Legal and notice information

© Copyright 2006 Hewlett-Packard Development Company, L.P.

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor’s standard commercial license.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.
## Contents

About this guide ................................................................. 7
  Update recommendation ................................................. 7
  Intended audience ......................................................... 7
  HP technical support ...................................................... 7
  Subscription service ....................................................... 8
  HP web sites .................................................................. 8
  Documentation feedback .................................................. 8
  Product feedback ............................................................ 8

1 HP Command View EVA 6.0 .............................................. 9
  Enhancements .................................................................. 9
  Compatibility/Interoperability .......................................... 9
    WEBES support .......................................................... 9
    Storage Essentials coexistence ........................................ 9
    Systems Insight Manager coexistence ............................... 10
  Workarounds .................................................................. 10
    SMI-S EVA and HP Systems Insight Manager configuration 10
    HP Command View EVA does not support array initialization over distance 11
    XCS 6.0 controller software does not support log shrink ........ 11
    Handling mirrorclones after a disk group failure ............... 12
    Incorrect error message for minimum asynchronous replication log size 12
    HP Command View EVA service does not start after a reboot 12
    Trust relationship does not display in the user interface .... 12
    Code load error ........................................................... 13
    Documentation error ...................................................... 13
  Installation requirements ................................................ 13

2 HP Command View EVAPerf 6.0 ......................................... 15
  Enhancements .................................................................. 15
  Workarounds .................................................................. 15
    HP Command View EVAPerf fails to collect array information 15
    Filtering does not work if the array name is more than one word 15
    Limited binary logging .................................................. 15
    Failure to map world wide names to friendly names ............ 16
  Installation requirements ................................................ 16

3 HP Storage System Scripting Utility 6.0 ............................. 17
  Enhancements .................................................................. 17
  Compatibility/Interoperability .......................................... 17
  Workarounds .................................................................. 17
    OS_UNIT_ID does not work with certain commands .......... 17
  Installation requirements ................................................ 17
    HP Tru64 UNIX ........................................................... 17
    IBM AIX ................................................................. 17
    Sun Solaris ............................................................... 18
    Documentation ............................................................ 18

4 SMI-S EVA 6.0 .................................................................. 19
  Enhancements .................................................................. 19
Compatibility/Interoperability
SMI-S EVA and HP Command View XP coexistence
SMI-S EVA and HP Data Protector and HP Cluster EVA coexistence
Workarounds
Lifecycle indications are not supported
CreateViewProtocolController implementation for LUN Masking
Configure SMI-S EVA to generate alerts using WEBES
Removing HP StorageWorks SMI-S CIMOM does not remove CIMOM-related folders
Pool creation results in disk groups created of less than requested size
Typical installation method logs error messages to a file
Ungrouping disks from a disk group is not supported
Errors occur when SMI-S EVA is removed
Issues with the Create VPC method
Incorrect virtual disk performance data reported when virtual disk is managed by controller B
Installation requirements

5 Product documentation
Tables

1 DeviceAccess parameter implementation ............................................. 21
2 Additional product documentation ....................................................... 25
3 HP storage web sites ............................................................................ 25
About this guide

This document contains information specific to the following releases of HP StorageWorks EVA management software:

- HP StorageWorks Command View EVA 6.0
- HP StorageWorks Storage System Scripting Utility 6.0
- HP StorageWorks Command View EVAPerf 6.0
- Storage Management Initiative Specification for Enterprise Virtual Array (SMI-S EVA) 6.0

These products are supported with HP StorageWorks EVA controller software versions VCS 3.028, VCS 4.0x, XCS 5.1x, and XCS 6.0x. For additional information about HP EVA VCS, see the HP StorageWorks Enterprise Virtual Array 3000/5000 release notes for the specific version. For additional information about HP EVA XCS, see the HP StorageWorks Enterprise Virtual Array 4000/6000/8000 release notes for the specific version.

The information included here is not documented elsewhere. HP recommends that you read this information thoroughly.

IMPORTANT:

For supported arrays and management server hardware and software, see *HP StorageWorks EVA software compatibility reference*.

For the location of documents referenced in these notes, see "Product documentation" on page 25.

Update recommendation

Recommended

Intended audience

This document is intended for customers and HP-authorized service providers who install or use the HP Command View EVA software suite.

HP technical support

Telephone numbers for worldwide technical support are listed on the HP support web site: [http://www.hp.com/support/](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.
Subscription service
HP strongly recommends that customers register online using the Subscriber’s choice web site:
Subscribing to this service provides you with e-mail updates on the latest product enhancements, newest
driver versions, and firmware documentation updates as well as instant access to numerous other product
resources.
After subscribing, locate your products by selecting Business support and then Storage under Product
Category.

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.docs.hp.com

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

Product feedback
To make comments and suggestions about HP StorageWorks Command View EVA, please send a
message to CVfeedback@hp.com.
This chapter describes enhancements, compatibility/interoperability, and workarounds for HP Command View EVA 6.0.

Enhancements

- **EVA3000/5000 arrays.** Support for EVA controller software 3.028 and 4.0x is continued.
- **EVA4000/6000/8000 arrays.** Support for EVA controller software 6.0x is added. Support for EVA controller software 5.03x and 5.1x is continued.
- **Security.** Logon security for HP Command View EVA software is now authenticated using the management server operating system.
- **Local replication.** Support for mirrorclones and restoration of virtual disks from snapshots and mirrorclones (on arrays running controller software 6.0x) is added. You can also create snapshots of mirrorclones. For mirrorclones, you can view the various states and full copy progress indication. You can view these attributes in both the user interface and command line interface.
- **Remote replication.** Support for enhanced asynchronous replication (between arrays running controller software 6.0x) and the display of the preferred path is added. In support of enhanced asynchronous replication, you can now view the following attributes for DR groups: total allocated and maximum log size, the number of bytes and transactions in the log, the percentage of the log that is full, the state of the log (valid or invalid), the current and requested type of replication, and if the log is in rundown mode. You can view these attributes in both the user interface and command line interface.
- **GUI enhancements.** Single page for creating storage objects and initializing arrays is added. Multi-page wizards are removed. Support for removing a disk from ungrouped disks is added. The ability to establish trust relationships with Systems Insight Manager and other application servers and to store audit logs remotely is added.
- **Drive code load enhancements.** A new “no data migration” firmware download feature enables quick upgrading of individual disk drive firmware. The lengthy data migration process is no longer required prior to upgrading the firmware on a disk drive. This new feature allows individual drive firmware upgrades while disks are online.
- **Array password enhancements.** Support for array password enhancements is added. Enhancements include increased password length (8-16 characters), support for numbers and certain characters and a mix of upper and lower case characters.
- **Installation.** A master installer is now available to install the Command View EVA software suite.

Compatibility/Interoperability

**WEBES support**

HP Command View EVA 6.0 is compatible with WEBES 4.5 only. The Service Tools CD that comes with the HP Command View EVA kit has version 4.4.4. However, you can download WEBES 4.5 from the following web site:

http://h18023.www.hp.com/support/svctools/webes

**Storage Essentials coexistence**

If your environment includes Storage Essentials, do not upgrade to or install HP Command View EVA 6.0; otherwise, array monitoring will not work. A new release of Storage Essentials, enabling coexistence with HP Command View EVA 6.0, will be announced and released shortly.
In the interim, you can remain at HP Command View EVA 5.0x (and controller software 5.1x) and run Storage Essentials concurrently.

If your environment does not include Storage Essentials or if you install Storage Essentials on a different server (that is, not the server running HP CV EVA), you can upgrade to or install HP Command View EVA 6.0 and array monitoring will work successfully.

**Systems Insight Manager coexistence**

You cannot install Systems Insight Manager and HP Command View EVA 6.0 on the same server.

**Workarounds**

**SMI-S EVA and HP Systems Insight Manager configuration**

If you plan to install SMI-S EVA 6.0 and use HP Systems Insight Manager 5.0 or later, you must configure the wbemportlist.xml file to enable HP Systems Insight Manager to successfully discover EVAs through SMI-S EVA.

After installing HP Command View EVA 6.0 and SMI-S EVA 6.0, complete the following steps:

1. Using a text editor, open the wbemportlist.xml file, which is located in the `C:\Program Files\HP\Systems Insight Manager\config\identification directory on the server where HP Systems Insight Manager is installed.
2. Add the following line (exactly as it appears here) directly after the `port id` line:
   ```xml
   <interopnamespace name="root/pg_interop"/>
   ```
3. Move the following line to the end of the list:
   ```xml
   <interopnamespace name="root/cimv2"/>
   ```
   The contents of your file may differ from the example below, but the order of the first and last `interopnamespace` entries should be the same:
   ```xml
   <?xml version="1.0" encoding="UTF-8"?>
   <wbemportlist>
     <port id="5989" protocol="https">
       <interopnamespace name="root/pg_interop"/>
       <interopnamespace name="root"/>
       <interopnamespace name="root/emulex"/>
       <interopnamespace name="root/qlogic"/>
       <interopnamespace name="root/ibm"/>
       <interopnamespace name="root/emc"/>
       <interopnamespace name="interop"/>
       <interopnamespace name="root/cimv2"/>
     </port>
   </wbemportlist>
   ```
4. Save and close the file.
5. In the Services window, right-click the HP Systems Insight Manager service and select **Restart**.
6. In HP Systems Insight Manager, run a discovery task that includes the IP address of the management server on which HP Command View EVA 6.0 is installed.

The discovery task collects configuration data for the EVAs managed by the HP Command View EVA 6.0 instance. A data collection task, which begins after the discovery task is completed, is executed for each EVA managed by HP Command View EVA 6.0. The data collection task takes several minutes to complete. Upon successful completion, data for each EVA is visible in HP Systems Insight Manager.

**HP Command View EVA does not support array initialization over distance**

When initializing an array, ensure that you are using a local instance of HP Command View EVA. The management server running HP Command View EVA should be connected to the array via a direct connection or Fibre Channel switches. Do not use an FC-IP gateway between the management server and the array.

**XCS 6.0 controller software does not support log shrink**

When a DR group is in enhanced asynchronous mode, the log size is reserved. If you request a smaller log size in either of the following scenarios, HP Command View EVA will not display the log size properly, specifically in the Full-copy threshold box in the DR group properties window:

- Scenario 1: The log is reserved for asynchronous mode. Change to synchronous mode. Request a smaller log size. The log grows up to the requested size.

- Scenario 2: The log is reserved for asynchronous mode. Change to synchronous mode. Request a smaller log size. Change to asynchronous mode. The log grows up to the reserved size.

The display of the log size is also different in the following scenarios:

- **Suspend the DR group and continue writing to the source virtual disk. The log eventually becomes full, but the amount of space used continues to increase and will become larger than the log size. Further, a full copy of the log is not initiated.**

- **Change the mode of the DR group to synchronous from asynchronous. When the transition is complete (merging and/or logging has finished), the Transaction data space box in the user interface still shows the log size that was allocated when the DR group was in asynchronous mode. Keeping the allocation for asynchronous mode enables you to quickly switch to asynchronous mode again.**

**Resolution:** If you want to use a smaller log size than what was originally selected, you must delete the DR group and create a new one.
Handling mirrorclones after a disk group failure

In the unlikely event that a disk group containing a Vraid1 mirrorclone or source virtual disk becomes inoperative, the following issues may occur.

- **Symptom:** If you attempt to detach the failed mirrorclone, the following error message may appear: The logical disk type is not correct for the requested operation.
  This error message means that the controller software has already detached the mirrorclone.
  Resolution: In the Navigation pane of the HP Command View EVA user interface, select the icon of the array where the mirrorclone resides. The Initialized Storage System Properties window appears. Click **Refresh**. The failed mirrorclone now appears correctly as a standalone (detached) virtual disk.

- **Symptom:** If you attempt to delete the failed virtual disk, the following error message may appear: Disk group inoperative or disks in group less than minimum.
  Resolution: In the Navigation pane of the HP Command View EVA user interface, select the icon of the failed disk group. The Disk Group Properties window appears. Do one of the following:
  - Repair the inoperative disk group.
  - Click **Start deletion process** to accept that the disk group is inoperative and cannot be repaired. The deletion of the failed virtual disk will now succeed.

Incorrect error message for minimum asynchronous replication log size

If you change the write mode of a DR group to enhanced asynchronous (between arrays running XCS 6.0 or later), you may see the following error message:

**Invalid user defined log size.**

Check the size of the log. The log size must be a minimum of 1624 MB before you can transition to enhanced asynchronous replication.

HP Command View EVA service does not start after a reboot

The HP Command View EVA service may not start when you reboot the management server after installing the HP Command View EVA software suite and HP Replication Solutions Manager. An error message about a missing Nsaserver.exe file may appear.

To restore the service:

1. Remove HP Command View EVA.
2. Reboot the server.
3. Install HP Command View EVA again.

The HP Command View EVA service should now start.

Trust relationship does not display in the user interface

A trust relationship between HP Command View EVA and SMI-S EVA is established automatically when you install SMI-S EVA. However, the trust relationship will not display in the user interface (**Agent Options > Other trust relationships**) if HP Command View EVA is running when the trust relationship is created.

Resolution: The trust relationship has been established, even though it is not visible. To update the display in the user interface, restart the HP Command View EVA service.
Code load error

When using the Code load feature to upgrade disk drive firmware, the following error message may appear in the HP Command View EVA user interface, even though the code load completed successfully:

(124) Media Not Available.

This error may appear if the code load occurs while the array is experiencing a heavy I/O load.

Documentation error

Some HP Command View EVA deliverables, such as the kit contents and the online help, refer to HP StorageWorks EVA updating product software guide for instructions on updating controller software. However, this guide is not available to customers. Please disregard this reference.

Installation requirements

You can upgrade to HP Command View EVA 6.0 from a previous installation of HP Command View EVA 5.0 or later. If you are running a version earlier than 5.0, you must first remove the earlier version and then install HP Command View 6.0. Use Windows Add/Remove Programs to remove the earlier version.

Install HP Command View EVA 6.0 on a server running Windows or on an HP OpenView Storage Management Appliance. For supported Windows versions and server hardware, see HP StorageWorks EVA software compatibility reference.

IMPORTANT:

If you install HP Command View EVA on a ProLiant server running SmartStart 7.5 or later and you are using HP StorageWorks Secure Path Manager, you must also upgrade HP Secure Path Manager to version 4.0C SP2. Otherwise, HP Command View EVA will not run.

To download HP Secure Path Manager 4.0C SP2, go to the following web site:

2 HP Command View EVAPerf 6.0

This chapter describes enhancements and workarounds for HP Command View EVAPerf 6.0.

Enhancements

- **Data output format.** Support for using HP’s TLVlz tool to format data output is added.
- **Enhanced drt command output.** The drt command output now includes minimum write, copy, and command resources. Also, the output displays the port name as FP1 and FP2 for the HSV100, HSV110, and HSV200 series of controllers and FP1, FP2, FP3, and FP4 for the HSV210 controller series.
- **Enhanced pd command output.** The pd command output now includes the RSS ID and RSS index of the physical disk.

Workarounds

**HP Command View EVAPerf fails to collect array information**

Symptom: After installing HP Command View EVAPerf on an SMA and running the evaperf ls command, the following error message appears:

```
C:\Program Files\Hewlett-Packard\EVA Performance Monitor>evaperf ls
The HP EVA Performance Data Collection Service (evapdcs) does not seem to be running
Attempting to start the service
The service has been started
No EVA systems were found
```

Resolution: Check the Emulex adapter settings. In the Adapter Controls box, if Lun Mapping is selected, clear the check box and then delete the mapping for LUN 0. Run the command again. HP Command View EVAPerf will collect array information successfully.

**Filtering does not work if the array name is more than one word**

Symptom: HP Command View EVAPerf cannot filter statistics when the array name specified in `-sz` command option contains two or more words.

Resolution: Create a short name for the array. In the `fnames.dict` file, change the array name so it is only one word. Then, include the `-cn` command option when you use the `-sz` command option with a command.

**Limited binary logging**

Symptom: The binary logging feature of Windows Performance Monitor is limited in the number of HP EVA performance objects it can log simultaneously. Logging works most reliably when you log small numbers of counters and instances of counters. When the number of counters and instances logged is too large, nothing is saved in the binary log file.

Resolution: Log each instance of an HP EVA performance object (and all counters for that one instance) in an separate binary log file.
Failure to map world wide names to friendly names

Symptom: HP Command View EVAPerf may fail to map the World Wide Name (WWN) for virtual disks to the HP Command View EVA friendly name when the WWN value differs from the unique unit identifier (UUID). The mismatch of WWN and UUID occurs if:

• The virtual disk has failed over in a HP Continuous Access EVA environment.
• The WWN of the virtual disk is changed from the default name.

Resolution: Complete the following steps:

1. Open the fnames.conf file in a text editor.
2. Identify each virtual disk for which HP Command View EVAPerf is not displaying a friendly name.
3. Using the Storage System Scripting Utility, run the following command for each virtual disk:
   
   ```
   LS VDISK virtual disk name
   ```

   All information about the virtual disk, including the WWN, is displayed.
4. From the command output, copy the WWN for a virtual disk to the corresponding virtual disk in the fnames.conf file. Replace all lower case letters with upper case letters.
5. Repeat step 4 for each applicable virtual disk.
6. Save the fnames.conf file.

NOTE:
Do not run the evaperf fn command after completing these steps; otherwise you will have to complete these steps again.

Installation requirements

You must remove any previous version of HP Command View EVAPerf before you install version 6.0. Use Windows Add/Remove Programs to remove the earlier version.
3 HP Storage System Scripting Utility 6.0

This chapter describes enhancements and workarounds for HP Storage System Scripting Utility 6.0 (called the utility).

Enhancements

- **Commands.** The ADD MIRRORCLONE and LS PREFERRED_PATH commands are added.
- **Command options.** The following command options have been added to the SET VDISK command to support mirrorclones: DETACH, FRACTURE, RESTORE, and RESYNC.

The SHOW command has been removed from the utility. If you have scripts that contain SHOW commands, you must replace the SHOW commands with the LS commands.

The SELECT MANAGER is no longer available in interactive sessions, only scripts.

Compatibility/Interoperability

HP Storage System Scripting Utility 6.0 is not compatible with HP Command View EVA 5.0.

Workarounds

**OS_UNIT_ID does not work with certain commands**

When using the ADD COPY or ADD SNAPSHOT commands, the OS_UNIT_ID option does not work. The value remains at zero.

Resolution: Use the SET VDISK command to set the OS_UNIT_ID option.

Installation requirements

This section describes requirements for installing the utility on specific operating systems.

**HP Tru64 UNIX**

CXX 7.1 runtime libraries must be installed on the HP Tru64 UNIX host. Download the libraries from the following link:


You can install the libraries before or after you install the utility, but they must be installed before you start the utility.

**IBM AIX**

Install the xLC.rte.7.0.0.0 and xLC.rte.7.0.0.1 packages on the IBM AIX host. You can download these packages from the following site:

Sun Solaris

Install the 112438-03 patch on the Sun Solaris host. You can download this patch from the following website:

Documentation

Two documents, HP StorageWorks Command View EVA kit contents and HP StorageWorks Command View EVA installation guide, list the OS-specific executable file names to install the utility on a host. The file names for the Linux executables were changed after these documents were finalized. Instead of one executable for Red Hat and SuSE Linux 32-bit and one for Red Hat and SuSE Linux 64-bit, there are now separate executables for each Red Hat and SuSE version, as noted in the following table.

<table>
<thead>
<tr>
<th>Operating system</th>
<th>File name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux (Red Hat 3.0) 32-bit</td>
<td>sssu_las30_x86</td>
</tr>
<tr>
<td>Linux (Red Hat 3.0) 64-bit</td>
<td>sssu_las30_ia64</td>
</tr>
<tr>
<td>Linux (Red Hat 4.0) 32-bit</td>
<td>sssu_las40_x86</td>
</tr>
<tr>
<td>Linux (Red Hat 4.0) 64-bit</td>
<td>sssu_las40_ia64</td>
</tr>
<tr>
<td>Linux (SuSE 8) 32-bit</td>
<td>sssu_sles8_x86</td>
</tr>
<tr>
<td>Linux (SuSE 8) 64-bit</td>
<td>sssu_sles8_ia64</td>
</tr>
<tr>
<td>Linux (SuSE 9) 32-bit</td>
<td>sssu_sles9_x86</td>
</tr>
<tr>
<td>Linux (SuSE 9) 64-bit</td>
<td>sssu_sles9_ia64</td>
</tr>
</tbody>
</table>
SMI-S EVA 6.0 is shipped with the HP Command View EVA 6.0 software suite. SMI-S EVA enables Common Information Model (CIM)-capable management software to manage EVAs. SMI-S EVA is based on the Managed Object Format (MOF) 2.11 and is SMI-S 1.0.2 and 1.1.0 compliant.

This chapter describes enhancements, fixed issues, and workarounds for SMI-S EVA 6.0.

Enhancements

- **Modified installation procedure.** From this release onwards, there is no separate installer available to install SMI-S EVA. You can install SMI-S EVA using one of the following methods:
  - Typical Install option. This option installs the complete HP StorageWorks Command View EVA suite of products. As a result, SMI-S EVA is automatically installed.
  - Custom Install option. This option installs selected components of the software suite. For example, you can install SMI-S EVA only. However, when you select SMI-S EVA, HP StorageWorks Command View EVA and HP Command View EVAPerf components are automatically selected.

- **Enhanced user management tasks.** To install SMI-S EVA, you must be logged into the management server as a local user with local administrative privileges. After installing SMI-S EVA, the CIM administrator account is created by default. As the CIM administrator, you have read/write permissions to SMI-S EVA.

After installing SMI-S EVA, as the CIM administrator, you can create user accounts and assign them privileges. To do this:
  - Create users on Windows and assign them to groups
  - Create CIM users with the cimuser utility

For more information on how to complete these tasks, see HP StorageWorks Command View EVA installation guide.

- **Alert indications for hardware failures.** Alerts are generated for hardware failures only. Web-based Enterprise Services (WEBES) must be installed to receive alert information. For more information on installing WEBES, see HP StorageWorks Command View EVA installation guide.

- **Changes in CIMOM.** The changes in CIMOM are:
  - The value of the interop namespace parameter is root/pag_interop.
  - The service name is HP StorageWorks SMI-S CIMServer
  - The CIMOM log files are located in the following directory:
    C:\Program Files\Hewlett-Packard\pegasus_home\logs
  - Clients can connect concurrently to the CIMOM server in SSL mode and non-SSL mode on ports 5989 and 5988, respectively.

- **Backward compatibility with previous releases.** The HP Client SDK contains the following files that must be used to ensure backward compatibility with previous releases:
  - CIMOMServer.jar
  - CIMOMClient.jar
  - cim.properties

These files are located in the C:\Program Files\Hewlett-Packard\HP Client SDK directory. Copy these files to the location where the client is running to ensure backward compatibility. To connect to the server in SSL mode, modify the value of the enableSSL property in the cim.properties file to True. To connect to the server in non-SSL mode, modify the value to False.

- **Changes to CIMOM password.** You can set the CIMOM password during SMI-S EVA installation. When you use the Typical install option, the CIMOM user account is created by default. The user...
name and password is set to administrator. When you use the Custom install option, the user name is set to administrator by default. You are prompted to enter a password. Use this password for subsequent client connections to the CIMOM.

- **Changes to the evaprovider.properties file.** The changes are:
  - To enable logging, type DEBUG=TRUE in the evaprovider.properties file, which is located in the C:\Program Files\Hewlett-Packard\pegasus_home\bin\EVA-provider directory. Restart the HP StorageWorks SMI-S CIMServer service after making this change.
  - The provider log files are located in the C:\Program Files\Hewlett-Packard\pegasus_home\logs\evaprovider directory.
  - The smis_EVA_VERSION_BUILD property is located in the C:\Program Files\Hewlett-Packard\pegasus_home\bin\EVAProvider\evaprovider.properties directory.

Do not change the values for any parameter unless it is specifically mentioned.

### Compatibility/Interoperability

#### SMI-S EVA and HP Command View XP coexistence

You can install HP Command View EVA 6.0 and SMI-S EVA 6.0 on the same server as HP Command View XP and SMI-S XP 2.2B and/or HP Command View XP and SMI-S EVA XP Advanced Edition (AE) 5.1. However, you must complete the following steps to ensure that these products work together:

1. Install HP Command View EVA 6.0 and SMI-S EVA 6.0.
2. Change the port number in the cimserver_planned.conf file to an available port other than 5988 or 5989.
3. Restart the HP StorageWorks SMI-S CIMServer service.
4. Install HP Command View XP and SMI-S XP.

---

**NOTE:**

You can install only one version of HP Command View XP on the same server as HP Command View EVA 6.0 and SMI-S EVA 6.0.

---

#### SMI-S EVA and HP Data Protector and HP Cluster EVA coexistence

HP OpenView Storage Data Protector and HP Cluster Extension EVA solutions cannot coexist with a single instance of SMI-S EVA. If HP Storage Data Protector and HP Cluster Extension EVA are run simultaneously with the same SMI-S EVA provider, the response time for queries through SMI-S EVA is significantly low. HP recommends that you use separate instances of SMI-S EVA for HP Storage Data Protector and for Cluster Extension EVA software solutions.

### Workarounds

#### Lifecycle indications are not supported

This release of SMI-S EVA does not support lifecycle indications. Only alerts for hardware failures are supported. No alerts are generated for create, modify, or delete operations of any logical object.

#### CreateViewProtocolController implementation for LUN Masking

SMI-S EVA defines the access permissions to the device through the DeviceAccess parameter. The following table describes the access permissions.
When you pass an unfractured mirrorclone or container as LUN names using the Create a View Protocol Controller method, the INVALID_PARAMETER error appears. Although the parameter is passed, the mirrorclone or container is not presented to the host.

**Configure SMI-S EVA to generate alerts using WEBES**

After installing WEBES, you must configure SMI-S EVA to generate alerts using WEBES. Use the Desta tool to add the host to the WEBES SNMP list and then run the commands `desta snmp off` and `desta snmp on`.

You must configure SMI-S EVA to generate alerts using WEBES if either of the following situations occur:

- You install WEBES and the HP Command View EVA software suite on the same management server for the first time.
- You observe that events are listed in the WEBES user interface, but alert indications are not received through the SMI-S client.

To configure SMI-S EVA, complete the following steps:

1. Open a command window on the management server.
2. Change to the directory where WEBES is installed. Typically, the directory will be `C:\Program Files\Hewlett-Packard\svctools\common\bin`.
3. Execute the following command:
   ```
   C:\Program Files\Hewlett-Packard\svctools\common\bin>desta snmp off
   Do you really want to turn off SNMP service trap notification [Yes]: yes
   SNMP Service Trap notification is now disabled.
   ```
4. Execute the following command:
   ```
   C:\Program Files\Hewlett-Packard\svctools\common\bin>desta snmp on
   Which host(s) should receive service traps for logged calls (comma-separated) [127.0.0.1]:
   SNMP Service Trap notification is now enabled.
   ```

The `desta snmp` command enables or disables support notification to management applications. All WEBES client, such as HP Systems Insight Manager and HP OpenView Operations, using SNMP Notification from WEBES will be affected momentarily when you execute the `desta snmp off` command. WEBES clients using other notification mechanisms, such as Instant Support Enterprise Edition (ISEE) or Simple Mail Transfer Protocol (SMTP), will not be affected. For more information on notification mechanisms that will not be affected, see your WEBES documentation.

---

**Table 1 DeviceAccess parameter implementation**

<table>
<thead>
<tr>
<th>Virtual disk mode</th>
<th>DeviceAccess implementation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read-only</td>
<td>Read-only</td>
<td>The virtual disk is presented to the host in read-only mode.</td>
</tr>
<tr>
<td>Read-Write</td>
<td>Read-Write</td>
<td>The virtual disk is presented to the host in read-write mode.</td>
</tr>
<tr>
<td>Read-Write</td>
<td>Read-only</td>
<td>The virtual disk is presented to the host. However, user access is determined by the HP Command View EVA implementation.</td>
</tr>
<tr>
<td>Read-only</td>
<td>Read-Write</td>
<td>Displays the INVALID_PARAMETER error. The parameter is passed for the Create a View Protocol Controller method but the virtual disk is not presented to the host.</td>
</tr>
</tbody>
</table>
Removing HP StorageWorks SMI-S CIMOM does not remove CIMOM-related folders

You can remove HP StorageWorks SMI-S CIMOM using one of the following methods:

- Select **HP StorageWorks Command View EVA Software Suite** and click **Remove**.
  This action removes the entire HP Command View EVA software suite.
- Select **HP StorageWorks SMI-S CIMOM** and click **Remove**.
  This action removes only CIMOM. However, you cannot remove CIMOM when **HP StorageWorks SMI-S EVA** is installed. You must remove SMI-S EVA before removing CIMOM.

When you remove CIMOM, files and folders related to CIMOM are not removed. The files are located in the **C:\Program Files\Hewlett-Packard\pegasus_home** directory. You must manually delete these files. If you retain these files and install CIMOM later, the files could affect CIMOM behavior.

Pool creation results in disk groups created of less than requested size

When you create a pool of disks through SMI-S EVA, the size of the total disk groups created is less than what you requested. For example, if you create a pool of 300 GB, the size of the pool when it is created is approximately 253 GB.

This behavior occurs because the storage pool is created with the spare level as **Single**. This implies that one disk is set aside as a spare. This results in the difference of size. However, if you specify a high value for the storage pool, the variation is minimal.

Typical installation method logs error messages to a file

When you install the HP StorageWorks Command View EVA software suite, although the software is successfully installed, the following error message is logged in the **PegasusError.log** file with trace level as **Severe**:

```
SEVERE SlpProvider: SLP Registration Failed: srv_registration
```

The **PegasusError.log** file is located in the **C:\Program Files\Hewlett-Packard\pegasus_home\logs** directory. You can ignore this error message.

Ungrouping disks from a disk group is not supported

When you use the **CreateOrModifyStoragePool** method to remove disks from a storage pool, a return code of 0 is received. This return code implies that the storage pool has been dissolved and the disks have been ungrouped. However, the disks continue to remain grouped. HP recommends that you do not remove disks from a storage pool using the **CreateOrModifyStoragePool** method. Also, no other method is available to remove disks from a storage pool.
Errors occur when SMI-S EVA is removed

When you attempt to remove HP StorageWorks SMI-S EVA, the following error may appear and halt the removal process:

Error loading C:\Program Files\Hewlett-Packard\pegasus_home\support_files\Ctor.dll

The specified module could not be found.

This error occurs because the InstallShield driver was not installed properly when you installed SMI-S EVA. If you encounter this error, you must install the driver from the following directory:

C:\Program Files\Hewlett-Packard\pegasus_home\support_files

After you install this driver, you can remove SMI-S EVA.

Issues with the Create VPC method

You cannot provide a StorageHardware ID that is already associated with another view as an input parameter for the Create a VPC method. You can complete the same task by using the Add LUNs to View method. For this method, you must provide the LUN and the view that already has the StorageHardware ID assigned to it.

For example, LUN 1 and LUN 2 are attached to View 1 and assigned to the StorageHardware ID 1. If LUN 3 must be visible to StorageHardware ID 1, do not use the Create VPC method. Instead use the Add LUNs to View method where you can specify LUN 3 and View 1 as input parameters.

Incorrect virtual disk performance data reported when virtual disk is managed by controller B

If HP Storage Essentials or HP OpenView Storage Area Manager requests performance data through SMI-S EVA for a virtual disk being managed by controller B, SMI-S EVA provides data for the virtual disk as if it were being managed by controller A. As a result, the data that is reported is out-of-date. When the virtual disk is being managed by controller A, the performance data is valid.

Installation requirements

You must remove 4.x and prior versions of SMI-S EVA before installing this version of SMI-S EVA. When you remove 4.x or prior versions, Service Location Protocol (SLP) is not removed. Remove SLP from the Add/Remove Programs window. If you are running version 5.0 or later, this version will be overwritten when you install SMI-S EVA 6.0.

After removing previous SMI-S EVA versions, verify that SMI-S EVA is not listed in Add/Remove Programs.
5 Product documentation

Table 2 Additional product documentation

<table>
<thead>
<tr>
<th>Document</th>
<th>Edition</th>
<th>Part number</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP StorageWorks Command View EVA</td>
<td>Fourth, July 2006</td>
<td>T3724-96060</td>
<td>HP web site and documentation CD</td>
</tr>
<tr>
<td>installation guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP StorageWorks Command View EVA user guide</td>
<td>Fourth, July 2006</td>
<td>T3724-96061</td>
<td>HP web site and documentation CD</td>
</tr>
<tr>
<td>HP StorageWorks Command View EVA online help</td>
<td>Fifth, July 2006</td>
<td>T3724-96062</td>
<td>Embedded software</td>
</tr>
<tr>
<td>HP StorageWorks Storage System Scripting Utility</td>
<td>Ninth, July 2006</td>
<td>T3724-96063</td>
<td>HP web site and documentation CD</td>
</tr>
<tr>
<td>reference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP StorageWorks EVA software compatibility</td>
<td>Eighth, July 2006</td>
<td>T3680-96023</td>
<td>HP web site</td>
</tr>
<tr>
<td>reference</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 HP storage web sites

<table>
<thead>
<tr>
<th>Item</th>
<th>HP web site</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVA4000</td>
<td><a href="http://www.hp.com/go/eva4000">http://www.hp.com/go/eva4000</a></td>
</tr>
<tr>
<td>EVA6000</td>
<td><a href="http://www.hp.com/go/eva6000">http://www.hp.com/go/eva6000</a></td>
</tr>
<tr>
<td>EVA8000</td>
<td><a href="http://www.hp.com/go/eva8000">http://www.hp.com/go/eva8000</a></td>
</tr>
<tr>
<td>EVA</td>
<td></td>
</tr>
</tbody>
</table>

An HP Command View EVA Perf white paper is also available from the following web site: http://h18006.www1.hp.com/storage/softwhitepapers.html