

HP StorageWorks 3000/5000 Enterprise Virtual Array updating product software guide (VCS 3.110)

Part number: 5697-8108
Third edition: March 2009



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Contents

About this guide	9
Intended audience	9
Document conventions and symbols	9
HP technical support	10
HP web sites	10
Documentation feedback	11
1 Getting started	13
Upgrade paths	13
Reference documentation	13
Required kits	14
2 Pre-upgrade tasks	15
Checking current software versions	17
Checking the HP Command View EVA version	18
Checking the storage system hardware	19
Checking and upgrading your SAN infrastructure (Optional)	22
Collecting SAN configuration data using SAN Visibility (Optional)	22
Installing SAN Visibility	22
Using SAN Visibility	23
Creating a report	26
Reading the report	28
Back up all storage system data	29
Upgrading HP Command View EVA (Optional)	29
Upgrading using the typical installation	29
Verifying the installation	30
Upgrading browsers and JRE (Optional)	31
Installing Remote Support Software	31
Upgrading HP Replication Solutions Manager (optional)	32
Monitoring storage system stability	32
Preparing an HP Continuous Access EVA environment for upgrading	34
Upgrading disk drive firmware in an HP Continuous Access EVA environment	35
Saving storage system configuration information	35
3 Upgrading the Enterprise Virtual Array	37
Upgrading remotely versus locally	37
Solving upgrade problems	37
Step 1. Checking the health of the Enterprise Virtual Array	38
Step 2. Disabling Remote Support Software	41
Step 3. Clearing storage system passwords	42
Clearing the password on the Operator Control Panel (OCP)	42
Disabling password access in HP Command View EVA	42
Step 4. Halting all host access to the storage system for an offline upgrade (optional)	43
Step 5. Upgrading controller firmware to VCS 3.110	43

Upgrading controller firmware	43
Step 6. Upgrading disk drive firmware	48
Upgrading the firmware	49
Upgrading firmware on an individual disk	52
Step 7. Entering storage system passwords	52
Entering the password on the OCP	52
Enabling password access in HP Command View EVA	53
Step 8. Resuming storage system operation	54
4 Downgrading the Enterprise Virtual Array	55
Downgrading the Enterprise Virtual Array to 3.028	55
5 Troubleshooting	57
Solving HP Command View EVA problems (Step 1)	57
General HP Command View EVA troubleshooting tips	57
Troubleshooting HP Command View EVA with a management server	58
Troubleshooting specific HP Command View EVA errors	58
View is not set or view list is null	58
HTTP status 404, not found or status 503, no service	59
Unknown storage system	60
No storage systems found	60
Solving security credentials configuration problems	61
Access control	62
Solving problems selecting a storage system (Step 2)	62
Solving problems disabling DR group failsafe mode (Step 3)	63
Solving problems downloading the system software file (Step 6)	63
Invalid firmware image file (Status code 21006)	63
Bad image header (Status code 65)	64
Solving problems if the storage system does not come back online (Step 10)	64
Solving problems with multiple resynchronizations (Step 10)	65
Index	67

Figures

1 HSV Storage Network Properties page	18
2 HP Command View EVA Online Help	19
3 HP Command View EVA Help – About HP StorageWorks Command View EVA page	19
4 HP Command View EVA Help – Version page	19
5 Hardware Folder Properties window	21
6 Checking operational states	21
7 SAN Visibility management page	24
8 Sample SAN Visibility report	29
9 Initialized Storage System Properties window — View events button	33
10 View Events window	33
11 Controller Events (Initialized system) window	34
12 Hardware Folder Properties window	39
13 Checking operational states	39
14 Initialized Storage System Properties page — View events button	40
15 View Events page	40
16 Controller Events (Initialized system) page	41
17 Initialized Storage System Properties page	44
18 Code Load Storage System-Page 1 window	44
19 Code Load Storage System-Page 2 window	45
20 Validating code segments complete	46
21 Initializing firmware code load	48
22 Storage system updating firmware	48
23 Verifying VCS version after upgrading	48
24 Code Load Selection window — disk drives	50
25 Code Load Disk Drives — Page 1 window	50
26 Code Load Disk Drives — Page 2 window	51
27 Code Load Disk Drives — status window	51
28 Code Load Disk Drives — Page 3 window	52
29 Enable Password Access to a Storage System window	53
30 Status icon for a good storage system	62
31 Status icon for a bad storage system	63
32 Invalid firmware image file (Status code 21006)	64

33 Bad image header (Status code 65) 64

Tables

1 Document conventions	9
2 Reference documentation	13
3 VCS 3.110 Pre-upgrade task checklist	15
4 Management software version worksheet	17
5 VCS 3.110 System Software Upgrade Checklist	37
6 System software code segment descriptions	46
7 Possible causes and corrective actions for HTTP 404 and HTTP 503 errors	59
8 Possible causes and corrective actions when no storage system found	61

About this guide

This guide provides information to help you:

- Upgrade the Enterprise Virtual Array controller firmware and disk drive firmware
- Upgrade supporting components, such as HP Command View EVA and other management software

This guide does not provide information about upgrading or changing the Enterprise Virtual Array hardware.



NOTE:

The procedures in this guide are for upgrading from VCS 3.028 to VCS 3.110.

Intended audience

This guide is intended for use by Enterprise Virtual Array customers involved in upgrading system software on EVA3000/5000 storage systems. You should have experience with the following:

- Enterprise Virtual Arrays
- Storage area networks
- HP Command View EVA

Document conventions and symbols

Table 1 Document conventions

Convention	Element
Medium blue text: Required documentation	Cross-reference links and e-mail addresses
Medium blue, underlined text (http://www.hp.com)	Web site addresses
Bold font	<ul style="list-style-type: none">• Key names• Text typed into a GUI element, such as into a box• GUI elements that are clicked or selected, such as menu and list items, buttons, and check boxes
<i>Italic font</i>	Text emphasis
Monospace font	<ul style="list-style-type: none">• File and directory names• System output• Code• Text typed at the command line

Convention	Element
<i>Monospace, italic font</i>	<ul style="list-style-type: none"> • Code variables • Command-line variables
Monospace, bold font	Emphasis of file and directory names, system output, code, and text typed at the command line

 **CAUTION:**

Indicates that failure to follow directions could result in damage to equipment or data.

 **IMPORTANT:**

Provides clarifying information or specific instructions.

 **NOTE:**

Provides additional information.

 **TIP:**

Provides helpful hints and shortcuts.

HP technical support

Telephone numbers for worldwide technical support are listed on the HP support web site: <http://www.hp.com/support/>.

Collect the following information before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Error messages
- Operating system type and revision level
- Detailed questions

For continuous quality improvement, calls may be recorded or monitored.

HP web sites

For additional information, see the following HP web sites:

- <http://www.hp.com>
- <http://www.hp.com/go/storage>

- http://www.hp.com/service_locator
- <http://www.hp.com/support/manuals>
- <http://www.hp.com/support/downloads>

Documentation feedback

HP welcomes your feedback.

To make comments and suggestions about product documentation, please send a message to storagedocsfeedback@hp.com. All submissions become the property of HP.

1 Getting started

This chapter provides information about required kits and reference documentation. Ensure that you have met the outlined requirements and possess all of the required materials before you begin the installation procedures described in this guide.

Upgrade paths

You can perform an offline upgrade to VCS 3.110 from VCS 3.028 or VCS 3.100. If you are upgrading to VCS 3.110 from any other version, you must contact HP Services and arrange a time for HP Services to perform the upgrade.

An online upgrade to VCS 3.110 is not supported. To perform an offline upgrade, you must stop all host I/O to the storage system. Stop all applications accessing the storage system and shut down hosts, if necessary.

VCS 3.110 replaces VCS 3.100. VCS 3.110 contains all of the features and fixes of VCS 3.100. The only difference is the removal of support for the RoHS-compliant backend loop switch (part number 30-10022-01).

Reference documentation

Table 2 identifies the documentation you should have available when upgrading the storage system.

Table 2 Reference documentation

Document	Required?	Location
HP StorageWorks EVA documentation		
<i>HP StorageWorks 3000/5000 Enterprise Virtual Array user guide</i>		http://www.hp.com/support/manuals Click Disk Storage Systems under Storage, and then select HP StorageWorks 3000 Enterprise Virtual Array or HP StorageWorks 5000 Enterprise Virtual Array under EVA Disk Arrays.
<i>HP StorageWorks 3000/5000 Enterprise Virtual Array release notes</i>	Yes	
<i>HP StorageWorks 3000/5000 Enterprise Virtual Array connectivity release notes. There is a separate document for each supported operating system.</i>	Yes	
HP StorageWorks Command View EVA documentation		
<i>HP StorageWorks Command View EVA user guide</i>		http://www.hp.com/support/manuals Click Storage Software under Storage, and then select HP StorageWorks Command View EVA Software under Storage Device Management Software.
<i>HP StorageWorks Command View EVA installation guide</i>	Yes	

Document	Required?	Location
<i>HP StorageWorks Enterprise Virtual Array compatibility reference</i>	Yes	
<i>HP StorageWorks Storage System Scripting Utility reference</i>		
HP StorageWorks EVA replication software documentation		
<i>HP StorageWorks Replication Solutions Manager installation guide</i>		http://www.hp.com/support/manuals Click Storage Software under Storage, and then select HP StorageWorks Continuous Access EVA Software under Storage Replication Software.
<i>HP StorageWorks Replication Solutions Manager administrator guide</i>		
<i>HP StorageWorks Continuous Access EVA implementation guide</i>		
<i>HP StorageWorks JREserver installation instructions</i>		
SAN infrastructure documentation		
<i>HP StorageWorks SAN Design Reference Guide</i>	Yes	http://www.hp.com/support/manuals Click Storage Networking under Storage, and then select HP StorageWorks SAN under HP StorageWorks SAN Solutions.

Required kits

Before you begin the Enterprise Virtual Array upgrade, you must have the following kits:

- *HP StorageWorks EVA 3000/5000 3.110 controller media kit (VCS 3.110)*
 In addition to documentation, this kit contains the HP StorageWorks Enterprise Virtual Array System Software Version VCS 3.110 CD.
- *HP StorageWorks Command View EVA 6.0 media kit*
 The contents of this kit are described in *HP StorageWorks Command View EVA CD contents*.
 Using HP Command View EVA is optional. The *HP StorageWorks Command View EVA 6.0 media kit* is required only if you are using HP Command View EVA.

2 Pre-upgrade tasks

There are a number of necessary tasks that can be performed prior to beginning the upgrade. Performing these tasks prior to, rather than during, the upgrade minimizes the time required to perform the VCS upgrade procedure.

The required tasks differ depending on your system configuration. They focus on upgrading components to ensure they meet the supported configuration for VCS 3.110. [Table 3](#) provides a checklist so you can track your progress as you perform these pre-upgrade tasks.

If you have a supported configuration running VCS 3.028, the majority of these tasks are considered optional.

Table 3 VCS 3.110 Pre-upgrade task checklist

<p>Checking current software versions, page 17</p> <p>Time required: 10–15 minutes</p> <p>When to perform: Any time prior to the upgrade</p> <ul style="list-style-type: none">– Check versions of all applicable installed management software.
<p>Checking the storage system hardware (Optional), page 19</p> <p>Time required: 15–20 minutes</p> <p>When to perform: 1–2 weeks prior to the upgrade. Provide enough time to order and replace any failed components.</p> <ul style="list-style-type: none">– Check hardware status using HP Command View EVA.– Check hardware components in the Unmappable Hardware folder.– Replace hardware as needed.
<p>Checking and upgrading your SAN infrastructure (Optional), page 22</p> <p>Time required: Varies depending on how many hardware and software components require replacement or upgrade</p> <p>When to perform: Any time prior to the upgrade</p> <p>Things you will need:</p> <ul style="list-style-type: none">• Connectivity release notes. See “Required documentation” on page 13.• SAN Visibility tool. See “Collecting SAN configuration data using SAN Visibility (Optional)” on page 22. <ul style="list-style-type: none">– Verify all host HBAs and drivers are supported.– Verify Fibre Channel switch firmware is supported.– Upgrade unsupported components as necessary.
<p>Back up all storage system data, page 29</p> <p>Time required: Varies</p> <p>When to perform: As close as possible to the upgrade</p> <ul style="list-style-type: none">– Perform a full verified backup of all storage system data.

[Upgrading HP Command View EVA \(Optional\)](#), page 29

Time required: 15–20 minutes

When to perform: Any time prior to the upgrade (upgrading HP Command View EVA is optional).

Things you will need:

- HP StorageWorks Command View EVA 5.x, 6.x, or later installation media.
- Check the HP Command View EVA version; it must be 5.x, 6.x, or later.
- Upgrade to version 6.x or later if necessary.

[Upgrading browser and Java Runtime Environment \(Optional\)](#), page 31

Time required: 10–20 minutes

When to perform: Any time prior to the upgrade

- If you are currently running HP Command View EVA 5.x, 6.x, or later, no action is required.
- Upgrade browser if necessary.
- Upgrade JRE if necessary.

[Installing Remote Support Software](#), page 31

Time required: 10–20 minutes

When to perform: Any time prior to the upgrade

Things you will need:

- Remote Support Software documentation available from the following website:
<http://docs.hp.com/en/netsys.html#Insight%Remote%20Support>
- Install Remote Support Software as necessary.

[Upgrading HP Replication Solutions Manager \(optional\)](#), page 32

Time required: 10–20 minutes

When to perform: Any time prior to the upgrade

Things you will need:

- HP StorageWorks Replication Solutions Manager 2.1 or later
- *HP StorageWorks Replication Solutions Manager installation guide*. See “[Required documentation](#)” on page 13.
- Upgrade to HP Replication Solutions Manager 2.1 or later if installed.

[Monitoring storage system stability](#), page 32

Time required: 25–35 minutes

When to perform: 48 hours before the upgrade

- Verify there are no critical events entered in the controller event log.
- Ensure the storage system configuration is stable and no configuration changes are in progress.

[Preparing an HP Continuous Access EVA environment for upgrading](#), page 34

Time required: Varies depending on replication configuration

When to perform: As close as possible to the upgrade

- Disable failsafe mode on all DR groups.

[Saving storage system configuration information](#), page 35

Time required: 10–15 minutes

When to perform: As close as possible to the upgrade

Things you will need:

- HP Storage System Scripting Utility (called the utility). This is included with HP Command View EVA 6.0.
 - *HP StorageWorks Storage System Scripting Utility reference*. See “[Required documentation](#)” on page 13.
- Capture configuration information using the utility.
- Store configuration locally (not on storage system).

Checking current software versions

Estimated time to complete: 10–15 minutes

When to perform: Any time prior to the upgrade

When upgrading the system software, it may be necessary to upgrade related management software to the correct version as required. Use [Table 4](#) to collect version information for your current software. You must upgrade any software that does not meet the required version.

 **NOTE:**

For complete details on EVA software compatibility, see the EVA software version compatibility table and the HP Command View EVA interoperability support table in the *HP StorageWorks EVA software compatibility reference*. See “[Required documentation](#)” on page 13 for the link to this document.

Table 4 Management software version worksheet

Software	Required version	Locating version information ¹	Upgrade procedure
HP Command View EVA (optional)	5.x, 6.x, or later	<ol style="list-style-type: none">1. Open HP Command View EVA.2. Click Help in the Session pane. The HP Command View EVA Online Help window opens and the version is displayed.	See Upgrading HP Command View EVA (Optional)
HP Replication Solutions Manager (if installed)	2.1 or later	<ol style="list-style-type: none">1. Open or browse to HP StorageWorks Replication Solutions Manager.2. Select Help in the menu bar.3. Select About. The version of HP Replication Solutions Manager server is displayed.	See Upgrading HP Replication Solutions Manager (optional)
JRE (Optional)	1.5.0_04 and later ²	<ol style="list-style-type: none">1. Open Windows control panel.2. Double-click the Java icon.3. On the General tab, click About. The version of Java is displayed.	See Upgrading browser and Java Runtime Environment (Optional)

Software	Required version	Locating version information ¹	Upgrade procedure
Web browser (required)	Internet Explorer 6.0 SP1 ²	From your browser, select Help > About Internet Explorer .	See Upgrading browser and Java Runtime Environment (Optional)

¹You can also use Windows Add or Remove Programs to view the software version

²For Windows servers. For clients running other operating systems, see the Browser and JRE support table in the *HP StorageWorks Enterprise Virtual Array compatibility reference*. See "[Required documentation](#)" on page 13 for the link to this document.

Checking the HP Command View EVA version

To check the HP Command View EVA version, perform the following steps:

1. Open HP Command View EVA on the management server.

The HSV Storage Network Properties window opens.

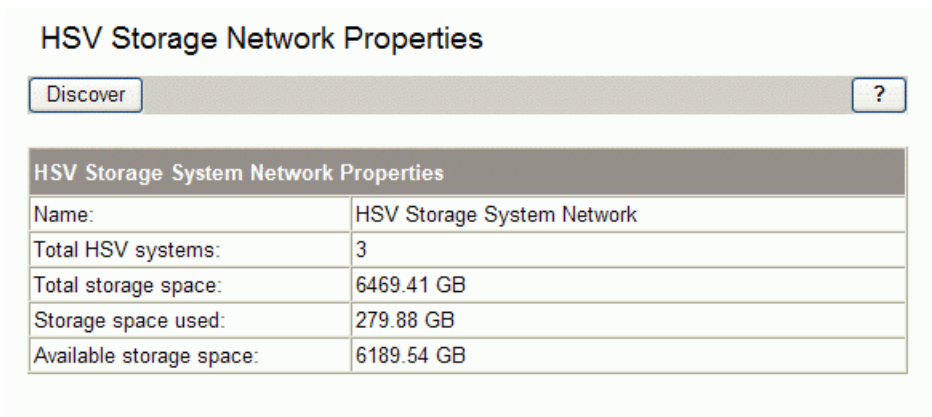


Figure 1 HSV Storage Network Properties page

2. Click **Help** in the Session pane.

3. Select **About HP StorageWorks Command View EVA** from the drop-down list.

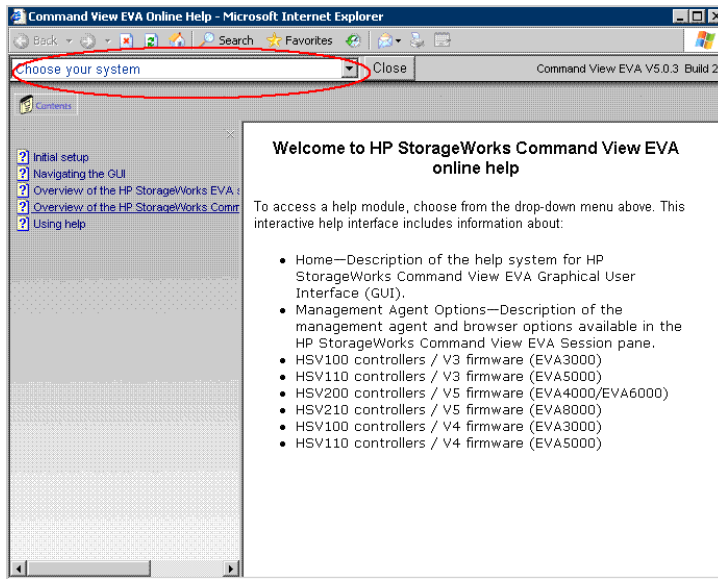


Figure 2 HP Command View EVA Online Help

4. In the About HP StorageWorks Command View EVA window, click **Version and build information**.

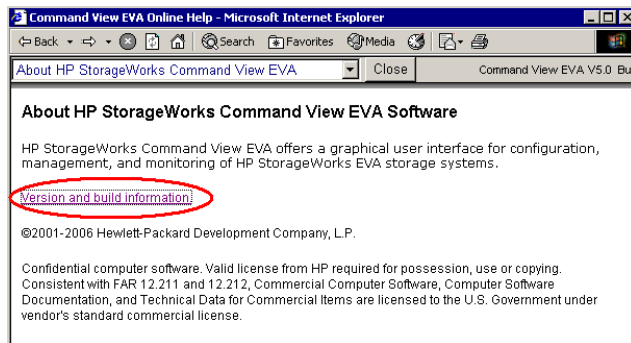


Figure 3 HP Command View EVA Help – About HP StorageWorks Command View EVA page

The version is displayed. If the version listed is earlier than version 5.x, it must be upgraded to 5.x, 6.x, or later. See the *HP StorageWorks Command View EVA installation guide* for instructions.

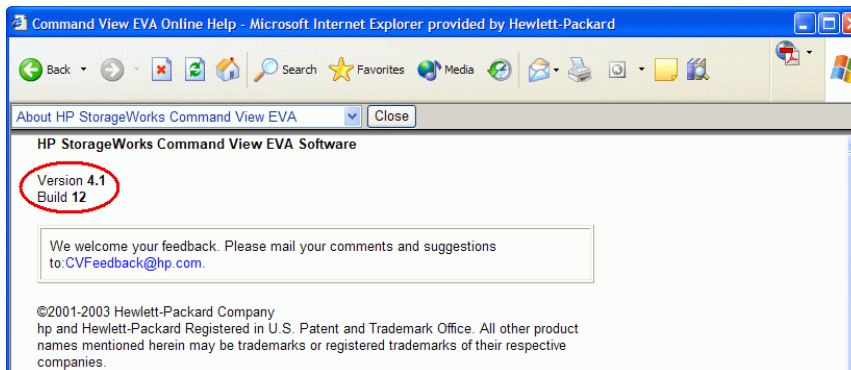


Figure 4 HP Command View EVA Help – Version page

Checking the storage system hardware

Estimated time to complete: 15–20 minutes

When to perform: 1–2 weeks prior to the upgrade. Provide enough time to order and replace any failed components.

Before upgrading your Enterprise Virtual Array, you should check the operation of the storage system hardware and replace any failed components. This ensures the storage system will be operating properly when the upgrade is performed. This task should be performed far enough in advance to give you time to order and replace any failed hardware components before beginning the upgrade.

1. Open HP Command View EVA and click the icon of the storage system you want to upgrade. Check for hardware errors.
 - a. Check the Hardware folder in the Navigation pane. If there are any hardware caution or warning conditions, HP Command View EVA displays the appropriate icon over the folder.
 - b. Click the Hardware folder to expand the navigation tree.

The Hardware Folder Properties window opens. The Operational State field indicates if there is a hardware problem.

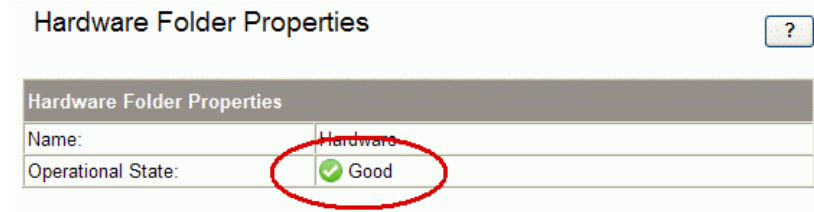


Figure 5 Hardware Folder Properties window

- c. If a problem is indicated, continue to expand the navigation tree under the Hardware folder, until you see a hardware component icon with an attention or warning icon on it.
- d. Click the component icon to display the properties window. The **Operational state** field indicates if there is a hardware error.

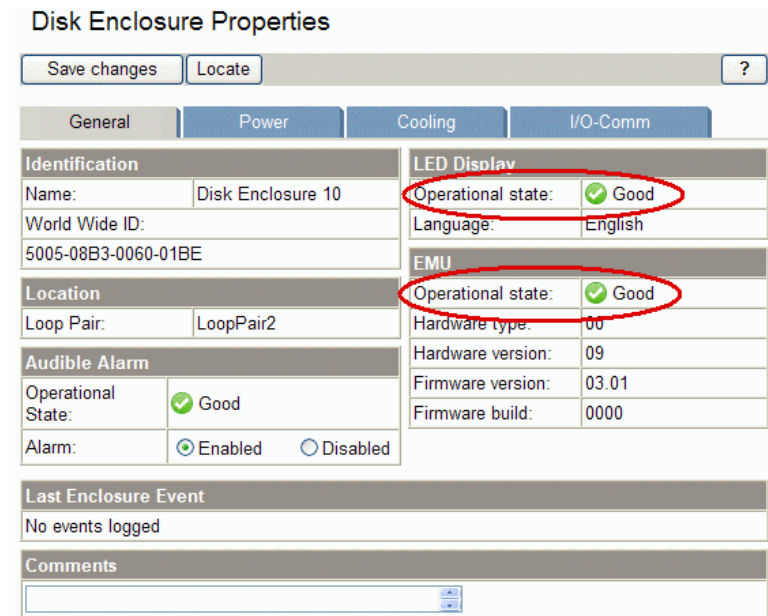


Figure 6 Checking operational states

2. Verify that there are no hardware components in the Unmappable Hardware folder.
 - a. Expand the navigation tree under the Hardware folder in the Navigation pane.
 - b. Click the Unmappable Hardware folder.

Hardware components can be placed in the Unmappable Hardware folder for several reasons. For example, hardware components can be placed in the Unmappable Hardware folder, when the I/O modules on a disk enclosure are not working, the controllers restart, or there is a hardware failure. If there are any hardware components listed under this folder, determine why they are listed there and fix the problems.

3. Replace any hardware components that have failed.

 **NOTE:**

If you must replace any components, see the *HP StorageWorks 3000/5000 Enterprise Virtual Array user guide* for replacement instructions. See [Table 2](#) on page 13 for the link to this guide.

Checking and upgrading your SAN infrastructure (Optional)

Estimated time to complete: Varies depending on the number of components that may require replacement.

When to perform: Any time prior to the upgrade

If the array is in a supported configuration running VCS 3.028, this task is optional.

It is important to ensure that your SAN environment meets the configuration requirements of VCS 3.110. This includes host HBAs and drivers, and Fibre Channel switch firmware.

Collecting SAN configuration data using SAN Visibility (Optional)

HP provides the SAN Visibility tool to automate the process of collecting SAN configuration data. SAN Visibility collects configuration information from the Fibre Channel switches on your SAN. Any information provided by devices when they log into the fabric is included. The raw configuration data is collected, packaged, and sent to HP, where it is formatted into a complete report and returned to you. The report can then be used to determine if any of your SAN components are not supported by the latest controller software and must be replaced.

For more information on HP StorageWorks SAN Visibility software, see the following HP website:

<http://h18006.www1.hp.com/storage/networking/sansolutions.html>

 **NOTE:**

The version of SAN Visibility you are running may be a later version than what is shown below.

Using SAN Visibility is optional.

SAN Visibility requires Java Runtime Environment (JRE) 1.5.0 Update 1 or later. You can download the most current JRE version from Sun's web site:

<http://www.sun.com/>

Installing SAN Visibility

SAN Visibility is typically installed on the management server running HP Command View EVA.

1. Download SAN Visibility from the following web site:

<http://h18006.www1.hp.com/storage/networking/sansolutions.html>

Click **SAN Visibility Tool** under SAN Solutions.

2. Double-click the downloaded file to launch the installation.
3. Follow the on-screen instructions to install the software.

Using SAN Visibility

Before running SAN Visibility for the first time, you will need the following information:

- The IP addresses of the switches in your SAN connected to the storage system being upgraded. You must have SNMP access to the switches to collect information from them.
- The name or IP address of your SMTP mail server to send reports automatically.

The following steps provide an overview of using SAN Visibility. For complete information about using this tool, see the SAN Visibility online help.

1. Double-click the SAN Visibility icon on the desktop.
The SAN Visibility welcome screen is displayed.
2. Click **OK** to view the SAN Settings window.
3. Select **Customer Details**. See [Figure 7](#).

4. Enter the customer data.
 - a. Enter your name in **Name**. This information is required.
 - b. Enter your e-mail address in **E-Mail** to receive the completed report. This information is required. It is not necessary to have an e-mail address connected to the EVA controller. You should enter the e-mail address where you typically receive e-mail. You can enter multiple email addresses in **E-Mail** by separating entries with a semicolon (;).
 - c. Enter data in the remaining boxes as appropriate. This information is included in the reports, but is not required.

The screenshot shows the HP StorageWorks Essentials SAN Visibility 3.0 management page. The interface includes a menu bar with 'File', 'View', and 'Help'. A left sidebar contains navigation options: 'SAN Settings', 'Switch Settings', 'Customer Details' (selected), 'Advanced Settings', and 'Data Collection'. The main content area is titled 'Customer Details' and contains the following fields:

- Name:** John Doe (mandatory field, indicated by an asterisk)
- Company Name:** (empty)
- E-mail:** Johndoe@sanvis.com (mandatory field, indicated by an asterisk)
- Telephone:** (empty)
- Job Title:** (empty)
- Street Address:** (empty)
- City:** (empty)
- State/Province:** (empty)
- Country:** Please Select (dropdown menu)
- Postal/Zip code:** (empty)

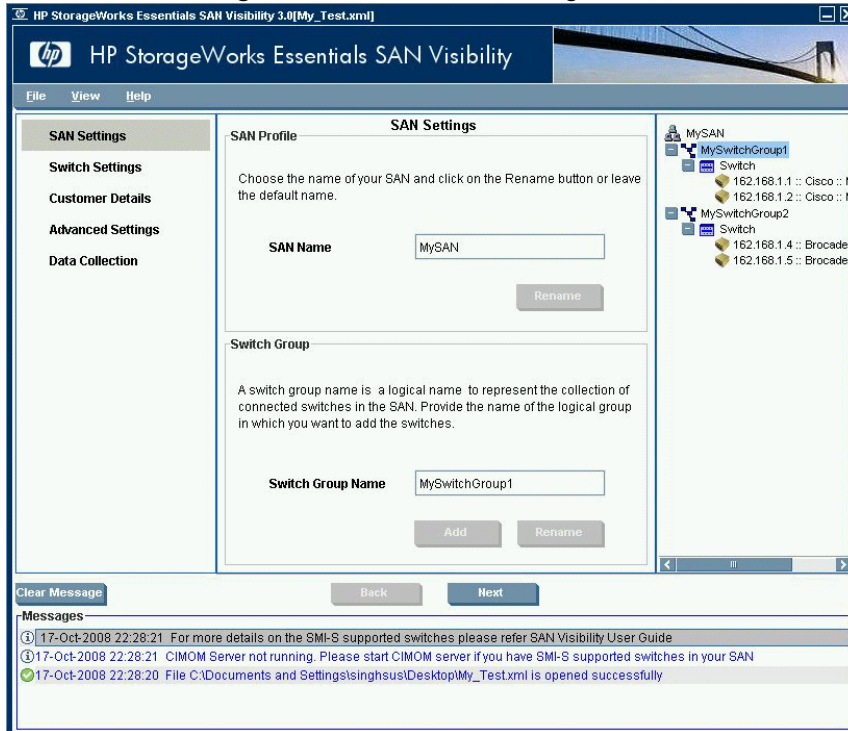
Below the form, there is a checkbox for 'Automatically e-mail the collected raw data on completion' and an optional 'SMTP Server' field. A note states: 'Note: If automatic e-mail check box is not selected, the default mail client can be invoked from data collection screen when the data collection is completed.' There is also a section for opting out of HP communications, with radio buttons for 'Yes' and 'No' for 'E-mail', '*Postal Address', and '*Phone' (all mandatory fields).

At the bottom, there is a 'Clear Message' button, 'Back' and 'Next' buttons, and a 'Messages' section with the following entries:

- 17-Oct-2008 22:28:21 For more details on the SMI-S supported switches please refer SAN Visibility User Guide
- 17-Oct-2008 22:28:21 CIMOM Server not running. Please start CIMOM server if you have SMI-S supported switches in your SAN
- 17-Oct-2008 22:28:20 File C:\Documents and Settings\slingsus\Desktop\My_Test.xml is opened successfully

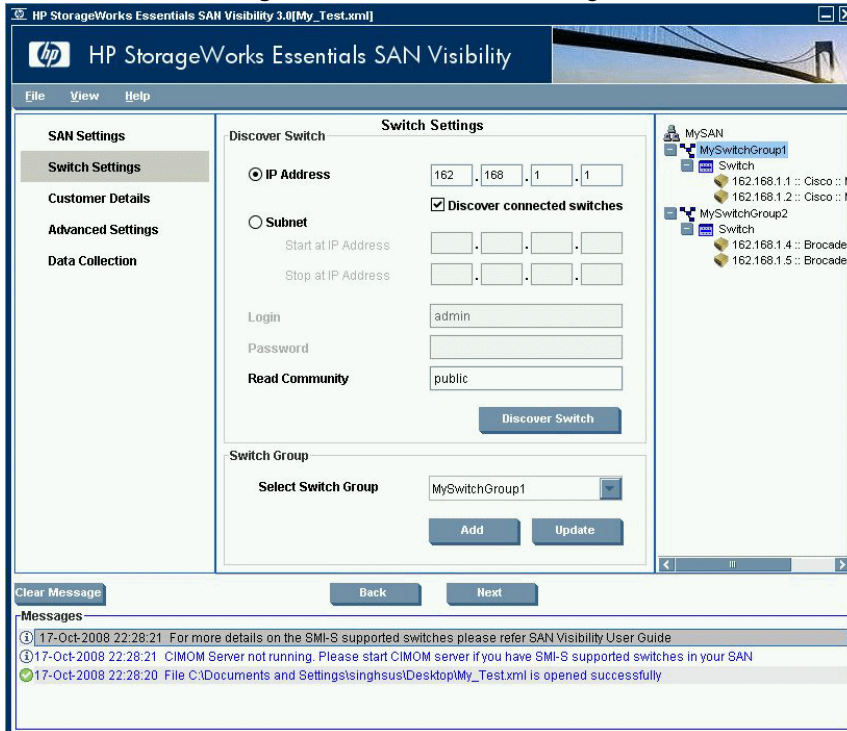
Figure 7 SAN Visibility management page

5. Click the **SAN Settings** tab and enter the following information.



- Enter a name in the SAN Name box. You can use the default SAN Name, but HP recommends that you change it to a name that is meaningful to you. This name is used when generating reports, so it should be one that is easily recognized as being associated with the SAN on which data collection will be done.
- Click **Rename**.
- Click **Yes** to confirm the name change.
- Enter a name in **Switch Group Name**. You can use the default fabric name, but HP recommends that you change it to a name that is meaningful to you. This name is used when generating reports, so it should be one that is easily recognized as being associated with the fabric on which data collection will be done.
- Click **Rename**.
- Click **Yes** to confirm the name change.

6. Click the **Switch Settings** tab and enter the following information.



- Enter the IP address of the primary switch on the SAN for which you want a report. Information will be collected for all devices connected to this switch.
- Clear **Discover cascaded switches**. This option automatically detects all switches connected to the switch identified by the IP address. Including all the cascaded switches increases the data collected for the report to include all the devices connected to all the switches. If you want to include all the switches, leave this option selected.
- Enter the switch login and password if required. The **Read Community** value is obtained from the switch.
- If you have created more than one switch group, use the **Select Switch Group** drop-down list to select the fabric to which you want to add this switch.
- Click **Add** to add the switch to the reporting configuration.

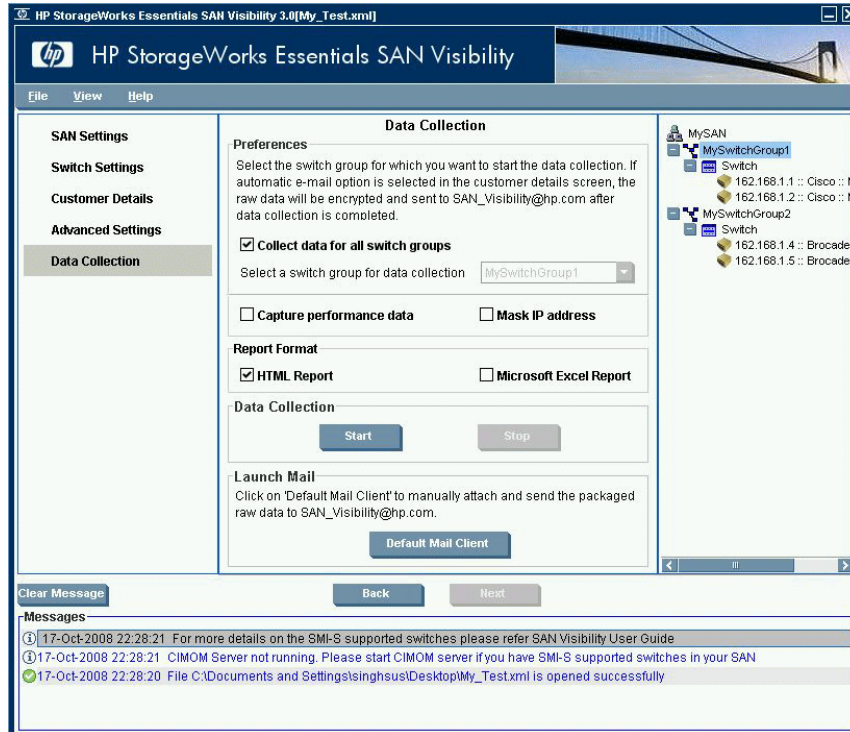
Creating a report

Once you have configured SAN Visibility for data collection, you can create a report. There are two methods for creating a report:

- Automatically—Automatically e-mails the data to HP when collection is complete. This requires you to know the SMTP address of your mail server. If you have external e-mail access from your environment, this is the preferred method.
- Manually—Requires you to manually send the data to HP. If you do not have external e-mail access, use this method.

Creating a report automatically

1. Click **Data Collection**.



2. Select the fabric for which you want to create a report from **Select a switch group for data collection**. Check **Collect data for all switch groups** to create reports for all the fabrics.
3. Clear **Capture Performance data**. If you want to gather switch performance data, leave this option selected. Selecting this option will increase the amount of time required to collect the switch data.
4. Select **Mask IP Address** check box if you do not want to send the IP address information (in the raw report) outside your network.
5. Select a format for the report by selecting **HTML Report** or **Microsoft Excel Report** check box.
6. Click **Start Data Collection**. A message is displayed in the message area on successful completion of data collection. If you have selected the option to collect switch performance data, it will take at least 10 minutes to collect the data.

When data collection is complete, the raw data is sent to HP. The report is processed and the formatted report returned to you within one business day.

7. When you receive the formatted report, save it to a temporary location on the management server.

Creating a report manually

The SMTP server IP address of the primary switch on the SAN is obtained by the e-mail address you entered on the Customer Details page. If SAN Visibility does not find the SMTP server or if you want to create a report manually, follow the procedure below:

1. Click **Data Collection**.
2. Select the fabric for which you want to create a report from **Select a switch group for data collection**. Check **Collect data for all switch groups** to create reports for all the fabrics.

3. Clear **Capture Performance data**. If you want to gather switch performance data, leave this option selected. Selecting this option will increase the amount of time required to collect the switch data.
4. Select **Mask IP Address** check box if you do not want to send the IP address information (in the raw report) outside your network.
5. Select a format for the report by selecting **HTML Report** or **Microsoft Excel Report** check box.
6. Click **Start Data Collection**. If you have selected the option to collect switch performance data, it will take at least 10 minutes to collect the data.
7. Select **Launch Default Mail Client**. The location of the report is displayed.
8. Manually attach the raw report created with subject line: "HP StorageWorks Essentials SAN Visibility Report Request". Send the report to the following e-mail address: SAN_Visibility@hp.com. An automated email response is mailed back confirming the receipt of the raw data file.
The report will be processed and the formatted report returned to you within one business day.
9. When you receive the formatted report, save it to a temporary location on the management server.

Reading the report

1. Save the attached file (.hppr file) to a preferred location. Do not change the file extension.
2. Double-click the saved file to extract the processed report. The processed report is extracted and stored at: <Install_Dir>\ExtractedProcessReports\<SAN Name>\.
3. In the left navigation pane, click **High Level Fabric Summary**.
The High Level Fabric Summary window opens. See [Figure 8](#).
4. For each switch, compare the indicated firmware (FW) version to the switch firmware supported by VCS 3.110. This information is included in *Part II. Fabric infrastructure rules* of the *HP StorageWorks SAN Design Reference Guide*. See [Table 2](#) on page 13 for the link to this document. If the firmware is not at the indicated version or later, upgrade the firmware.
5. For each HBA, compare the indicated driver and firmware versions to the versions supported by VCS 3.110.

This information is listed on the Single Point of Connectivity Knowledge (SPOCK) website (<http://www.hp.com/storage/spock>). You must sign up for an HP Passport to enable access. Once access is enabled, select **Compatibility Tool** in the left menu and then select **Host Bus Adapters**. You can refine your search by the HBA brand. For more information about how to use SPOCK, see the Getting Started Guide (http://h20272.www2.hp.com/Pages/spock_overview/introduction.html). If the firmware is not at the indicated version or later, upgrade the firmware.

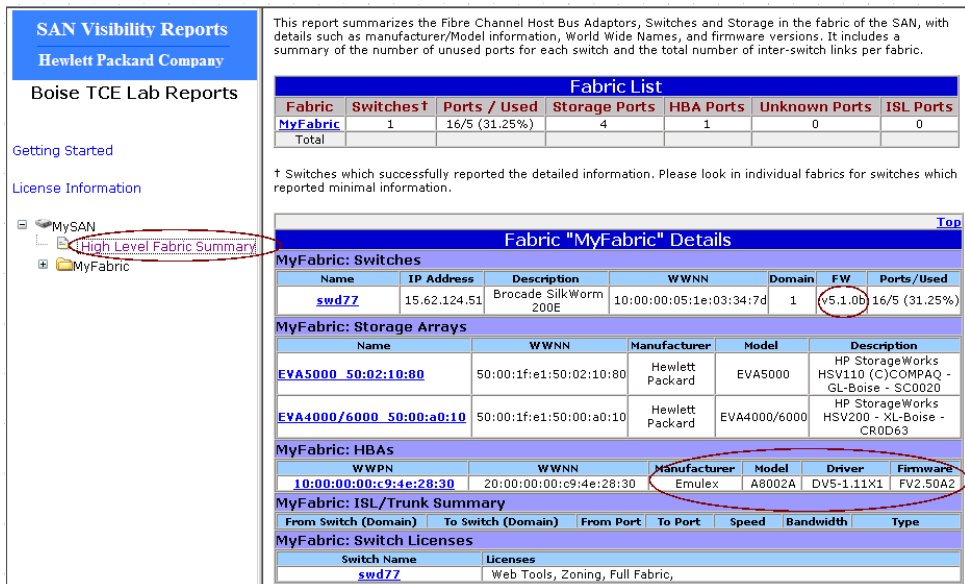


Figure 8 Sample SAN Visibility report

Back up all storage system data

Estimated time to complete: Varies

When to perform: As close as possible to the upgrade

Before beginning the upgrade, it is recommended that you perform a full verified backup of all storage system data. Although not required, it is always good practice to back up your data before performing major operations such as software upgrades. The backup should be scheduled as close to the upgrade process as possible.

For more information about establishing and implementing good backup procedures for the EVA, contact your HP sales representative.

Upgrading HP Command View EVA (Optional)

Estimated time to complete: 15–20 minutes

When to perform: Any time prior to the upgrade

HP Command View EVA 5.x, 6.x, or later is required with VCS 3.110. Check the current version and upgrade the software if necessary. If you want to upgrade multiple disk drives, you must upgrade to HP Command View EVA 6.0.2. You can upgrade to version 6.0.2 from version 6.0.

For more information on HP Command View EVA, including the *HP StorageWorks Command View EVA installation guide* and the release notes, download documentation from the web site listed in "Required documentation" on page 13.

Upgrading using the typical installation

This procedure is for the typical HP Command View EVA installation. To use the custom installation procedure, which provides control over which components are installed, see *HP StorageWorks Command View EVA installation guide* for instructions.

To install the complete software suite:

1. Close all applications running on the management server.
2. Insert the installation CD into the drive.
3. Browse to the installation CD.
4. Double-click `setup.exe` to start the installation.
The InstallShield Wizard Welcome window opens.
5. Follow the on-screen instructions to complete the installation.




 **NOTE:**

When SMI-S EVA is installed using the typical installation, a default account for the CIM administrator is created if an administrator account exists on the management server prior to installation. The default user name and password is administrator. If an administrator account does not exist on the management server prior to installation, the default CIM administrator account is not created during installation. You must add at least one CIM administrator account to CIMOM after completing the installation. See “Managing users in SMI-S EVA” in the HP Command View EVA installation guide for more information.

A trust relationship between HP Command View EVA and SMI-S EVA is established automatically when you install SMI-S EVA. As a result, HP Command View EVA accepts all SMI-S EVA queries.

Verifying the installation

To verify that the software was installed successfully:

1. Ensure that:
 - The software icons for HP Command View EVA , HP Command View EVAPerf , and/or HP Storage System Scripting Utility  appear on the desktop.
If you installed the software suite on an SMA, the HP Command View EVA icon does not appear on the desktop.
 - The software is available from the Start menu (for example, **Start > Programs > HP Command View EVA**).
If you installed the software suite on an SMA, the software is not available from the Start menu.
 - Go to Add/Remove Programs and make sure the applicable software components are listed:
 - HP StorageWorks Command View EVA software suite
 - HP StorageWorks Command View EVA
 - HP StorageWorks Command View EVA Performance Monitor
 - HP StorageWorks SMI-S EVA
 - HP StorageWorks SMI-S CIMOM

 **NOTE:**

HP Storage System Scripting Utility is not listed in Add/Remove Programs.

2. Run HP Command View EVA.

3. Verify the display of storage system resources in the interface. In the Navigation pane, click **Hardware** and verify the following:
 - New, uninitialized arrays appear as uninitialized storage systems.
 - Previously initialized arrays appear with their previous names and correct status. (Select each storage array to view the Properties window.)
 - Previous disk groups, hosts, virtual disks, and other resources appear in the Navigation pane.

If information is not displayed properly, it may be necessary to configure your browser settings. See *HP StorageWorks Command View EVA installation guide* for more information.

Upgrading browsers and JRE (Optional)

Estimated time to complete: 10–20minutes

When to perform: Any time prior to the upgrade

If you are running HP Command View EVA 5.x, 6.x, or later, you do not need to perform this task.

Ensure that you are using a supported browser and JRE. HP Command View EVA may not work correctly with an unsupported browser.

The JRE is not used by HP Command View EVA, but it is needed for HP Replication Solutions Manager. It is also required for WEBES and SAN Visibility. See “[Upgrading HP Replication Solutions Manager \(optional\)](#)” on page 32 for more information.

For complete information on supported browsers and JREs, see the "Browsers and JRE support" table in the *HP StorageWorks EVA software compatibility reference*. See “[Required documentation](#)” on page 13 for the link to this document.

 **NOTE:**

If you need to update the browser version on remote computers, do so after you have upgraded HP Command View EVA.

Installing Remote Support Software

If you are currently running an EVA monitoring tool (such as WEBES or ISEE), HP recommends that you install HP's Insight Remote Support software (part number RSSWMBASE) from www.software.hp.com. You can install or upgrade Insight Remote Support without removing any other EVA monitoring tools.

HP Insight Remote Support helps you reduce costs, save time and ensure maximum system availability by providing remote monitoring, intelligent event diagnosis and the automatic secure submission of hardware event notifications. This technology has been optimized for environments with 1-50 servers (maximum 100) and requires only a shared Windows ProLiant hosting device. It supports HP ProLiant, BladeSystem, Integrity, HP 9000 servers and HP EVA storage devices, and is available at no extra cost as part of your warranty, HP Care Pack Service or contractual support agreement with HP. For more information, access the Insight RS quick start guide at

<http://docs.hp.com/en/netsys.html#Insight%20Remote%20Support>.

 **NOTE:**

If you require integration with HP Systems Insight Manager (HP SIM) or HP Operations Manager, then you should install the HP Remote Support Pack (RSP), not Insight RS. The RSP solution enhances HP SIM with intelligent event diagnosis and the automatic submission of hardware event notifications securely to HP Support, including acknowledgement and status returns.

Remote Support Pack contains event monitoring and proactive service support, including assessments and analysis for nearly all HP servers, storage, networks and SAN environments plus selected Dell and IBM Windows servers that have a support obligation with HP, including proactive service contracts. The HP contract and warranty entitlement feature of HP SIM requires this plug-in to be installed. More information can be found at www.hp.com/services/remotesupportpack.

Upgrading HP Replication Solutions Manager (optional)

Estimated time to complete: 10–20 minutes

When to perform: Any time prior to the upgrade

If you are running HP Command View EVA 5.x, 6.x, or later, you do not need to perform this task.

If HP Replication Solutions Manager is installed, you must upgrade it to version 2.1 or later. HP Replication Solutions Manager is an optional interface for HP Business Copy EVA and HP Continuous Access EVA.

For installation information, see the *HP StorageWorks Replication Solutions Manager installation guide*. For general usage information, see the *HP StorageWorks Replication Solutions Manager administrator guide*. See “[Required documentation](#)” on page 13.

HP Replication Solutions Manager can be downloaded from the following web site:

<http://h18006.www1.hp.com/products/storage/software/bizcopyeva/index.html>

Click **Software & drivers**

 **NOTE:**

HP Replication Solutions Manager 2.1 or later requires JRE 1.5.0_04 and later. If you need to upgrade the JRE, use the JREserver included with HP Replication Solutions Manager 2.1. See the *HP StorageWorks JREserver installation instructions* for more information. See “[Required documentation](#)” on page 13 for the link to this document.

Monitoring storage system stability

Estimated time to complete: 25–30 minutes

When to perform: 48 hours before beginning the upgrade

The storage system configuration should be stable for 48 hours before beginning the upgrade. Check the status of the array to ensure it is stable and then continue monitoring status until the upgrade begins.

1. Open HP Command View EVA and click the icon of the storage system you want to upgrade.

2. Using HP Command View EVA, examine the controller event log and check for any critical events.
 - a. Select the icon of the storage system you want to upgrade in the Navigation pane.
 - b. Click **View Events**.

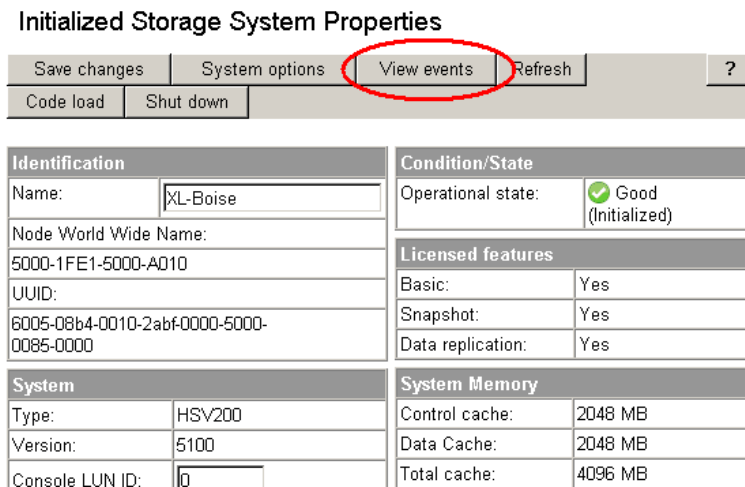


Figure 9 Initialized Storage System Properties window — View events button

The View Events window opens.

- c. Click **Controller Event Log**.

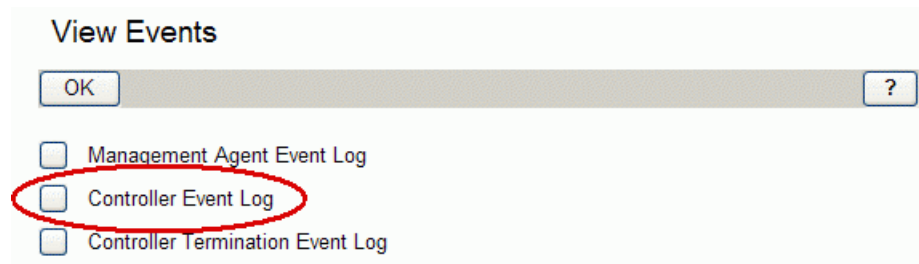


Figure 10 View Events window

The Controller Events window opens in a new browser window.

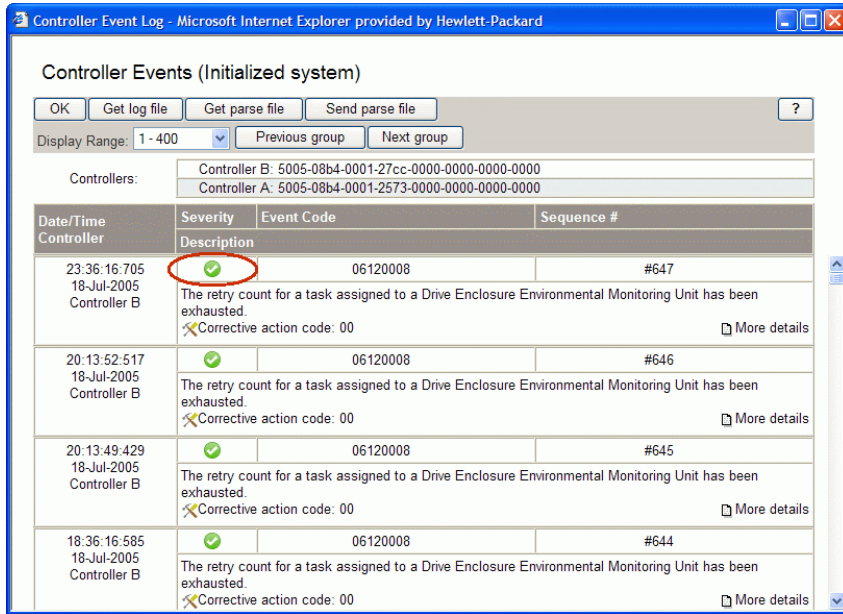


Figure 11 Controller Events (Initialized system) window

- d. Check the Severity field to determine if any unexpected Critical events ✘ have occurred.

If Critical events have occurred, perform the steps outlined in the corrective action codes to correct the problems. In some cases, it may be necessary to call your HP-authorized service representative to fix the problem.

3. Verify that no changes to the storage system configuration are in progress. For example, you should not be in the process of creating a virtual disk. Configuration changes should not be made within 48 hours before beginning the upgrade. Proactive event notification can be used to alert you if a critical event occurs during the 48 hours before the upgrade.

 **NOTE:**

- The leveling process does not impact the upgrade. If leveling is in progress, the upgrade can be performed. The leveling will be suspended during the upgrade and resumed when the upgrade is complete.
- Ensure you suspend any processes or applications that may change the storage system configuration, such as backups and snapshot creation or deletion. Stop any HP Storage System Scripting Utility scripts that are scheduled to run automatically.

Preparing an HP Continuous Access EVA environment for upgrading

Estimated time to complete: Varies depending on replication configuration

When to perform: As close as possible to the upgrade

When upgrading an EVA in an HP Continuous Access EVA environment, the following requirements must be met. See *HP StorageWorks Continuous Access EVA administrator guide* for more information.

- Before upgrading your storage system to VCS 3.110, all source and destination DR groups must be in synchronous mode. Check each DR group to verify this setting, before proceeding with the firmware upgrade process.
- Before you upgrade any storage system in an HP Continuous Access EVA relationship, ensure that all storage systems in the storage network are running the same version of controller software. This will ensure that when you upgrade one storage system, the storage network will have only two versions of controller software. You cannot have more than two versions in an HP Continuous Access EVA environment.
- During the time that the HP Continuous Access EVA storage systems are running different controller software versions, you cannot make any configuration changes to your storage systems.
- You must perform the necessary upgrades to the storage systems in the HP Continuous Access EVA relationship within 60 days (1440 hours) to make all controller software versions the same.

△ **CAUTION:**

In an HP Continuous Access EVA environment, do not begin the upgrade until the following conditions are met. If you attempt to upgrade the controllers before the following conditions are met, controller operation will fail.

- Ensure that no DR group is logging, merging, or copying. Furthermore, none of the DR groups can be in a failsafe locked state.
 1. Click the DR group icon in the Navigation pane.
 2. Check the Log state in the DR Group Properties window.
- Ensure the connection between the storage systems is not compromised or failed.
 1. Click the **Data Replication** folder in the Navigation pane.
 2. Check the Connection State in the Data Replication Folder Properties window.
- All EVA storage systems must be running normally with fully functional controller pairs.
- After upgrading the first storage system (for example, the source), wait at least three minutes and no more than 60 days before upgrading the second storage system. Ensure the preceding conditions are met on the second system.

Upgrading disk drive firmware in an HP Continuous Access EVA environment

When upgrading disk drive firmware in an HP Continuous Access EVA environment, the following requirements must be met. See *HP StorageWorks Continuous Access EVA administrator guide* for more information.

- Suspend the intersite link and upgrade all drives on the destination storage system.
- Resume the intersite link and allow the merge to complete.
- Perform site failover.
- Suspend the intersite link again and upgrade all drives on the new destination storage system.
- Resume the intersite link and allow the merge to complete.
- Perform site failback.

Saving storage system configuration information

Estimated time to complete: 10–15 minutes

When to perform: As close as possible to the upgrade

Before beginning the upgrade, the current configuration information should be collected and saved. This information can be used to restore the existing configuration if necessary. The configuration data is saved to a series of files stored in a location other than on the storage system. HP Storage System Scripting Utility (called the utility) is used to collect configuration information.

This procedure can be performed from the Storage Management Appliance or management server where HP Command View EVA is installed, or any host running the utility to communicate with the HP Command View EVA.

 **NOTE:**

You will need the IP address or name of your management server to run the utility.

1. Double-click the HP Storage Systems Scripting Utility desktop icon to open the utility. When prompted, enter Manager (management server name or IP address), User name, and Password.
2. Enter `LS SYSTEM` to display the arrays managed by the management server.
3. Enter `SELECT SYSTEM system name`, where *system name* is the name of the storage system.

The storage system name is case sensitive. If there are spaces between the letters in the name, quotes must enclose the name. For example, `SELECT SYSTEM "Large EVA"`.

4. Enter `CAPTURE CONFIGURATION`, specifying the full path and filename of the output files for the configuration data.

The configuration data is stored in a series of from one to five files, which are scripts. The file names begin with the name you choose, with the restore step appended. For example, if you specify a file name of `LargeEVA.txt`, the resultant configuration files would be `LargeEVA_Step1A.txt`, `LargeEVA_Step1B`, etc.

The contents of the configuration files can be viewed with a text editor.

5. Enter `exit`.

 **NOTE:**

You cannot use the utility to restore a configuration that contains disk drives of different capacities. You must manually restore that type of configuration. See the "Restoring an array configuration with different disk sizes and types" section in *HP StorageWorks Storage System Scripting Utility reference* for more information

You can run the `CAPTURE VALIDATE` command for each of the files generated by the `CAPTURE CONFIGURATION` command to determine if the file has been modified since the initial capture.

For more information about using the utility or using the `CAPTURE` commands, see the *HP StorageWorks Storage System Scripting Utility reference*. See "[Required documentation](#)" on page 13 for the link to this document.

3 Upgrading the Enterprise Virtual Array

The following steps guide you through the process of upgrading the system software. Ensure that you follow them carefully and in the specified order. [Table 5](#) on page 37 provides a checklist so you can track your progress as you perform the upgrade. Make sure you have all the items indicated before beginning the upgrade.

Upgrading remotely versus locally

You can perform the upgrade from a local server or from a remote server. Some advantages to performing the upgrade locally include:

- Enables you to view the various status indicators on the storage system hardware to ensure everything is working properly.
- Provides access to the controller operator control panel (OCP) to clear storage system passwords and to monitor messages.
- Reduces the amount of time involved during file transfers. The shorter distance over the network the code files must travel, the faster the transfer will occur.

Solving upgrade problems

If you experience any problems when performing the VCS upgrade procedure, see [“Troubleshooting”](#) on page 57 for assistance. If you are still unable to resolve the problem, contact your HP-authorized service representative for assistance.

Table 5 VCS 3.110 System Software Upgrade Checklist

<p>Step 1. Checking the health of the Enterprise Virtual Array, page 38</p> <p>Time required: 20–30 minutes</p> <ul style="list-style-type: none">– HP Command View EVA indicates no hardware problems.– No hardware components in the Unmappable Hardware folder.– No critical events entered in the controller event log within the last 48 hours.– Storage system configuration is stable and no configuration changes have been made within the last 48 hours.
<p>Step 2. Disabling Remote Support Software, page 41</p> <p>Time required: 10–15 minutes</p> <ul style="list-style-type: none">– Disable Remote Support Software (if used).
<p>Step 3. Clearing storage system passwords, page 42</p> <p>Time required: 10–15 minutes</p> <ul style="list-style-type: none">– Clear the OCP password.– Disable password access in HP Command View EVA.

[Step 4. Halting all host access to the storage system for an offline upgrade \(optional\)](#), page 43

Time required: Varies by host. Must be performed for each host accessing the storage system

- Halt all applications accessing the storage system.
- Stop all I/O to the storage system.

[Step 5. Upgrading controller firmware to VCS 3.110](#), page 43

Time required: 25–30 minutes

Things you will need:

- *HP StorageWorks EVA 3000/5000 controller media kit*
- Upgrade VCS firmware to version 3.110.

[Step 6. Upgrading disk drive firmware](#), page 48

NOTE:

If you are not using HP Command View EVA 6.0, you can only upgrade disk drive firmware offline to an ungrouped disk.

Time required: Varies depending on the number of disk drives that must be upgraded. It can take 30 seconds to 3.5 minutes per drive.

Things you will need:

- Disk drive code bundled image file, which can be downloaded from the following web site:
<http://www.hp.com/support/evadiskfirmware>.
- Download the disk drive firmware file.
- Upgrade the disk drive firmware.

[Step 7. Entering passwords on the HSV controllers](#), page 52

Time required: 10–15 minutes

- Enter the OCP password.
- Enable password access in HP Command View EVA.

[Step 8. Resuming storage system operation](#), page 54

Time required: Varies

- Restart applications accessing the storage system if an offline upgrade was performed.
- When running HP Continuous Access EVA, enable failsafe mode on all DR groups.
- If you changed any host LUN timeout values, reset them to their original values.
- Enable ISEE (if used).

Step 1. Checking the health of the Enterprise Virtual Array

Estimated time to complete: 20–30 minutes

Before upgrading your Enterprise Virtual Array, perform a final check of the overall status of all components. The pre-upgrade checks should ensure that the storage system is ready for upgrading, but the storage system status should be checked again.

1. Open HP Command View EVA and click the icon of the storage system you want to upgrade. Check for hardware errors.
 - a. Check the Hardware folder in the Navigation pane. If there are any hardware caution or warning conditions, HP Command View EVA displays the appropriate icon over the folder.
 - b. Click the Hardware folder to expand the navigation tree.

The Hardware Folder Properties window opens. The Operational State field indicates if there is a hardware problem.



Figure 12 Hardware Folder Properties window

- c. If a problem is indicated, continue to expand the navigation tree under the Hardware folder, until you see a hardware component icon with an attention or warning icon on it.
- d. Click the component icon to display the properties window. The **Operational state** field indicates if there is a hardware error.

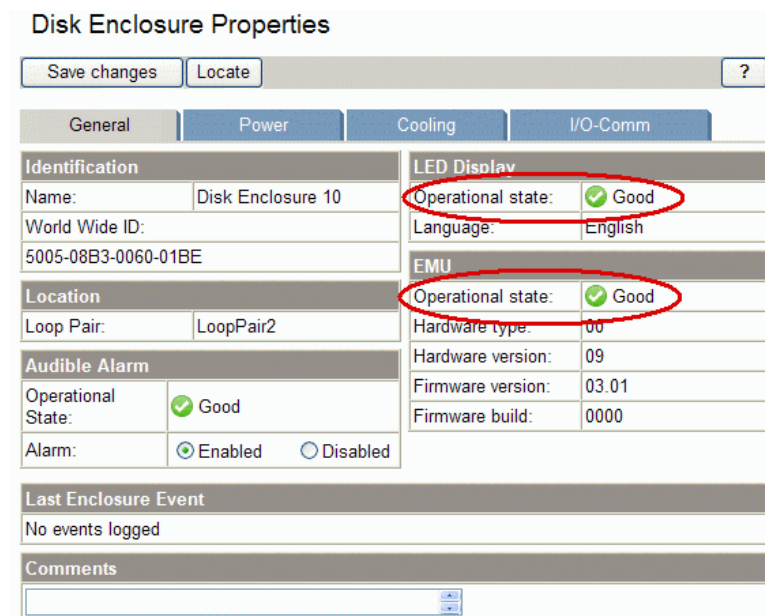


Figure 13 Checking operational states

2. Verify that there are no hardware components in the Unmappable Hardware folder.
 - a. Expand the navigation tree under the Hardware folder in the Navigation pane.
 - b. Click the Unmappable Hardware folder.

Hardware components can be placed in the Unmappable Hardware folder for several reasons. For example, hardware components can be placed in the Unmappable Hardware folder, when the I/O modules on a disk enclosure are not working, the controllers restart, or there is a hardware failure. If there are any hardware components listed under this folder, determine why they are listed there and fix the problems.

3. Using HP Command View EVA, examine the controller event log and check for any critical events.
 - a. Select the icon of the storage system you want to upgrade in the Navigation pane.
 - b. Click **View Events**.

Initialized Storage System Properties

Save changes	System options	View events	Refresh	?
Code load	Shut down			

Identification	Condition/State
Name: XL-Boise	Operational state: ✔ Good (Initialized)
Node World Wide Name: 5000-1FE1-5000-A010	
UUID: 6005-08b4-0010-2abf0000-5000-0085-0000	
Licensed features	
Basic:	Yes
Snapshot:	Yes
Data replication:	Yes
System	System Memory
Type: HSV200	Control cache: 2048 MB
Version: 5100	Data Cache: 2048 MB
Console LUN ID: 10	Total cache: 4096 MB

Figure 14 Initialized Storage System Properties page — View events button

The View Events page opens.

- c. Click **Controller Event Log**.

View Events

OK	?
<input type="checkbox"/> Management Agent Event Log <input checked="" type="checkbox"/> Controller Event Log <input type="checkbox"/> Controller Termination Event Log	

Figure 15 View Events page

The Controller Events page opens in a new browser window.

- d. Check the Severity field to determine if any unexpected Critical events ✘ have occurred within the last 48 hours.

The most recent 400 events are displayed. If more than 400 events have occurred within the last 48 hours, use the Display Range box to select the preceding events.

Controller Events (Initialized system)

OK Get log file Get parse file Send parse file ?

Display Range: 1 - 400 Previous group Next group

Controllers: Controller B: 5005-08b4-0001-27cc-0000-0000-0000-0000
Controller A: 5005-08b4-0001-2573-0000-0000-0000-0000

Date/Time Controller	Severity	Event Code	Sequence #
23:36:16:705 18-Jul-2005 Controller B	✔	06120008	#647
The retry count for a task assigned to a Drive Enclosure Environmental Monitoring Unit has been exhausted. ✘ Corrective action code: 00 More details			
20:13:52:517 18-Jul-2005 Controller B	✔	06120008	#646
The retry count for a task assigned to a Drive Enclosure Environmental Monitoring Unit has been exhausted. ✘ Corrective action code: 00 More details			
20:13:49:429 18-Jul-2005 Controller B	✔	06120008	#645
The retry count for a task assigned to a Drive Enclosure Environmental Monitoring Unit has been exhausted. ✘ Corrective action code: 00 More details			
18:36:16:585 18-Jul-2005 Controller B	✔	06120008	#644
The retry count for a task assigned to a Drive Enclosure Environmental Monitoring Unit has been exhausted. ✘ Corrective action code: 00 More details			

Figure 16 Controller Events (Initialized system) page

- e. If Critical events have occurred within the last 48 hours, perform the steps outlined in the corrective action codes to correct the problems. In some cases, it may be necessary to call your HP-authorized service representative to fix the problem.

△ **CAUTION:**

If any critical events have occurred within the last 48 hours, do not proceed with the upgrade until the situation has been resolved.

4. Verify that no changes to the storage system configuration are in progress. For example, you should not be in the process of creating a virtual disk. Configuration changes should not be made within 48 hours before beginning the upgrade.

📝 **NOTE:**

- The leveling process does not impact the upgrade. If leveling is in progress, the upgrade can be performed. The leveling will be suspended during the upgrade and resumed when the upgrade is complete.
- Make sure you suspend any processes or applications that may change the storage system configuration.
- Proactive event notification can be used to alert you if a critical event occurs during the 48 hours before the upgrade.

Step 2. Disabling Remote Support Software

Estimated time to complete: 10–15 minutes

If you are running Remote Support Software (RSS), disable it as follows to avoid generating unnecessary alerts during the upgrade:

1. On the management server, open a command window.
2. Enter the following command to stop ISEE:

```
C:\>DESTA ISEE OFF
```
3. Enter the following commands to stop and restart RSS:

```
C:\>net stop desta_service  
C:\>net start desta_service
```
4. Enter `exit`.

Step 3. Clearing storage system passwords

Estimated time to complete: 10–15 minutes

If you use passwords on the HSV controllers, use the following procedure to clear them.

 **NOTE:**

When you clear a system password on the controller, you must also disable password access to the storage system in HP Command View EVA. The two work in conjunction with one another.

Clearing the password on the Operator Control Panel (OCP)

Clearing the password requires access to the storage system. The OCP is located on the front of each controller.

Using the following procedure to clear the password on the storage system controllers. The password can be cleared from either controller.

1. Press ▼ four times to scroll to the System Password menu.
2. Press ► to display *Change Password*.
3. Press ▼ to scroll to *Clear Password*.
4. Press ► to display *Clear Password*.
5. Press **Enter** to clear the password.

The *Password cleared* message will be displayed.

The password is cleared. The system automatically returns to the default display (WWID).

Disabling password access in HP Command View EVA

Estimated time to complete: 10 minutes

To disable password access to a storage system in HP Command View EVA:

 **NOTE:**

You will need to know the World Wide Name (WWN) of the storage system to disable password access.

1. Start HP Command View EVA in your browser.
2. Click **Agent Options** in the Session pane.
The Management Agent Options window opens.
3. Click **Storage system password access**.
The Storage System Password Access window opens.
4. Click **Disable**.
The Disable Password Access to Storage System window opens.
5. Select the storage system World Wide Node Name from the drop-down list.

**NOTE:**

Make sure you select the storage system from which you cleared passwords using the OCP on the HSV controller.

6. Click **Disable Password**.
A confirmation box opens.
7. Click **Yes** to disable the password.

Step 4. Halting all host access to the storage system for an offline upgrade (optional)

Estimated time to complete: Varies. Must be performed for each host accessing the storage system.

Online upgrade is supported from VCS 3.110. Because of the minimal disruption to system operation, the online procedure is recommended. If the upgrade will be performed offline, all host I/O to the storage system must be stopped. Stop all applications accessing the storage system and shut down hosts, if necessary.

Step 5. Upgrading controller firmware to VCS 3.110

Estimated time to complete: 25–30 minutes

CAUTION:

Before upgrading the controller firmware, ensure that the storage system configuration is stable and is not being changed in any way. If any configurations changes are in progress, monitor them using HP Command View EVA and wait until they are completed before proceeding with the upgrade.

Upgrading controller firmware

To upgrade the controller firmware:

1. Open HP Command View EVA in your browser.

- In the Navigation pane, select the storage system you want to upgrade.
The properties window for the selected storage system opens.

Initialized Storage System Properties

Save changes	System options	View events	Refresh	?
Code load	Shut down			

Identification		Condition/State	
Name:	XL-Boise	Operational state:	Good (Initialized)
Node World Wide Name:	5000-1FE1-5000-A010	Licensed features	
UUID:	6005-08b4-0010-2abf-0000-5000-0085-0000	Basic:	Yes
System		Snapshot:	Yes
Type:	HSV200	Data replication:	Yes
Version:	5100	System Memory	
Console LUN ID:	0	Control cache:	2048 MB
Time:	30 Jan 2006 15:24:18	Data Cache:	2048 MB
Storage Capacity		Total cache:	4096 MB
Total:	1331.91 GB	Policies	
Used:	875.37 GB	Device addition:	Manual
Available:	456.53 GB	Disk replacement delay:	1 mins
Comments			

Figure 17 Initialized Storage System Properties page

- Click **Code load**.
The Code Load Storage System-Page 1 window opens.

Code Load Storage System

Page 1 Page 2 Page 3

Next step	Cancel	?
-----------	--------	---

Complete the following steps to update the operating code in your storage system.

STEP 1: Select a firmware image
Enter the complete path to your storage-system firmware image file.

C:\+GordieBuilds\xcsp_ ?

STEP 2: Upload your firmware image file
Click the **Next Step** button to upload the firmware image file to your management server.

Figure 18 Code Load Storage System-Page 1 window

- Insert the installation CD-ROM.
- Click **Browse** and select the file containing version VCS 3.110 of the storage system software from the installation CD-ROM:
 - EVA3000 – Select either the \\HSV100\3110\100_3110.SSS or \\HSV100\LATEST\HSV100.SSS file (the files are identical).
 - EVA5000 – Select either the \\HSV110\3110\110_3110.SSS or \\HSV110\LATEST\HSV110.SSS file (the files are identical).

6. Click **Next Step**.

The Code Load Storage System-Page 2 window opens listing any pre-update application notes. Read them before continuing.

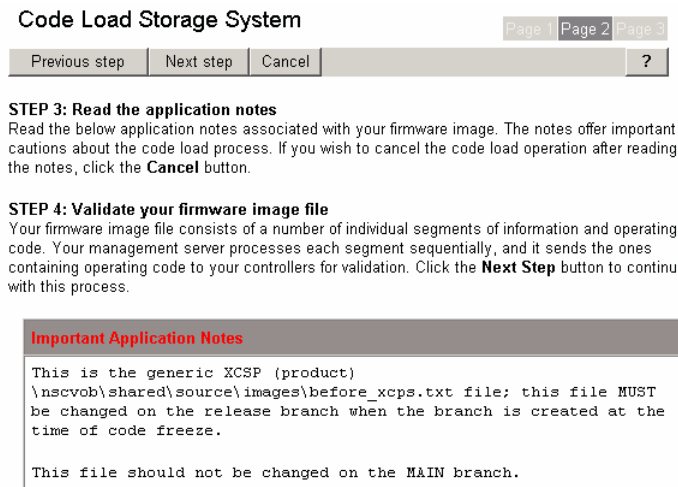


Figure 19 Code Load Storage System-Page 2 window

7. Click **Next Step**.

The new storage system software is copied to the controllers and validated. A progress page opens and is updated as the code segments are validated. For a description of each code segment, see [Table 6](#) on page 46.

When the code validation is complete, the Code Load Storage System-Page 3 window opens.



Step 5: Complete the code load process.

Your management server has successfully finished processing all the individual segments in your firmware image file, as shown below. Your controllers have successfully accepted and validated the code segments in the file. Click the **Finish** button to activate the new code in your controllers and other hardware components.

#	Segment name	Segment size	Status
1	Before text	516 bytes	✔ Complete
2	Information file	131,072 bytes	✔ Complete
3	OCP image	131,348 bytes	✔ Complete
4	SDC image	131,348 bytes	✔ Complete
5	Glue image	1,011,512 bytes	✔ Complete
6	CBIC image	16,660 bytes	✔ Complete
7	Event text file	2,718,124 bytes	✔ Complete
8	EMU image	284,580 bytes	✔ Complete
9	Boot image	57,392 bytes	✔ Complete
10	Functional image	2,021,280 bytes	✔ Complete
11	After text	512 bytes	✔ Complete

Figure 20 Validating code segments complete

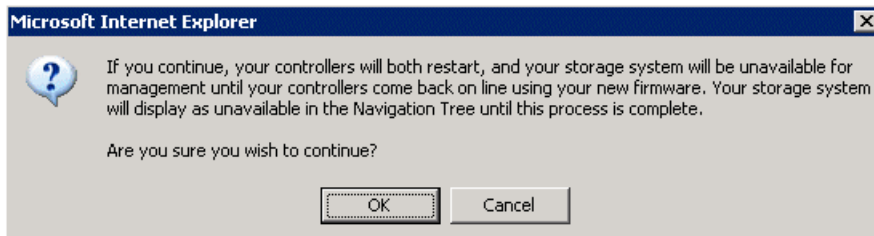
Table 6 System software code segment descriptions

Segment	Description
Before text	Text file with information about the new code and upgrade requirements. Displayed by HP Command View EVA and not sent to the controller.
Information file	File stored on the controller's card describing contents of this superfile.
OCP image	Firmware for the Operator Control Panel (LCD entry and display panel) PIC (8-bit) processor chip.
SDC image	Firmware for System Data Center (Battery, Temperature and Blower manager) PIC (8-bit) processor chip.
Glue image	Firmware for the GLUE chip FPGA, stored in EEPROM.
CBIC image	Firmware for the CanBus Interface Chip (drive shelf out-of-band communications chip) PIC (8-bit) processor chip.
Event text file	File enabling HP Command View EVA to translate binary event data to text. Not sent to the controller.
EMU image	Firmware for the Drive Shelf Environmental Monitoring Unit (EMU) module. Stored on the controllers program card and contains the image for the CTS I/O module.
Boot image	Initial Firmware that the controller's main processor (PPC) runs after reset or power-on.

Segment	Description
Functional image	EVA firmware that is upgraded and provides support for all EVA functions.
After text	Text file with information declaring that upgrade has completed and describing and post-upgrade requirements. Displayed by HP Command View EVA and not sent to the controller.

8. Click **Finish**.

The following confirmation message opens.



- Click **OK** to upgrade the system software on the controllers. Click **Cancel** to stop the code load process and return to the Storage System Properties window.

The upgrade process begins and the Initializing firmware code load page opens. See [Figure 21](#). This page is displayed until the controller code load is complete and the controllers restart. During this interval both controllers resync and begin operating on the new firmware code. Once the resync is complete, the controllers begin processing host I/Os.

Additional code within the storage system is now updated, which can take up to 10 minutes to complete. This includes firmware on the EMU and I/O modules in the disk enclosures. During this interval, the Storage System Updating Firmware window opens. See [Figure 22](#).

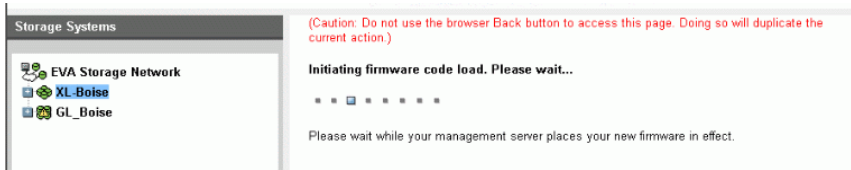


Figure 21 Initializing firmware code load



Figure 22 Storage system updating firmware

- When the firmware upgrade is complete, the Initialized Storage System Properties window opens. Verify the version of the storage system software. It should be 3.110.

Initialized Storage System Properties

Save changes	System options	View events	Refresh	?
Code load	Shut down	Check Redundancy		

Identification	Condition/State
Name: XL_Boise	Operational state: ✔ Good (Initialized)
Node World Wide Name: 5000-1FE1-5000-A010	
UUID: 6005-08b4-0010-2abf-0000-5000-0085-0000	
System	Licensed features
Type: FRSV200	Basic: Yes
Version: 6000	Snapshot: Yes
Software: CD0D22xc3p-6000	Data replication: Yes
Console LUN ID: 0	
Time: 13 Jul 2006	
System Memory	Policies
Control cache: 2048 MB	Device addition: Manual
Data Cache: 2048 MB	
Total cache: 4096 MB	

Figure 23 Verifying VCS version after upgrading

Step 6. Upgrading disk drive firmware

Estimated time to complete: Varies depending on the number of disk drives that require upgrading and the I/O load on the storage system. It can take 30 seconds to 3.5 minutes per drive to upgrade the firmware.

Updated disk drive firmware is included with each VCS release. The firmware on all disk drives can be upgraded online.

Although it is not required that the disk drive firmware be upgraded at the same time as the system software, it is strongly recommended that you perform the two tasks together. The disk drive firmware supplied with the system software upgrade complements the operation of the controller firmware and for the best results the two should be used together.

You will need the correct disk drive firmware bundled image file to update the drive firmware. The disk drive firmware file can be downloaded from the following web site:

<http://www.hp.com/support/evadiskfirmware>

Be sure to observe the following cautions when upgrading disk drive firmware.

△ **CAUTION:**

- Do not power off any components or perform controller resynchs or reboots during an upgrade.
 - Do not perform HP Continuous Access EVA copy/merge activities across sites, site failovers, cloning, or grouping or ungrouping of disks during an upgrade.
 - Do not add to or remove members from DR groups during upgrade.
-

Upgrading the firmware

📝 **NOTE:**

This procedure assumes you are using HP Command View EVA 6.0.2.

Upgrade the disk drive firmware after you upgrade the system software.

1. If you have not already done so, download the disk drive firmware file from the following web site:

<http://www.hp.com/support/evadiskfirmware>

- a. When you download the file from the web, the file is downloaded as a zip file. Store the file to a local directory.

📝 **NOTE:**

It is recommended that you use the default directory of `C:\Program Files\Hewlett-Packard\Sanworks\CodeLoad`. If you use a different directory, you will have to enter the complete path when identifying the location of the firmware files.

- b. Double-click the zip file to extract the bundled image file. When extracted, the file type is an executable.
2. Open HP Command View EVA.
 3. In the Navigation pane, select the storage system being upgraded.

4. Click **Code load**.

The Code Load Selection window opens.

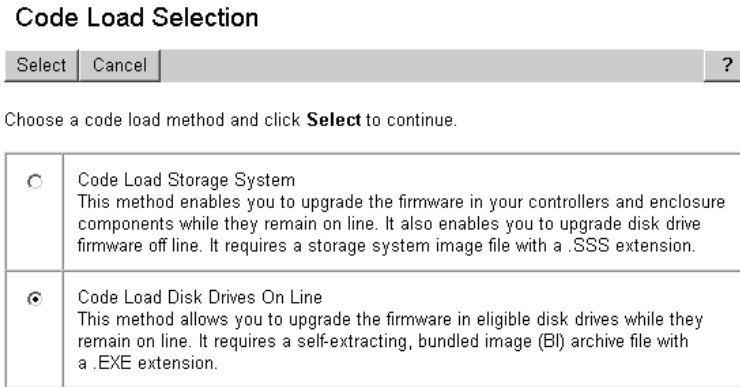


Figure 24 Code Load Selection window — disk drives

5. Select **Code Load Disk Drives On Line** and click **Select**.

The Code Load Disk Drives On Line - Page 1 window opens.

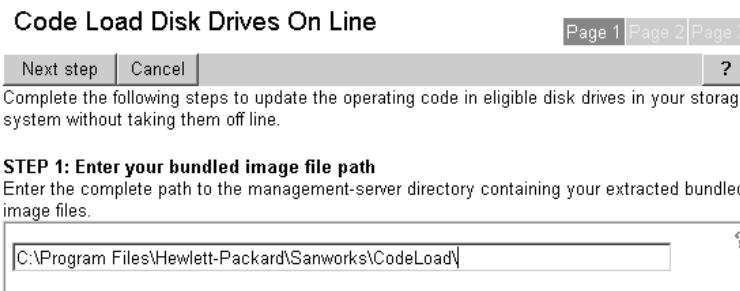


Figure 25 Code Load Disk Drives — Page 1 window

6. Enter the path to the folder containing the extracted bundled image files.

7. Click **Next step**.

The Code Load Disk Drives On Line - Page 2 window opens. The table indicates which disk drives require firmware upgrades.

Code Load Disk Drives On Line Page 1 Page 2 Page 3

Next step Save to File Cancel ?

STEP 2: Code load your disk drives
 The firmware configuration and online code load eligibility of your disk drives are shown below. You can use your browser's print features or the **Save to File** button to create a record of this information.

Overwrite existing firmware if the BI version is the same?

Disk Drive Configuration Information For Storage System: XL-BOISE						
Disk Group	Disk Drive			Model	FW Version	Eligible?
	Rack	Enclosure	Bay	Capacity	BI Version	
Default Disk Group	Disk 002			BD14655ABC	HP0A	Not required
	1	5	13	136.73 GB	HP0A	
Default Disk Group	Disk 003			BD03654499	3BE9	Not required
	1	6	5	33.92 GB	3BE9	
Default Disk Group	Disk 005			BF07255B2C	HP05	Not required
	1	6	11	68.37 GB	HP05	
Default Disk Group	Disk 006			BD14655B2A	HP05	✓ Yes
	1	5	9	136.73 GB	HP06	
Default Disk Group	Disk 008			BD14655B2A	HP05	✓ Yes
	1	5	7	136.73 GB	HP06	
Default Disk Group	Disk 009			BF07255B2C	HP05	Not required
	1	6	16	68.37 GB	HP05	

Figure 26 Code Load Disk Drives — Page 2 window

8. Click **Next step**.

The disk drive code load operation begins. A status page opens indicating the progress as each disk drive is upgraded.



NOTE:

The disk drives are upgraded sequentially. Depending upon the I/O load on the storage system, it can take 30 seconds to 3.5 minutes per drive to upgrade the firmware. The status is updated at 45 second intervals, so you must wait to see which disk drives are complete.

(Caution: Do not use the browser Back button to access this page. Doing so will duplicate the current action.)

Processing 2 disk drives. Please wait...

Please wait while your management server updates the firmware in each eligible disk drive in your storage system. This process may take several minutes.

0 of 2 disk drives code loaded

Current disk drive							
#	Rack	Enclosure	Bay	Name	Model	Capacity	Status
1	1	5	9	Disk 006	BD14655B2A	136.73 GB	Processing . . .

Figure 27 Code Load Disk Drives — status window

9. When all the disk drives have been upgraded, the Code Load Disk Drives On Line - Page 3 window opens indicating the drives that have been upgraded successfully. Click **Finish**.

Code Load Disk Drives On Line Page 1 Page 2 Page 3

Finish Save to File ?

STEP 3: Finish
 The results of your online disk drive code load process are shown below. You can use your browser's print features or the **Save to File** button to create a record of this information. Click **Finish** to complete the code load process.

Disk Drive Configuration Information For Storage System: XL-BOISE						
Disk Group	Disk Drive			Model	FW Version	Code Load Status
	Rack	Enclosure	Bay	Capacity	BI Version	
Default Disk Group	Disk 002			BD14656ABC	HP0A	Not required
	1	5	13	136.73 GB	HP0A	
Default Disk Group	Disk 003			BD03654499	3BE9	Not required
	1	6	5	33.92 GB	3BE9	
Default Disk Group	Disk 005			BF07255B2C	HP05	Not required
	1	6	11	68.37 GB	HP05	
Default Disk Group	Disk 006			BD14655B2A	HP06	Loaded
	1	5	9	136.73 GB	HP06	
Default Disk Group	Disk 008			BD14655B2A	HP06	Loaded
	1	5	7	136.73 GB	HP06	
Default Disk Group	Disk 009			BF07255B2C	HP05	Not required
	1	6	6	68.37 GB	HP05	

Figure 28 Code Load Disk Drives — Page 3 window

Upgrading firmware on an individual disk

If it is necessary to upgrade the firmware on an individual disk, the firmware and installation instructions can be downloaded from the following web site:

<http://www.hp.com/support/evadiskfirmware>

Step 7. Entering storage system passwords

Estimated time to complete: 10–15 minutes

NOTE:

- This step is only required if you use password protection on the storage system.
- When you add a system password to the controller, you must also enable password access in HP Command View EVA. The two work in conjunction with one another.

Enter a unique eight-character password using uppercase or lowercase letters A through Z.

Entering the password on the OCP

Using the following procedure to enter the password on the storage system controllers. The password can be entered from either controller.

1. With either of the default menus (Storage System Name or World Wide Name) displayed, press ▼ three times to display *System Password*.

2. Press **▶** to display *Change Password*.
3. Press **Enter** for yes.
The default password, AAAAAAAAA~~~~~~, is displayed.
4. Press **▼** or **▲** to select the desired character.
5. Press **▶** to accept this character and select the next character.
6. Repeat the process to enter the remaining password characters.
7. Press **Enter** to enter the password and return to the default display.

Enabling password access in HP Command View EVA

Estimated time to complete: 10 minutes

After entering a password on the OCP, you must enable password access in HP Command View EVA. To enable password access to a storage system, perform the following steps:

1. Start HP Command View EVA in your browser.
2. Click **Agent Options** in the Session pane.
The Management Agent Options window opens.
3. Click **Storage system password access**.
The Storage System Password Access window opens.
4. Click **Enable**.
The Enable Password Access to a Storage System window opens.

Figure 29 Enable Password Access to a Storage System window

5. Select the World Wide Node Name of the storage system for which you want to enable password access.
6. Type the password in the Password and Confirm password fields.



NOTE:

Make sure you use the same password you entered into the HSV controller OCP.

7. Click **Enable Password**.

A message box opens.

8. Click **OK**.

HP Command View EVA enables password access to the storage system.

Step 8. Resuming storage system operation

Estimated time to complete: Varies.

After the storage system software and disk firmware have been successfully upgraded, the storage system can be returned to normal operation.

1. Using HP Command View EVA, check the overall status of the storage system to ensure there are no problems. For instructions on checking the status, see [“Step 1. Checking the health of the Enterprise Virtual Array”](#) on page 38.
2. If you did an offline upgrade, perform the following steps:
 - a. Restart any host servers that were shutdown for the upgrade.
 - b. Resume host I/Os.
3. When running HP Continuous Access EVA, enable the failsafe mode on all data replication groups. See [“Preparing an HP Continuous Access EVA environment for upgrading”](#) on page 34.
4. If you changed any host LUN timeout values, reset them to their original values.
5. If you are running Remote Support Software, enable it as follows:

- a. Save and clean application eventlog file.
- b. On the HP Command View EVA management server, open a command window.
- c. Enter the following command to start ISEE:

```
C:\>DESTA ISEE ON
```

- d. Enter the following commands to stop and restart Remote Support Software:

```
C:\>net stop desta_service
```

```
C:\>net start desta_service
```

4 Downgrading the Enterprise Virtual Array

This chapter contains the information about downgrading the product software on your storage system to a previous version. Please read the instructions completely before you begin the procedure.

Downgrading the Enterprise Virtual Array to 3.028

You can downgrade an Enterprise Virtual Array from VCS 3.110 to 3.028 if you do an offline downgrade. That is, there can be no I/O from the applications on the host servers.

 **NOTE:**

Before you begin the downgrade, you must obtain the file containing the 3.028 controller firmware from HP Services.

If you are downgrading the Enterprise Virtual Array from VCS 3.110 to 3.028, ensure that your system configuration does not contain any new components or structures that are not supported in the VCS 3.028 version. If the storage system contains unsupported components or data structures, remove these data structures before you downgrade to VCS 3.028.

If you are running HP Continuous Access EVA, dissolve all DR groups, which can be manually recreated after the downgrade is complete.

Estimated time to complete: 15 minutes per storage system

To downgrade the Enterprise Virtual Array system software from version VCS 3.110 to version 3.028, perform the following steps:

1. Start HP Command View EVA.
2. Stop all applications running on the host machines that have access to the storage system you are downgrading. After you have completed the storage system software downgrade, you can start the applications on the host machines.
3. Select the storage system you wish to downgrade.
4. Click **Code load**.
A confirmation message is displayed.
5. Click **OK**.
The Code Load Storage System—Page 1 window opens
6. Click **Browse** and select the file containing version 3.028 of the storage system software.
7. Click **Next Step**.
The Code Load Storage System—Page 2 window opens.
8. Click **Next Step**.
A confirmation message is displayed.
9. Click **OK**.

The new storage system software is loaded onto the controllers, and the firmware on the associated Fibre Channel drive enclosures is modified.

The Code Load Storage System—Page 3 window opens. The controllers restart.

 **NOTE:**

The software loads in parallel on the FC drive enclosures. During the software downgrade, the EMUs on the FC drive enclosures might flash red status indicators and sound an alarm. After the software downgrade completes, the flashing red status indicators and alarm sound cease. The process of downgrading the enclosure software continues in the background after the controller software is downgraded.

During the EMU firmware downgrade, all of the disk drives are listed in the Unmappable Hardware folder and all of the disk enclosure bays disappear. The firmware downgrade can take up to 10 minutes to complete. After the downgrade has completed, the disk enclosure bays are listed under the Disk Enclosure elements. The software loads on the HSV controllers. The controllers synchronize using the new software. The *Scanning for disks* message on the controllers' OCPs indicates that synchronization is taking place.

10. Click **Finish** after the controllers have restarted.
The HP Command View EVA client refreshes.
A confirmation message is displayed.
11. Click **OK**.
12. Refresh the browser.
 - In Internet Explorer, press the **Ctrl** key and click **Refresh** in the tool bar.
 - In Netscape Navigator, press the **Shift** key and click **Reload** in the tool bar.
13. Click the storage system icon in the Navigation pane to verify the version of the storage system software.
14. Power down the controllers in the storage system you downgraded.
15. Power up the next storage system to be downgraded.
16. Repeat step 3 through step 15 until you have downgraded all storage systems.
17. Reboot the management server.

All of the storage systems in your SAN have now been downgraded.

5 Troubleshooting

This chapter provides troubleshooting information should you encounter any problems when updating the system software. Each troubleshooting section is cross-referenced to the corresponding step in [Upgrading controller firmware](#) where the problem is likely to occur.

Many of the common problems you may encounter are included. Contact your HP-authorized support representative for help if this information does not help your problem.

The following troubleshooting topics are covered:

- [“HP Command View EVA problems”](#) on page 57
- [“Troubleshooting HP Command View EVA with a management server”](#) on page 58
- [“Troubleshooting specific Command View EVA errors”](#) on page 58
 - [“View is not set or view list is null”](#) on page 58
 - [“HTTP status 404, not found or status 503, no service”](#) on page 59
 - [“Unknown storage system”](#) on page 60
 - [“No storage systems found”](#) on page 60
- [“Solving security credentials configuration problems”](#) on page 61
- [“Solving problems selecting a storage system \(Step 2\)”](#) on page 62
- [“Solving problems disabling HP Continuous Access EVA DR group failsafe mode \(Step 3\)”](#) on page 63
- [“Solving problems downloading the system software file \(Step 6\)”](#) on page 63
 - [“Invalid firmware image file \(Status code 21006\)”](#) on page 63
 - [“Bad image header \(Status code 65\)”](#) on page 64
- [“Solving problems if the storage system does not come back online \(Step 10\)”](#) on page 64
- [“Solving problems with multiple resyncs \(Step 10\)”](#) on page 65

Solving HP Command View EVA problems (Step 1)

There are a number of issues that may impact the operation of HP Command View EVA and its ability to communicate with the storage system.

General HP Command View EVA troubleshooting tips

Use the following checklist to determine if there are problems with HP Command View EVA:

- Has an HBA failed?
- Has an EVA controller failed?
- Have you set or reset the password?

Troubleshooting HP Command View EVA with a management server

Use the following steps to isolate problems that may occur when using HP Command View EVA with a management server:

1. Check the HP StorageWorks EVA software compatibility reference to ensure that the version of HP Command View EVA you are using is compatible with the VCS version. For complete details on EVA software compatibility, refer to the EVA software version compatibility table in the *HP StorageWorks EVA software compatibility reference*. See [“Required documentation”](#) on page 13 for the link to this document.
2. Ensure that the server and EVA is logged into the fabric.
3. Select one of the following utilities to check the SAN Fibre Channel switch:
 - HBAAnywhere (Emulex)
 - SanSurfer (QLogic)
4. Clear the browser cache as follows.
 - a. On the General tab under Temporary Internet files, click **Settings**.
 - b. Click Every visit to the page under Check for newer versions of stored pages.
 - c. On the General tab, under Temporary Internet files:
 - i. Click **Delete Cookies**.
 - ii. Click **Delete Files**.
 - d. On the General Tab, under History, click **Clear History**.
5. Ensure that HP Command View EVA is installed on the C:\ drive.
6. Ensure that the folders C:\Program Files\Compaq\SANworks\Element Manager for StorageWorks HSV\HSV100xx or HSV110 exist.

Troubleshooting specific HP Command View EVA errors

This section describes specific Storage Management Appliance/HP Command View EVA errors:

- [View is not set or view list is null](#), page 58
- [HTTP status 404, not found or status 503, no service](#), page 59
- [Unknown storage system](#), page 60
- [No storage systems found](#), page 60

View is not set or view list is null

Symptom

The HP Command View EVA content pane shows an `Operation Failed` message with `Details:View Is Not SetorView List Is Null`.

Cause

HP Command View EVA cannot build the view of the storage system.

Resolution

Click **OK**. Wait one to five minutes, depending on the size of the storage system, and try the command generating this message again. If you still cannot see the storage system, stop and restart HP Command View EVA.

HTTP status 404, not found or status 503, no service

Symptom

The content pane shows an HTTP Status 404, Not Found or HTTP Status 503, No Service message.

Cause

These messages indicate that the server responded, but it could not find the page being requested. HTTP errors, including 404 and 503, originate from the web server, the HTTP server, or the appliance. Even when HP Command View EVA cannot respond, the web server continues to respond to HTTP requests from a browser.

During normal interaction between HP Command View EVA and the web server:

1. A browser requests an HP Command View EVA page.
2. The web server passes the request for the page to HP Command View EVA.
3. HP Command View EVA responds with the page.
4. The web server sends it to the browser.

These errors indicate that a problem is occurring with this normal interaction. [Table 7](#) lists some possible causes of these errors and their corrective actions.

Resolution

Table 7 Possible causes and corrective actions for HTTP 404 and HTTP 503 errors

Possible Cause	Corrective Action
404 Error: HP Command View EVA may be initializing when a browser makes a request. The web returns a 404 (Page Not Found) error because it cannot get the page.	Retry the request by clicking the Refresh/Reload button on the browser.
404 Error: A <code>.htm</code> (HTML) file may be missing in the HP Command View EVA directory structure. This can occur if the files were changed or if the HP Command View EVA installation went amiss.	Reinstall HP Command View EVA.
503 Error: HP Command View EVA may be down when a browser makes a request. The web server returns a 503 (No Service) error because it cannot access the page.	Retry the request when HP Command View EVA is up.
Browser timeout: The appliance may be down or the web server may be unavailable when a browser makes a request to HP Command View EVA. In this case, the browser will time out internally.	Retry the request when the appliance and HP Command View EVA are up.

Unknown storage system

Symptom

HP Command View EVA reports an **unknown storage system** for a storage system that should be displayed.

Cause of the error

HP Command View EVA may have lost communication with the controllers. Two possible scenarios are:

- The HBA in the management server may have timed out commands to the controllers. See [“Unknown storage system—cause 1”](#) on page 60 below.
- The controllers are running a version of VCS that HP Command View EVA does not recognize. See [“Unknown storage system—cause 2”](#) on page 60.

Unknown storage system—cause 1

When the fabric is heavily loaded, the FC adapter in the management server may time out commands to the controllers. If this occurs, the storage system appears in the **Unknown** state.

Corrective Action for Unknown Storage System—Cause 1

This scenario should correct itself in less than one minute. Alternately, you can perform a **Rediscover** operation to initiate new commands to the controller.

Unknown storage system—cause 2

HP Command View EVA can only manage controllers that are running supported VCS versions.

Corrective Action for Unknown Storage System—Cause 2

Ensure that you are running the HP Command View EVA version that is compatible with VCS 3.110. See the “EVA software version compatibility” table in the *HP StorageWorks EVA software compatibility reference* to determine which version of HP Command View EVA you should be running. Then, upgrade Command View EVA to a compatible version. See [“Required documentation”](#) on page 13 for the link to this document.

No storage systems found

Symptom

HP Command View EVA does not display any storage systems, even though they are on the fabric.

Cause of the error

Several conditions can cause this symptom. [Table 8](#) lists some possible causes of these errors and their corrective actions.

Table 8 Possible causes and corrective actions when no storage system found

Possible Cause	Corrective Action
The management server may not be able to communicate with either controller.	Check the connection configuration between the management server and the controller pair. The management server must have a communication path to both controllers in case one controller loses communications with the server.
When HP Command View EVA is first starting up, a password may be enabled on the controllers, but a password has not been entered in HP Command View EVA.	Enter the correct password through HP Command View EVA or disable the password on the controller.
The switches may not be correctly zoned, making a storage system invisible to HP Command View EVA.	Verify that switches are zoned correctly.
HP Command View EVA may have been restarted while there was a communication failure between HP Command View EVA and the controllers. When restart is completed, the storage system that lost communication will not be visible.	<ol style="list-style-type: none"> 1. Verify that the controllers are up and functioning properly. 2. Check the cable connections between the management server and the switch. 3. Verify that switch zoning is correct. 4. Click Discover.
<p>A storage system may not be visible to HP Command View EVA because the controllers are waiting for World Wide ID (WWID) to be entered. This condition will occur if the storage system has been uninitialized and the cabinet is power cycled.</p> <p>This may also occur if backend problems are preventing access to the quorum drives. Once communication is restored, the WWID along with the checksum can be re-entered.</p>	Enter the WWID.

Solving security credentials configuration problems

The following Windows-based security groups are required on the management server:

 **NOTE:**

Group names are case sensitive.

- **HP Storage Admins.** To access all the features of HP Command View EVA, this security group is required on the management server and must have at least one member (user account). Members have view and manage capabilities.
- **HP Storage Users.** Members have view capability only. This group is required only when a group with extremely limited use of HP Command View EVA is required.

Access control

1. The users security group is checked to control access to various functions and web pages with HP Command View EVA.
2. If the user belongs to the HP Storage Admins group, access is granted.
3. If the user belongs to the HP Storage Users group and the web page allows access to users with the View HP Storage privilege, access is granted.
4. If the user belongs to the HP Storage Users group and the web pages does not allow access to users with the View HP Storage privilege, access is denied.

Solving problems selecting a storage system (Step 2)

When selecting a storage system, ensure the status icon displayed for the storage system is a green cluster symbol indicating good health. See [Figure 30](#).

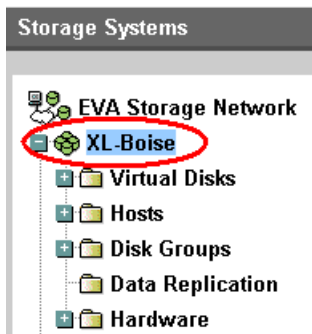


Figure 30 Status icon for a good storage system

If the status icon for the storage system is not a green cluster, it indicates a problem that must be corrected before proceeding. Expand the navigation tree to locate the problem. [Figure 31](#) illustrates a storage system with a controller problem and a disk enclosure problem.

Controller Properties

Save changes	Locate	Shut down	Code load	?
General	Host Ports	Device Ports	Enclosure	
Identification		Condition/State		
Name:	Controller A	Operational State:	Good	
Type:	HSV Storage System	Cache State:	No Mirror	
Manufacturer:	Hewlett-Packard	Memory		
Model Number:	HSV100	Control cache:	256 MB	
Software version:	CR0A3Erump-3028	Read cache:	512 MB	
Serial Number:	P66C5D3AAOK07R	Write cache:	256 MB	
World Wide Node Name:		Mirror cache:	256 MB	
5000-1FE1-5002-1080		Total cache:	1280 MB	
UUID:		Cache Mirroring		
5005-08b4-0001-076b-0000-0000-0000-0000		Mirror Path:	Not Active	
		Mirror Port State:	Failed	
		Location		
		Enclosure number:	1	
Comments				

Figure 31 Status icon for a bad storage system

Solving problems disabling DR group failsafe mode (Step 3)

There are a number of issues that may occur with HP Continuous Access EVA. The following web site provides access to information for troubleshooting problems with HP Continuous Access EVA:

<http://h20000.www2.hp.com/bizsupport/TechSupport/Home.jsp?lang=en&cc=us&prodTypeId=18964&prodSeriesId=471572&lang=en&cc=us>

Click **Troubleshoot a problem** under Tasks for HP StorageWorks Continuous Access EVA Software.

Solving problems downloading the system software file (Step 6)

If you cannot download the system software file, right-click the link and save it to your desktop. Then, double click the saved file on the desktop, which opens a window with the link to the file. Click the link and save it to a directory.

NOTE:

The VCS firmware image file name has an extension of .sss. The file name contains the HSV controller model (100 for EVA3000 and 110 for EVA5000) and the VCS version. For example, 100_3110.sss is the name of the VCS 3.110 file for the HSV100 controller.

Invalid firmware image file (Status code 21006)

If the VCS firmware image file is the wrong image, an Operation failed message is displayed. See Figure 32. Click **OK** to return to the Initialized Storage System Properties window.

✖ Operation failed!

Status code: 21006: Invalid firmware image file (global header EDC error)

(Caution: Do not use the Back button to exit this page. Doing so may duplicate the action that produced this page.)

OK

Figure 32 Invalid firmware image file (Status code 21006)

Bad image header (Status code 65)

HP Command View EVA sends the VCS controller firmware to the controller in segments. As each segment is received, it is validated by the controller. HP Command View EVA monitors each segment transfer and displays the transfer status information.

If a problem occurs, the process stops and HP Command View displays the segment transfer that was not successful. This is typically caused by a problem in the VCS controller firmware image file or the selection of the wrong firmware image file. See [Figure 33](#). If this error occurs, do the following:

1. Click **OK** to return to the Initialized Storage System Properties window.
2. Click **Code load** to begin the code load sequence again.
3. Ensure that you select the correct firmware image file, and continue the process.

If the process fails again with the same message, download the firmware image file again and repeat the process.

✖ Operation failed!

Status code: 65: Bad image header

(Caution: Do not use the Back button to exit this page. Doing so may duplicate the action that produced this page.)

OK

Figure 33 Bad image header (Status code 65)

Solving problems if the storage system does not come back online (Step 10)

The system software upgrade should take approximately 10 minutes to complete. If the storage system does not come back within 10 minutes, check the following:

- Determine if the problem is with HP Command View EVA by performing the troubleshooting steps in [“HP Command View EVA problems”](#) on page 57.
- Check any WEBES messages.
 1. Double click on the System Event Analyzer icon on the management server to run WEBES.
 2. Click **Full View** under either System Log or the appropriate storage system in the left navigation pane.

- Check the storage system event logs.
 1. Run HP Command View EVA and log in.
 2. Select the storage system whose logs you want to view.
 3. Click **View events** to view the event logs that can be displayed.

If none of the above recommendations resolves the problem, contact your HP-authorized service representative for help.

Solving problems with multiple resynchronizations (Step 10)

During the upgrade process, both controllers perform a resynchronization simultaneously. This invokes a fast restart of the controllers — bypassing execution of lengthy hardware diagnostics. This fast restart allows the controllers to complete the resynchronization sequence before the host timeout period elapses and the host becomes aware that the storage system is unavailable.

If an event occurs that causes a second resynchronization while the firmware upgrade resynchronization is still in progress, the controller will terminate with a code of 0b 08 01 00. The following events cause the controller to resynchronize automatically:

- Initialization of the storage system
- Setting debug flags through the command line interface or OCP
- Occurrence of a disk group hardware problem on a Vraid1 virtual disk, or the return of a disk during this condition
- Bad Block Replacement (BBR) performed on a disk
- Memory allocation failure or other errors

Every effort should be made to ensure none of these events occur during the upgrade process. If controller termination occurs due to multiple resynchronizations, contact your HP-authorized service representative for assistance.

Index

A

agent options, using, 43
array, checking for errors, 32, 38
array, checking for errors, 20

B

backup, 29
Bad image header error, 64
browsers
 recommended versions, 31

C

checking hardware status, 21
checking EVA health, time estimate, 20
checking EVA health, time estimate, 32, 38
checking hardware status, 39
code load restrictions, 35
Code Load Storage System-Page 1, 44
Code Load Storage System-Page 2, 46
collecting configuration data, 22
Command View EVA, online help, 19
Command View EVA, upgrading, 29
Command View EVA
 checking version, 18
Command View EVA
 checking hardware, 21, 39
 disabling passwords, 42
 enabling passwords, 53
 errors, troubleshooting, 58
 web server, normal interaction, 59
Controller Event log, 40
Controller Event log, 33
Controller Events page, 40
Controller Events page, 33
controller events, checking log, 40
controller events, checking log, 33
corrective action codes, 34, 41
Critical event check, 33
Critical event check, 40

D

Disable Password Access to Storage System
page, 43
disabling passwords, 42
documentation
 providing feedback, 11
downgrading, 55

E

Enable Password Access to a Storage System
page, 53
enabling passwords, 53
EVA, health check, 20, 32, 38

H

hardware errors, 21, 39
help
 obtaining, 10
HP
 technical support, 10
HP Command View EVA
 installing, 29

I

Initialized Storage System Properties page, 44
installation
 typical, 29
internet browsers
 recommended versions, 31
Invalid firmware image file error, 63

J

Java Runtime Environment, recommended
versions, 31
JRE, recommended versions, 31

K

kits, required, 14
kits, software, 14

L

l, 53

M

Management Appliance
errors, troubleshooting, 58
Management Agent Options page, 43
Management Appliance
web server
normal interaction with Command View
EVA, 59

O

OCP
adding passwords, 52
clearing passwords, 42
operating systems, and JREs, 31
operating systems, recommended browsers, 31

P

password protection, 52
password protection, removing, 42

R

recommended browsers, 31
Replication Solutions Manager, 32
required kits, 14
RSM
See Replication Solutions Manager

S

SAN Visibility, 22
software kits, 14
status code
21006, 63
65, 64
storage system
checking hardware, 21, 39
checking status, 32, 38
checking status, 20
passwords, 53
Storage System Password Access page, 43

T

technical support
HP, 10
technical support
service locator web site, 10

time estimate
checking EVA health, 32, 38
time estimate
adding passwords, 52
checking EVA health, 20
clearing passwords, 42
disabling password access, 42
enabling password access, 53
troubleshooting
Command View EVA errors, 58
management appliance errors, 58

U

unmappable hardware folder, 21, 39
upgrade preparation, 20, 32, 38
upgrading
Replication Solutions Manager, 32
upgrading Command View EVA, 29

V

VCS
downgrading, 55
minimum version before upgrade, 14
verifying software version, 18
View Events page, 40
View Events page, 33

W

web server, 59
web sites
HP, 10
World Wide Node Name, using, 53
WWN, 53