration Restriction for HSG and HSV Controllers in a Heterogeneous SAN Environment

HP recommends that one Storage Management Appliance manage a maximum of 25 HSG and 16 HSV storage systems.

Product Enhancements

This release contains the following product enhancements:

■ HSV100 controllers are now supported when they use VCS V3.010 firmware.

■ Multiple DRM relationships are now supported - two per storage cell.

■ RSS locate is now supported, aiding serviceability.

■ Updated browsers and operating systems are supported.

■ Storage Management Appliance software v2.1 is supported.

■ Asynchronous replication is supported.

■ The display indicates if a disk is non-stop.

■ The display indicates volume and controller arbitrated loop physical access.

■ A user is now allowed to change the host name.

Operating Constraints

This section contains operating constraints for HP StorageWorks Command View EVA v3.1.

Command View EVA v3.1 Cannot be Uninstalled

The installation process cannot be cancelled, and once completed, the product cannot be uninstalled.

Handling an Installation Failed Message

If you receive an **Installation Failed** message during installation, retry the installation. If the error persists, contact your authorized HP service representative for assistance.

Command View EVA, SSSU, and VCS Version Matrix

Table 6 shows the versions of Command View EVA and what versions of Storage System Scripting Utility (SSSU) and VCS are supported by those versions.

Table 6: Command View EVA, SSSU, and VCS Version Matrix

Command View EVA Version	SSSU Version	VCS Version
2.0a, 2.1	V4 Build 18	2.0xx
3.0	Build 72 for Version 3.0	2.0xx, 3.0xx
3.1	Build 8 for Version 3.01	2.0xx, 3.0xx

Browser Settings

This section contains information and details to help ensure that your browser configuration is correct for this product.

Deleting Temporary Internet Files

Before using Command View EVA v3.1 for the first time, delete the temporary Internet files in your browser. To do this in Internet Explorer:

1. Go to the **Tools/Internet Options** menu.
2. Go to **General Tab\Temporary Internet Files**
3. Choose **Delete Files**.
4. Choose **OK**
5. Restart your browser.

Required Browser Refresh After Agent Upgrade

To load the latest client code in your browser, refresh the browser after upgrading Command View EVA.

- To refresh your browser in Internet Explorer, press **CTRL + F5**.
- To refresh your browser in Netscape, press and hold **Shift** and click **Reload**.

System Color Setting

When accessing Command View EVA v3.1 with Internet Explorer or Netscape, set the display properties colors setting to True Colors or 16,000,000 colors.

Page Caching

For the best performance of Command View EVA v3.1, enable page caching. Page caching is only allowed in an HSV-only environment. Page caching is not allowed in heterogeneous (for example, HSG and HSV) environments.

Follow the steps in this section appropriate for your browser to check or enable page caching.

Enabling Page Caching in Internet Explorer 6.x

1. Open Internet Explorer and choose **Tools >Internet Options**.
2. In the middle of the page, click **Temporary Internet Files > Settings**.
3. On the Settings page, choose **Automatically** in the **Check for newer versions of stored pages** option.
4. Ensure that a Temporary Internet Files folder is selected, and that it is at least 10 MB in size.
5. Click **OK** until you return to the main browser window.

Enabling Page Caching in Netscape 7.x

1. Open Netscape and choose **Edit >Preferences > Advanced > Cache**.
2. At the bottom of the dialog box, set the **Compare the page in the cache to the page on the network** option to **Every time I view the page**.
3. Ensure that the **Disk Cache** setting is at least 100,000 KB.
4. Ensure that the **Memory Cache** setting is at least 1000 KB.
5. Click **OK**.

Browser Behavior

Be aware of the following considerations when using browsers:

The right-click menu in some browser configurations is disabled. If you are in a configuration where right clicking brings up a menu, do not use the **Internet Explorer Open Link in New Window, Save Target As, Set as Desktop Item**, or **Add to Favorites** options or their Netscape equivalents. These links will lead you back into the GUI without the proper context and cause incorrect information to display.

Tuning Navigation Tree Performance

Command View EVA v3.1 displays information about your storage system in the form of a Navigation Tree, located in the Navigation pane of your browser window. The tree shows the condition of, and relationships among, the objects in your storage area network (SAN). Large tree structures (in large SAN environments) display more slowly than smaller structures. This can cause a performance problem.

You can tune the performance of your Navigation Tree by setting the number of tree objects displayed at one time. The default number of **tree objects displayed** is 100.

- For configurations with a small number of objects, set the number to a value higher than the number of objects in your SAN. By doing this, the management agent will send the complete tree structure to your browser each time you click on the tree. This provides good performance in smaller environments.

- For configurations with a larger number of objects, set the number to a smaller number (20-50) of objects. By doing this, the management agent will send only a small number of objects to your browser each time you click on the tree. Your browser will display special page and scroll buttons in the Navigation Tree, allowing you to request the display of other tree segments.

To set the number of tree objects displayed:

1. Click **Agent Options.**
2. Click **User Interface Options.**
3. Set the number of objects displayed in the **Tree objects displayed** field.
4. Click **Save Changes.**
5. Click **OK.**

Browsing from HP-UX/Netscape

In some instances, when browsing from HP-UX using Netscape, the Storage Management Appliance responds with the Login page, but the page does not contain the two input boxes for Username and Password, and you cannot proceed. In this situation, you can browse directly to Command View EVA v3.1 using the following URL:

http://YourApplianceName:2301/ResEltCpqFusion

Snapshot Allocation Policy

All snapshots within a virtual disk family must have the same allocation policy. For example, if a snapshot is created using **Allocate on Demand**, all snapshots within that virtual disk family must also be allocated on demand. The same requirement applies if the first snapshot is created using the **Allocate Completely** allocation policy, that is, all subsequent snapshots within that family must be fully allocated.

Moving Objects Between Folders - SSSU Restriction

In the Command View EVA GUI, you can move objects between folders. This feature is not supported in SSSU.

Vdisk Command Completion

When you submit Vdisk commands, remember that commands will complete in the order in which they were issued (sequentially), regardless of the amount of time required to process a particular command.

Configuring the Number of Events to Gather on Failover

If your Command View EVA system is configured to allow failover to a passive Command View EVA, be aware of this performance consideration.

The number of events collected the first time after taking control has been restricted. This minimizes the performance impact on your storage system after taking control.

The default is to collect a history of only the last 100 events. You can change this value by changing the `Maximum_events` parameter in the `PASSIVE_MANAGER` section of the `NsaServer.ini` file.

Caution: Do not change any other parameters in this file.

Avoiding Problem Situations

This section describes how to avoid problem situations specific to Command View EVA v3.1.

Setting Preferred Path When Creating Snapclones

Setting the Preferred Path during the creation of a Snapclone will change the Preferred Path of the original Virtual Disk to the same as that of the Snapclone being created. If you want the original Virtual Disk to have a different Preferred Path, HP recommends you set the Preferred Path to the same path as the original Virtual Disk and then set the Preferred Path for the Snapclone after creation.

> **Note:** If you create a Snapclone without selecting the Preferred Path, the default of **No Preference** will be given to both the original Virtual Disk and the Snapclone.

Managing EVAs with Multiple Appliances

If you have multiple storage management appliances, HP strongly recommends all of your EVAs be managed by a single storage management appliance at any given time.

Avoiding Slow Response Times and Timeouts Caused by Multiple Command View EVA v3.1 Users

To avoid timeouts or slow response times, HP recommends the following:

■ Only one user at a time on Command View EVA v3.1.

■ Only one SSSU session at a time on Command View EVA v3.1.

■ Do not use the Command View EVA v3.1 GUI if SSSU is being used to run controller failovers.

Sorting in the Navigation Tree

When objects in the current view are renamed, the view is not resorted. The object maintains its current order on the tree. When subsequent objects are created, the placement is affected by the changed object's name. The result is incorrect alphabetical sorting in the **Navigation** tree. Restart Command View EVA v3.1 to correct the problem.

Setting Enterprise Virtual Array Controller Time

HP recommends that the Enterprise Virtual Array controller time be set to the same time as the Storage Management Appliance for the following reasons:

■ Setting the controller and Storage Management Appliance time to the same time enhances troubleshooting capability.

■ Choosing the **re-synch controller time** option will reduce time synchronization problems due to drift.

■ The **custom time** option sets the controller time. If it is set to a time other than the Storage Management Appliance time, you can expect event synchronization problems.

See the *Command View EVA v3.1 Online Help* for the time setting procedure.

Navigation Tree Collapses or Opens Spontaneously

If you want to leave the Command View EVA v3.1 user interface, but want the display to remain static, choose a non-expandable HSV storage system object (such as an empty virtual disk folder, in the **Navigation** tree) as your last action. If you do not have a non-expandable storage system object, create one.

If your last navigation tree action was to open or close a container object, the navigation tree might spontaneously collapse or open when the system automatically refreshes.

Unknown Storage System

In some instances, Command View EVA may display a storage cell as an Unknown Storage System. This state occurs when Command View EVA was previously communicating with the controllers but the controllers have stopped responding. Conditions that can cause this include:

- The controllers are being powered off
- The controllers are restarting
- The controllers are experiencing a heavy I/O load
- The previous operation is taking a long time to complete
- A network problem exists

The Unknown Storage System condition recovers automatically when Command View EVA is able to communicate again.

Command View EVA v3.1 Known Issues

This section contains additional information for Command View EVA v3.1.

Using a Linux Host

If you are using a Linux host with Command View EVA, and you attempt to add a host using the **Add a Host** page in the user interface, you will see no *Linux* choice in the **Host OS** field. In this case, use *Sun Solaris* in the **Host OS** field.

Previous Button Fails to Work

When using the Initialize Advanced Options pages in the user interface, the *Previous* button may not appear to work. This is a browser configuration issue, due to enabling the **Do not save encrypted pages to disk** option in the **Tools > Internet Options > Advanced > Security** menu. Disabling this option allows the button to work.

Progress Indicator Dots in User Interface

Progress indicator dots in the user interface will not display correctly unless you have chosen the **Play animations** option in **Tools > Internet Options > Advanced > Multimedia** section of your Internet Explorer browser.

Upgrade Status Page Does Not Display

During an upgrade from VCS v2.0x to VCS v3.0x, the success status page may not display, and the upgrade may or may not have succeeded. You may see an error page stating that the command could not be completed. If this occurs:

1. Click **OK** on the error page.
2. Browse to the HSV on which you attempted the upgrade.
3. View the **System Version** on the **Initialized System Properties Page**. If the displayed value is 3.0x, the upgrade was successful.
4. If you do not see the value of 3.0x, go to the **Session Pane**.
5. Click on **Agent Options**.
6. Choose **Discover Storage Systems**.
7. Click **OK**.

If the upgrade still did not succeed, repeat the code load process.

Changing the Management Appliance Password

You cannot change the Management Appliance password from within Command View EVA. To change the password on the Management Appliance:

1. From the **Agent Options** screen, choose **Remote Access Password Options**.

   This will redirect you to the **Management Appliance Home Page**.
2. Under the **Settings** tab, navigate to the **Change Password** screen.
3. Change the password on this screen.

Windows Server 2003 Security Settings

The security setting in your browser must be properly configured to allow access to the objects on the browser pages. To do this:

1. Click **Start**.

2. Click **Control Panel**.

3. Click **Java Plug-in**.

4. Click the **Browser** tab.

   Choose the browser you plan to use with Command View EVA.

Get Log File Option

The **Get Log File** option on the **Management Agent Events, Controller Events, and Controller Termination Events** pages (accessed from the **View Events** page) is for HP authorized service representatives use only.

Disk Names Higher than Disk Count

Adding disks, removing disks, or changing the storage cell Device Addition property from Manual to Automatic may cause disks to be named and renamed. Command View EVA v3.1 ensures that disk names are distinct by incrementing the last three digits of the name. This naming method can result in disks named with a number higher than the total disk count for a particular system.

For example, if you have five disks named disk 001 through disk 005, and remove disk 003 and disk 004, the next time you insert those disks, Command View EVA v3.1 will name them 006 and 007.

SSSU Responds with Server Down Error While Still Able to Browse to Command View EVA v3.1

In rare instances, SSSU loses communication with Command View EVA v3.1 and reports that it is down, stopped, or restarting even though it is possible to browse to Command View EVA v3.1. To fix this, restart Command View EVA v3.1.

SSSU Responds with Neither Success or Failure Message

In some instances when SSSU is run from a host with a heavy I/O load, SSSU may issue the following error:

```
Error: Neither SUCCESS or FAILURE were returned by this
command.
```

If this error occurs, verify the success or failure of the command, then retry the command, if necessary. If the error persists, contact your HP authorized service representative for troubleshooting assistance.

Page Not Found/Connection Lost/Neither Success or Failure Error

You may experience a condition where the symptom is an `HTTP 404 - File not found` error in the browser or what appears to be a hung state in SSSU. The SSSU state may generate a `No Object Found error` or a `Neither Success or Failure error.` To resolve this:

- Wait a few seconds and the problem may resolve itself or,

- Exit all of your open browser windows, including the Storage Management Appliance and Command View EVA windows. SSSU does not need to be restarted.

If the problem persists after these steps, restart Command View EVA v3.1.

Command View EVA v3.1 Startup Time

The larger your storage environment, the longer it will take to start Command View EVA v3.1.

Scrolling Function

In rare situations, the scrolling function of the **Navigation** Tree may not respond. If you encounter this behavior, refresh your browser window.

Netscape and Time Settings

Because of differences in the time functions running in Netscape browsers on Unix platforms, controller clock displays on the system property pages may be incorrect. On some versions of Unix, the time may be off by the Greenwich Mean Time (GMT) offset of the browser computer's geographic location. On other Unix versions, the time may just be incorrect.

Because of this issue, time displays on the **Set Time** page and **Initialize an HSV Storage System Page 2** page have been suppressed when viewed with a Netscape browser. Also, the **local browser time** option is unavailable from Netscape. If you want to use your browser's local time, you can set it as a custom time in these pages.

Management Appliance Time Setting

The **Set System Time** page allows you to set the storage system's clock. The default starting selection is always '**Use Management Appliance Date/Time**' even though this may not be what is currently implemented.

Online Help Behavior with Netscape

The Online Help provided with Command View EVA may behave erratically when viewed with Netscape. Also, the Index and Search functions may not operate properly.

Netscape Tooltips

Tooltips (pop-up displays) do not work in some Unix implementations of Netscape.

Security/Password Issue with Storage Management Appliance v2.1

When you change the username or password for a Storage Management Appliance v2.1, the internal Command View EVA v3.1 username and password are not changed. SSSU still accesses the Storage Management Appliance and executes element manager commands using

the old username and password (such as `administrator/administrator`). This can be confusing as you will not be prompted to enter the Command View EVA v3.1 internal username and password unless the browser cookie expires.

To change the internal username and password for Command View EVA v3.1, browse directly to http://<appliance_name> or ip>:2381/cpqlogin.htm?ChangePassword=yes

Event Log Messages use HSV Element Manager Name

Storage Management Appliance event log messages may refer to Command View EVA by its former name, HSV Element Manager.

Parse File Format Restrictions on Unix

If you need to use the *send parse file* functionality from a Unix machine, be sure the parse file is in DOS format. If you use FTP to transfer the parse file, use binary mode.

Discovery Display Issue

Errors may occur during discovery which affect the view of your configuration, as displayed by Command View EVA. If you see duplicate storage cells or uninitialized storage cells you know to be initialized, restart Command View EVA. If that does not correct the problem, restart the Storage Management Appliance.