

HP StorageWorks Command View EVA 8.0 release notes

Part number: T5494-96006
First edition: February 2008



Legal and notice information

© Copyright 2008 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
1 HP Command View EVA 8.0	9
Enhancements	9
Compatibility/Interoperability	9
WEBES support	9
Multi NIC environments	9
Installing layered applications	9
Installation requirements	10
Workarounds and limitations	10
Emulex HBA requires latest driver version	10
DR group name guideline	10
"System connection down" error message	10
Deleting incorrectly entered licenses	10
Antivirus software may degrade performance	11
Version numbers may differ	11
Missing license alert for temporary license	11
HP Command View EVA does not support array initialization over distance	11
Managing mirrorclones after a disk group failure	11
Incorrect error message for minimum asynchronous replication log size	12
Expanding a DR group member	12
Log size displayed incorrectly when creating a mixed DR group	12
Microsoft Windows 2008 and LUN shrink	12
Online Help corrections	12
Setting the IP address for the management module	13
Correct sequence for removing HP Command View EVA 8.0 in a co-existence environment	13
Upgrading firmware on multiple disk drives	14
Troubleshooting disk drive firmware upgrade	14
2 HP Command View EVAPerf 8.0	17
Enhancements	17
Configuring HP Command View EVAPerf	17
Configuration recommendations	17
Workarounds and limitations	18
HP Command View EVAPerf fails to collect array information	18
Filtering does not work if the array name is more than one word	18
Limited binary logging	18
Domain names are not supported in the hostname parameter of the fnh command	18
Windows Performance Monitor limitations	18
pd and hps command limitations	19
TLVIZ tool limitation	19
3 SMI-S EVA 8.0	21
Enhancements	21
Compatibility/Interoperability	21
Main and sub profiles supported	21
Interop name change	22
Changing the cache cycle interval	22

Life cycle indications	22
Option to disable chunking	22
DeleteStorageHardwareID always returns a zero	22
MirrorClone naming	23
Number of instances of CIM_StorageSetting	23
Number of Instances of primordial pools	23
SMI-S EVA and HP Command View XP coexistence	23
SMI-S EVA 8.0 and Command View Tape Libraries coexistence	23
Secure Socket Layer (SSL) certificates	24
Installation requirements	24
Workarounds and limitations	24
Changing the system's hostname	24
Configure SMI-S EVA to generate alerts using WEBES	24
Changing ports for SMI-S EVA installation	25
Removing SMI-S EVA CIMOM does not remove CIMOM-related folders	25
Pool creation results in disk groups created with a size different from requested size	25
Ungrouping disks from a disk group is not supported	25
HP StorageWorks CIM Object Manager service	25
Do not include a blank space in the host name	26
Client connection for EVA provider	26
Increasing the timeout value	26
Importing SIM CMS SSL certificate for indication delivery	26
CIMOM limitation	26

4 Product documentation 27

Tables

1	Disk drive code load errors and workarounds	14
2	Additional product documentation	27
3	HP storage websites	27

About this guide

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

- HP StorageWorks Command View EVA 8.0
- HP StorageWorks Storage System Scripting Utility 8.0
- HP StorageWorks Command View EVAPerf 8.0
- Storage Management Initiative Specification for Enterprise Virtual Array (SMI-S EVA) 8.0

These products are supported with HP StorageWorks EVA controller software versions VCS 3.1xx, VCS 4.1xx, XCS 6.1xx, and XCS 9.000. 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 release notes for the specific array model and XCS version.

The information in this document is not provided elsewhere. HP recommends that you read this information thoroughly.

 **IMPORTANT:**

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

For the location of documents referenced in these notes, see "[Product documentation](#)" on page 27.

Update recommendation

Recommended

1 HP Command View EVA 8.0

This chapter describes enhancements, compatibility/interoperability, and workarounds for HP Command View EVA 8.0.

Enhancements

- **Support for hardware and firmware.** Hardware and firmware enhancements provide new GUI objects for the controller, controller enclosure, drive enclosure, and the management module. For more information, see the *HP StorageWorks Command View EVA user guide*.
- **Link/Launch Web-based Operator Control Panel (WOCP).** HP Command View EVA 8.0 includes a GUI function that links you directly to the WOCP.
- **Multiple mirrorclone fracture.** This release adds the ability to fracture multiple mirrorclones with a single HP Storage System Scripting Utility (SSSU) command.
- **Data Replication (DR) log for both synchronous and asynchronous replication.** This release combines the two modes and provides changes to the GUI and the DR group creation wizard. Both synchronous and asynchronous DR groups now use the same log structure; both use the circular logging mechanism which gives more accurate log information.
- **Multi-snap validation option.** The `multi-snap` command in SSSU now provides an option to skip the validation step, which allows the command to execute faster.
- **iSCSI host support.** This release adds iSCSI support for HP OpenVMS, Sun Solaris, and VMWare. The existing supported Linux/Mac operating system is renamed as Linux/MacOS.
- **Licensing support.** The iSCSI licensing feature has been added.

Compatibility/Interoperability

WEBES support

HP Command View EVA 8.0 is compatible with WEBES 5.1 and later versions. The Service Tool CD 2.1 included with the HP Command View EVA 8.0 kit contains an earlier version of WEBES. Download the latest version of WEBES from the HP website:

<http://h18023.www1.hp.com/support/svctools/webes>

For WEBES installation information, see *Getting Started with EVA Monitoring Tools*, available under Manuals on the HP website: <http://www.hp.com/support/manuals>. Under Storage, click Disk Storage Systems. Under EVA Disk Arrays, select **HP StorageWorks 4400 Enterprise Virtual Array**.

Multi NIC environments

HP Command View EVA supports multi NIC environments. See your vendor documentation for configuration instructions.

Installing layered applications

If you are installing HP Command View XP 2.2B and HP StorageWorks Command View Tape Libraries 2.2, you must install Tape Libraries first.

Installation requirements

The HP Command View EVA Software Suite 8.0 does not support upgrades from earlier software versions. If you are running a version earlier than 8.0, you must first remove the earlier version, reboot the server, then install HP Command View EVA 8.0. Use Windows Add/Remove Programs to remove the earlier version.

Install HP Command View EVA 8.0 on a server running Windows or on an HP OpenView Storage Management Appliance. For supported Windows versions and server hardware, see *HP StorageWorks Enterprise Virtual Array software compatibility reference*.

 **NOTE:**

The InstallAnywhere application for HP Command View EVA 8.0 will not perform a cancel function during the installation.

 **NOTE:**

Windows Add/Remove Programs may display a larger size than the HP Command View EVA software suite size if other files (other products installed) are present in the directory where HP Command View EVA is installed.

Workarounds and limitations

Most of the issues described in this section have a workaround, and include a resolution. Some however, are limitations and should be noted for reference.

Emulex HBA requires latest driver version

Servers using an Emulex HBA with Storport drivers (prior to version 5–2.00a12) may experience a system hang that requires a reboot. Ensure the version you have is 5–2.00a12 or later. To obtain drivers, go to the following site: <http://www.hp.com/support/downloads>

DR group name guideline

HP recommends that you assign unique names to DR groups. Duplicate names are supported for DR groups on different arrays, but they are not supported for DR groups on the same array. DR group names are case sensitive in HP Command View EVA but are not case sensitive in HP Replication Solutions Manager. In rare cases, this can lead to issues in HP Replication Solutions Manager. For example, if you use HP Command View EVA to create two DR groups, DRgroupA and drgroupa on the same array, there will be no problem in HP Command View EVA, but actions and jobs in HP Replication Solutions Manager involving either of these DR groups may fail or result in unexpected behavior.

“System connection down” error message

If you attempt to create a DR group soon after initializing an array, the following error message may appear: Storage system connection down.

Resolution: Wait a few minutes and then try again.

Deleting incorrectly entered licenses

If a license is entered incorrectly for an array (for example, a license is entered with the correct WWN but incorrect model number), the license will appear under the Licensing tab and you will not be able to remove it using the **Remove License** feature.

Resolution: Use the **Remove All Licenses** option to delete the license.

Antivirus software may degrade performance

To avoid HP Command View EVA performance issues when antivirus software is installed on the same management server, HP recommends that you exclude log-related files that change frequently from the antivirus software scan. These include the following:

- \Program Files\Hewlett-Packard\Sanworks\Element Manager for StorageWorks HSV\cache
- \Program Files\Hewlett-Packard\Sanworks\Element Manager for StorageWorks HSV\log
- \Program Files\Hewlett-Packard\Sanworks\Element Manager for StorageWorks HSV\logs
- \Program Files\Hewlett-Packard\Sanworks\Element Manager for StorageWorks HSV\trace

If HP Command View EVA Perf is installed:

- \Program Files\Hewlett-Packard\EVA Performance Monitor\logs
- \Program Files\Hewlett-Packard\EVA Performance Monitor\cache

If SMI-S EVA is installed:

- \Program Files\Hewlett-Packard\SMI-S\CXWSCimom\logs
- \Program Files\Hewlett-Packard\SMI-S\EVAProvider\logs

Version numbers may differ

The HP Command View EVA version may differ depending on the window you are accessing. Sometimes the date is shown and other times the build number is shown. For example, the login page shows 8.00.00.080127 (date), while Add/Remove Programs displays the master installer build number (8.0.0.88), not the HP Command View EVA build number. Subcomponent version numbers are not available in Add/Remove Programs.

Missing license alert for temporary license

If you have both permanent and temporary licenses for a product, the license alert may not be displayed for the temporary license.

Resolution: Use the Report section of the Licensing tab on the Initialized Storage System properties page to display the expiration date for the temporary license.

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 through a direct connection or Fibre Channel switches. Do not use an FC-IP gateway between the management server and the array.

Managing 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 6.0xx or later), you may see the following error message:

```
Invalid user defined log size.
```

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

Expanding a DR group member

You can expand the size of a DR group member (virtual disk) whether the DR group is in synchronous or asynchronous mode. However, there are certain considerations for expansion in enhanced asynchronous mode (between arrays running controller software 6.0xx or later).

If you expand a virtual disk while in enhanced asynchronous mode, the DR group log is not resized to reflect the expanded virtual disk. If the expansion is small, the log may be able to accommodate it. If the expansion is substantial, the log may not be large enough to handle it.

Resolution: Expand a DR group member only when the DR group is in synchronous mode as follows:

1. Change the write mode from asynchronous to synchronous.
2. Complete the expansion of the DR group member.
3. If you previously set the maximum size of the DR group log, change the size of the log to accommodate the expanded DR group member. If the log size was previously determined by the controller software, no user action is necessary.
4. Change the write mode to asynchronous.

The DR group log size is adjusted to accommodate the expanded DR group member.

Log size displayed incorrectly when creating a mixed DR group

When creating a DR group in mixed DR mode (a DR group between an EVA3000/5000 array and an EVA4000/EVA4100/6x00/8x00 array), the requested and actual log size for the DR group may not match. This is due to the mixed environment, and also to the limited available space for the log. This is a HP Command View EVA display issue only and does not indicate a problem with the DR group, which will function normally.

Microsoft Windows 2008 and LUN shrink

LUN shrink using the Windows 2008 operating system is only supported on basic disks and dynamic simple volumes that are spanned or are mirrors. Striped or RAID5 dynamic disks are not supported with LUN shrink.

Online Help corrections

The following online help corrections should be noted:

- **Incomplete text for iSCSI Add a Host field help.** The iSCSI Add a Host operating systems field help does not display all operating system choices. The help display should show: Hewlett-Packard

HP-UX, Hewlett-Packard OpenVMS, Linux/OS X, Microsoft Windows, Sun Solaris, VMware, and Other.

- **Online disk drive code load page 1 help.** You cannot browse to the bundled image file as suggested by the help page; you must enter the complete path to the directory containing the extracted bundled image files.

 **NOTE:**

The Directory path must be accessible from the server running the HP Command View EVA service.

- **Online disk drive code load page 2 help.** The Note recommending that you not select the Overwrite for the existing firmware if the bundled image version is the same is no longer applicable.
- **Online disk drive code load page 3 help.** The value of 'Failed' used in the disk drive code load status column should be read as 'Not Updated.'
- **Incomplete text for selecting the host operating system.** In the Add a Host and Host Properties help topics, the text for the Operating System field does not list Windows LH or identify which operating system to select for Windows. If you are using Windows 2008, select **Windows LH**. If you are using Windows 2003, select **Microsoft Windows**.
- **Incorrect text for Create a DR Group help.** The documentation help file for "Create a DR Group" indicates that the minimum log size could be 136 MB. This information is incorrect. The minimum log size is 5 GB. The help file also indicates that the user can set the log size to zero and the firmware will calculate the best log size. This statement is also incorrect, since HP Command View EVA creates an error message if the user tries to set a log size below 5120 MB (5GB) in size.

Setting the IP address for the management module

You must have an initialized array prior to setting the IP address of the management module. Uninitializing the array can cause the IP address to be lost. If this problem occurs, the "Launch WOCP" function in the HP Command View EVA GUI may not work. If this happens, perform the following steps:

1. Create an array or ensure that one has been previously created.
2. Remove any attached Ethernet cable from the rear of the management module.
3. Press and hold **Config Reset** (small recessed button to the right of the Ethernet jack) for approximately 4 seconds.
4. Connect an Ethernet cable to the rear of the management module from an Ethernet port configured with an IP address in the range 192.168.0.2 to 192.168.0.x.
5. Use a browser to connect to `https://192.168.0.1:2372`.
6. For login, enter the username as admin, and leave the password field blank.
7. Select **Configure Network Options**.
8. Enter the network parameters for the management module.
9. Replace the Ethernet cable with one from the network (from which you will browse to the management module).
10. Use a browser to connect to `https://:configured IP address:2372`.

Correct sequence for removing HP Command View EVA 8.0 in a co-existence environment

If your HP Command View EVA 8.0 environment includes HP Command View Tape Libraries 2.2, the necessary sequence must be followed when removing these products. HP Command View EVA 8.0 must be the last product removed. If this sequence is not followed correctly, reinstallation of HP StorageWorks Command View EVA 8.0 may not function correctly.

Resolution: Perform the following steps to remove the software:

1. Remove HP Command View Tape Libraries 2.2.

2. Remove HP Command View EVA 8.0.

NOTE:

If the above sequence is not followed, it will be necessary to download and run the APUinstallTool to configure your system to ensure reinstallation of the software works correctly. Download the tool from the following HP website:

<ftp://autopass:autoPass@hprc.external.hp.com/autopass/release/utilities/APUinstallTool/Latest/>

The instructions for running the tool are available on the website. After running the tool, reinstall HP Command View EVA 8.0 and HP Command View Tape Libraries 2.2.

If you have difficulty accessing this website using Microsoft Internet Explorer, you may have to disable the **Folder view of FTP sites** browser option. To disable this feature, perform the following steps:

1. Select **Tools > Internet Options**
2. Select the **Advanced** tab
3. Clear the **Folder view of FTP sites** check box

Upgrading firmware on multiple disk drives

Before upgrading firmware on multiple disk drives, please follow the recommendations provided in the *HP StorageWorks 4x00/6x00/8x00 Enterprise Virtual Array updating product software guide*. See the Manuals page on the HP website: <http://www.hp.com/support/manuals>. From the Manuals page, select Disk Storage Systems, then select either **HP StorageWorks 4000/6000/8000 Enterprise Virtual Arrays** or **HP StorageWorks 4100/6100/8100 Enterprise Virtual Arrays** under EVA Disk Arrays.

Troubleshooting disk drive firmware upgrade

Table 1 on page 14 lists the errors you may encounter when upgrading the disk drive firmware and provides workarounds.

Table 1 Disk drive code load errors and workarounds

Error	Workarounds
Drive code load - Failed to write firmware to drive buffer	Check the drive properties in the HP Command View EVA GUI for problems. Resolve the problem and restart the disk drive code load.
Drive code load - The disk cannot be code loaded because it is part of a group	Restart the disk drive code load.
Drive code load - The disk group containing the physical store has background reconstructing or reverting in progress	Reduce the I/O as per the I/O recommendation given for the online disk drive firmware upgrades and restart the disk drive code load. See the <i>Updating product software guide</i> for your array model for I/O recommendations.
Drive code load - Unable to determine the condition of the volume	Check the drive properties in the HP Command View EVA GUI for problems. Resolve the problem and restart the disk drive code load.
Media Not Available	This error may appear if the code load occurs while the array is experiencing a heavy I/O load. Restart the disk drive code load.
Drive code load - Unable to determine the condition of the physical store	Check the drive properties in the HP Command View EVA GUI to see if the drive has any problems. Resolve the drive problems and restart the disk drive code load.

Unable to process command at this time. Retry the command or check all connections	Check for any possible connection issues between HP Command View EVA software and the EVA, and restart the disk drive code load.
Failed - Successful Status	Restart the disk drive code load.
Object not found in View	Check for any possible connection issues between HP Command View EVA software and the EVA, and restart the disk drive code load.
Drive code load - The StorageCell is in device discovery, and the requested operation cannot be served	Restart the disk drive code load.
Invalid Target Handle	Check the drive properties in the HP Command View EVA GUI for problems. Resolve the problem and restart the disk drive code load.
Not a supported version	Restart the HP Command View EVA service and retry the disk drive code load.
The disk cannot be code loaded because disk is part of a RAID0 group.	Remove disks that contain RAID0 data from the group and restart the disk drive code load.

2 HP Command View EVAPerf 8.0

This chapter describes enhancements and workarounds for HP Command View EVAPerf 8.0.

Enhancements

The following enhancements have been added for this release:

- **Remote connection.** Support was added for the HP Command View EvaPerf client to connect to remote service.
- **drg command.** The `drg` command now displays statistics of DR groups created on the array.
- **mof command output TLC compliant.** The `mof` command with the `-tlc` switch now shows TLC-compliant data.
- **True averages.** The HP Command View EvaPerf client now displays true averages for intervals greater than 30 seconds.
- **vd command shows DR group membership.** The DR Group field has been added to the `vdisk` table to display DR group.
- **evapdcs.** The default startup type for `evapdcs` service has been set to automatic. Recovery type is set to restart the service.

Configuring HP Command View EVAPerf

You can configure HP Command View EVAPerf parameters to customize the performance data collector service. A sample configuration file can be found in the install folder. You can set parameters as follows:

- `evapdcs.ScsiDiscoveryInterval` — Sets the SCSI device discovery interval in seconds for the EVA data collection service. The default value is 600.
- `evapdcs.PollingInterval` — Sets the polling interval in seconds for the EVA data collection service. The default value is 10 seconds.
- `evapdcs.SslEnabled` — Enables/disables SSL connection. To enable SSL support set the value to `True`. The default value is `False`.
- `evapdcs.RPCPort` — Sets the TCP port that the EVA data collection service will listen on for RPC requests. The default value is 860.
- `evapdcs.TraceFileAge` — Sets the maximum age of trace files in days. The default value is 2.
- `evapdcs.EventFileAge` — Sets the maximum age of event files in days. The default value is 2.

Configuration recommendations

HP recommends the following maximum configuration for HP Command View EVAPerf:

- A maximum of 20 concurrent connections to the HP Command View EVAPerf service, where a connection is a successful communication channel that can be established between the client and the HP Command View EVAPerf server.
- A maximum of 10 arrays.
- A maximum active I/O on approximately 4000 virtual disks in parallel across the 10 arrays.
- The polling interval for the HP Command View EVAPerf service should be 60 seconds.

Workarounds and limitations

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 the `-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.

Domain names are not supported in the hostname parameter of the fnh command

Symptom: If the host name you enter in the `fnh` command is a full domain name (for example, `nt12345.asiapacific.xyzcompany.net <mailto:xyz@asiapacific.xyzcompany.net>`), the friendly names host file is not created.

Resolution: Use `localhost` or the host name without the domain when running the `fnh` command. The following examples are samples of supported entries:

```
evaperf fnh localhost hpadmin@localhost
evaperf fnh nt12345 xyz@asiapacific.xyzcompany.net
```

Windows Performance Monitor limitations

- When using Windows Performance Monitor to view HP Command View EVAPerf performance data on a management server running Microsoft Windows 2003 Enterprise Edition, Windows Performance Monitor may hang when the number of counters exceeds 900 (for example, a virtual disk object when it exceeds 100 instances with 9 counters per instance).
- The Windows Performance Monitor does not display HP Command View EVAPerf counters on a Windows 2003x64 platform (both Standard and Enterprise Editions).

pd and hps command limitations

Incorrect enclosure and bay ID in `evaperf pd` command when running VCS 4.100 or XCS 6.000

- HSV100 controllers running VCS 4.100 report inconsistent Enclosure and Bay IDs on both controllers.
- HSV200 controllers running XCS 6.000 report the Enclosure and Bay ID as "-" on one of the controllers after a reboot.

Missing host ports in `evaperf hps` command

With XCS 6.xxx and XCS 9.000, some of the host ports show port World Wide Names (WWN) as all zeroes. The `hps` command does not display the metrics for these host ports.

TLVIZ tool limitation

The TLVIZ tool fails to extract DR group metrics from `evaperf all` and it does not create a separate file for DR group metrics in `tlviz` format.

3 SMI-S EVA 8.0

Storage Management Initiative Specification for Enterprise Virtual Array (SMI-S EVA) 8.0 is shipped with the HP Command View EVA 8.0 software suite. SMI-S EVA enables Common Information Model (CIM)-capable management software to manage EVA storage systems. SMI-S EVA is based on the Managed Object Format (MOF) 2.13 and is SMI-S 1.1 compliant. The SMI-S EVA 8.0 release resolves several issues to improve SMI-S EVA. When installing SMI-S EVA 8.0, all previous versions should be removed.

Enhancements

New features added in this release include:

- **Dummied locking service.** Prior to this release, the Provider used a locking service to limit the DRGroup operations, and certain functions required a “key” validation. Beginning with SMI-S EVA 8.0 you no longer have to pass a validation key to unlock DR group functionality.
- **SnapBack (snapshot restore).** EVA replica feature that provides the ability to restore the point-in-time snapshot data to its source virtual disk.
- **Atomic attach or MultiSnap.** This feature lets you create multiple snapshots and snapclones of a source volume using a single command. This function can create multiple snaps simultaneously using pre-allocated containers to combine snapshots and snap clones.
- **Snapshot creation with container.** This feature enables creation of a snapshot, snapclone or mirrorclone of a source volume using a specified container.
- **Storage volume/Vdisk to container creation.** New functionality has been added to convert an existing storage volume to a container (reserved space).
- **LUN shrink.** In previous versions of SMI-S EVA Provider, there was a provision to expand the size of the given storage volume. In this release, the provision has been extended to shrink or decrease the size of a specified storage volume that is part of a storage pool.
- **Enhanced user management tasks**
 - When creating a storage pool using Near Online Disks (FATA disks), use the `CreateOrModifyStoragePoolUsingTubDrive()` function.
 - When creating a storage pool using Online Disks (FC disks), use the `CreateOrModifyStoragePool()` function.
 - You can check the progress percentage of a resync operation (mirrorclone which is syncing with the source). The progress percentage of resync operation is displayed in the `ResyncProgressPercent` property which is visible only when the `SyncState` is `resyncInProgress`. This property belongs to the `HPEVA_StorageSynchronized` association.
 - Previously, SMI-S EVA users were added with the `cimuser` utility. The `cimuser` utility is removed in SMI-S EVA 8.0; only CV users are valid users for SMI-S EVA.

Compatibility/Interoperability

Main and sub profiles supported

HP StorageWorks SMI-S EVA Provider 8.0 supports only the following main and sub profiles:

- Main Profiles — Array and Server
- Sub profiles — Software, Masking and Mapping Subprofile, Copy Services, Block Services, Disk Drive Lite, FC Target Ports, FC Initiator Ports, Job control, Access Points, Location, Physical Package, Multiple Computer System.

Interop name change

The interop name space is "interop" in the SMI-S EVA Provider 8.0. In previous versions of EVAProvider, this was "root/Pg_Interop".

Changing the cache cycle interval

The SMI-S EVA Provider caches the array configuration data and updates the cache every 30 minutes. The time interval can be changed, and any configuration changes in SMI-S EVA are reflected immediately in the cache. Provider has an option to turn on live data fetching by class. The properties file `<Install Dir>:\ProgramFiles\Hewlett-Packard\SMI-S\EVAProvider\config\xenacfg.txt` lists all of the classes. You can uncomment any class to make the provider refresh its cache data before serving the request.

Life cycle indications

This release of SMI-S EVA supports life cycle indications for the following array elements:

- Vdisk — Modeled as CIM_StorageVolume. Supports life cycle indications for instance creation, modification, and deletion.
- Array — Modeled as CIM_ComputerSystem. Supports life cycle indications for instance modification.
- FCPort — Modeled as CIM_FCPort. Supports life cycle indications for instance modification.

Configuring life cycle indication

Customize the life cycle indication features using the configuration file.

Enable/Disable life cycle indication

By default, life cycle indication is disabled as `LifeCycleIndication.Enable=FALSE`. Set value to `TRUE` to enable.

Enable/Disable life cycle indication for Vdisk, Array, or FCPort

Life cycle indication is enabled by default for the supported elements. To disable:

- `LifeCycleIndication.Disable.Vdisk=FALSE`
- `LifeCycleIndication.Disable.Array=FALSE`
- `LifeCycleIndication.Disable.FCport=FALSE`

Configure the Polling Interval

Polling is done in 10 minute intervals by default. To change the interval, set the value in minutes for the entry `LifeCycleIndication.PollingInterval`.

Option to disable chunking

By default, chunking is enabled in SMI-S EVA 8.0. To disable chunking, follow these steps:

1. Stop the HP StorageWorks CIM Object Manager service.
2. Open the file `C:\Program files\Hewlett-Packard\SMI-S\CXWSCIMOM\config\CxwsCimomService.cfg`
3. Search for the string `"JAVA_OPTIONS="` and add the flag `-Dcxws.http.disableChunking=true`
4. Save the file, then start the HP StorageWorks CIM Object Manager service.

DeleteStorageHardwareID always returns a zero

In the SMI-S EVA 1.1 Masking and Mapping sub profile, the function "DeleteStorageHardwareID" invocation always returns a zero (Success) value. In this release, the StorageHardwareID object instances

are not persisted in the provider, and deleting the HardwareId on the array is controlled through the "HidePaths" function.

MirrorClone naming

When you create a mirrorclone, the ElementName property must be unique. If you submit a duplicate name, the Provider ignores the duplicate name and uses the name of the source volume to create a unique name for mirrorclone. No error occurs.

Number of instances of CIM_StorageSetting

In previous versions of SMI-S EVA, the number of instances of CIM_StorageSetting was nine, regardless of the number of EVA's managed. In this version of SMI-S EVA, the number of instances of CIM_StorageSetting is eighteen (for one array) and can increase if SMI-S EVA manages more than one array.

Number of Instances of primordial pools

In SMI-S EVA 8.0 there are two primordial pools present (previously there was only one). They are "Ungrouped Disk Group" and "Allocated Disks Group". Use UngroupedDiskGroup to create a new StoragePool.



NOTE:

Pool creation using the disk extents is not supported in SMI-S EVA 8.0.

SMI-S EVA and HP Command View XP coexistence

You can install HP Command View EVA 8.0 and SMI-S EVA 8.0 on the same server as HP Command View XP and SMI-S EVA XP 2.2B and/or HP Command View XP and SMI-S EVA XP Advanced Edition (AE) 5.6. However, you must complete the following steps to ensure that these products work together:

1. Install HP Command View EVA 8.0 and SMI-S EVA 8.0.
2. Change the port number in the C:\Program files\Hewlett-Packard\SMI-S\CXWSCIMOM\config\cxws.properties file to an available port other than 5988 or 5989. The property names are cxws.http.port and cxws.https.port.
3. Restart the HP StorageWorks SMI-S Object Manager service.
4. Install HP Command View XP and SMI-S EVA XP.



NOTE:

You can install only one version of HP Command View XP on the same server as HP Command View EVA 8.0 and SMI-S EVA 8.0.

SMI-S EVA 8.0 and Command View Tape Libraries coexistence

You can install HP Command View EVA 8.0 and SMI-S EVA 8.0 on the same server as Command View Tape Libraries. However, you must complete the following steps to ensure that these products work together:

1. Install HP Command View EVA 8.0 and SMI-S EVA 8.0.
2. Change the port number in the C:\Program files\Hewlett-Packard\SMIS\CXWSCIMOM\config\cxws.properties file to an available port other than 5988 or 5989. The property names are cxws.http.port and cxws.https.port.
3. Restart the HP StorageWorks SMI-S EVA Object Manager service.

4. Install Command View Tape Libraries and SMI-S EVA.

Secure Socket Layer (SSL) certificates

NOTE:

For information about Secure Socket Layer (SSL) certificates for HP Command View EVA, see the *HP StorageWorks Command View EVA installation guide*.

Installation requirements

SMI-S EVA 8.0 provider does not support upgrades. Uninstall any previous versions of the provider. If you are removing version 4.x or earlier, Service Location Protocol (SLP) is not removed. Remove SLP from the Add/Remove Programs window. After removing previous SMI-S EVA versions, verify that SMI-S EVA is not listed in Add/Remove Programs.

Workarounds and limitations

Changing the system's hostname

If you change a system's `hostname` after installing HP Command View EVA, the client applications cannot retrieve data. To enable the clients ability to retrieve data, remove HP Command View EVA and then reinstall it. For instruction on removing and installing HP Command View EVA, see the *HP StorageWorks Command View EVA installation guide*.

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 `Dest` 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 EVA 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 is `C:\Program Files\Hewlett-Packard\svctools\common\bin`.
3. Enter the following commands at the system prompts:

```
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. Enter the following commands at the system prompts:

```
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]:
Which Trap type to use(Enter 2 or 3) [null]: 2

SNMP Service Trap notification is now enabled.
```

The `desta snmp` command enables or disables support notification to management applications. All WEBES clients, 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.

Changing ports for SMI-S EVA installation

If ports 5988 and 5989 are unavailable, you may have to configure another port. The *HP StorageWorks Command View EVA installation guide* describes how to change ports for SMI-S EVA installations.

Removing SMI-S EVA CIMOM does not remove CIMOM-related folders

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

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

When you remove the CIMOM, files and folders related to CIMOM are not removed. Complete the following steps to remove the related files:

1. Navigate to the `<Install Dir>:\Program Files\Hewlett-Packard\SMI-S` directory.
2. Delete the `SMI-S` folder. This deletes all the CIMOM associated files and ensures that the CIMOM functions correctly when reinstalled.
3. Reboot the server.

Pool creation results in disk groups created with a size different from requested size

When you create a pool of disks through SMI-S EVA, the size of the total created disk groups is less than requested. For example, if you create a pool of 300 GB, the size of the pool when created is approximately 253 GB. While creating a pool of near online disks with the minimum possible size, the actual size of the pool might be more than the size specified.

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. No other method is available to remove disks from a storage pool.

HP StorageWorks CIM Object Manager service

After you stop the Object Manager service, the status of the service displays **Stopping** in the **Services** window but the service does not stop. Stopping and starting the Object Manager service depends on the Windows operating system you are running:

- **Windows 2003:** To stop the Object Manager service, go to the Task Manager, right-click the `JavaWrapper.exe` process and select **End Process**. To restart the Object Manager service, open the **Services** window, right-click **Object Manager**, select **All Tasks** and select **Start**.
- **Windows 2000:** To stop the Object Manager service, reboot the system. To restart the Object Manager service, open the **Services** window, right-click **Object Manager**, select **All Tasks**, and select **Start**. This is a known Windows behavior. For more information, see: <http://support.microsoft.com/kb/839174/>

To avoid this issue, do not stop the Object Manager service within a minute of starting it.

Do not include a blank space in the host name

If you include a blank space before or after the host name, view name, or device ID of the `ViewProtocolController`, the `getinstance` and `EnumerateInstance` queries will fail.

To avoid the query failure, ensure that you do not include a blank space before or after the host name, view name, or device ID property.

Client connection for EVA provider

The EVA provider is supported for up to 32 client connections. When possible, schedule application use of the provider so that the usage is not overlapping.

Increasing the timeout value

If a client times out before receiving the response from the Object Manager and the connection is not completely broken, the connection enters a state of `CLOSE_WAIT`. This causes resources to be held up on the server, affecting performance.

To avoid this, increase the timeout value on the client or ensure that the client makes a clean exit when a timeout occurs.

Importing SIM CMS SSL certificate for indication delivery

To deliver indications to a SIM CMS that is subscribed for indication delivery in the CIMOM, perform the following steps:

1. Copy the certificate from the SIM CMS to the system where the CIMOM is installed.
2. From a command window, navigate to the directory `<Install Dir>:\Program Files\Hewlett-Packard\SMI-S\CXWSCimom\bin`.
3. Run the script `importSIMCert.bat` as: `> importSIMCert.bat -cert <SIM CMS certificate name with path> [-alias <key alias>]`

NOTE:

`<key alias>` must be different for each certificate imported into the keystore.

CIMOM limitation

When CIMOM is updating its cache with `ArrayConfiguration` data, it may seem slow to respond.

4 Product documentation

Table 2 Additional product documentation

Document	Edition	Part number	Availability
<i>HP StorageWorks Command View EVA installation guide</i>	Seventh, February 2008	T5494-96001	HP website and documentation CD
<i>HP StorageWorks Command View EVA user guide</i>	Sixth, February 2008	T5494-96002	HP website and documentation CD
<i>HP StorageWorks Command View EVA online help</i>	Seventh, February 2008	T5494-96009	Embedded software
<i>HP StorageWorks Storage System Scripting Utility reference</i>	Tenth, June 2007	T3724-96085	HP website and documentation CD
<i>HP StorageWorks Storage System Scripting Utility release notes</i>	Second, June 2007	T3724-96320	HP website
<i>HP StorageWorks Enterprise Virtual Array compatibility reference</i>	First, February 2008	T3680-96176	HP website
<i>HP StorageWorks EVAInfo 8.0 release notes</i>	Second, February 2008	T5494-96013	HP website

Most of the manuals can be found on the HP website: <http://www.hp.com/support/manuals>. Select **Storage Software** under Storage, and then select **HP StorageWorks Command View EVA Software** under Storage Device Management Software.

Table 3 HP storage websites

Item	HP website
EVA3000	http://www.hp.com/support/manuals . Select Disk Storage Systems under Storage, and then select HP StorageWorks 3000 Enterprise Virtual Array .
EVA4400	http://www.hp.com/go/eva4400
EVA5000	http://www.hp.com/support/manuals . Select Disk Storage Systems under Storage, and then select HP StorageWorks 5000 Enterprise Virtual Array under EVA Disk Arrays .
EVA4000/4100 EVA6000/6100 EVA8000/8100	http://h18006.www1.hp.com/storage/disk_storage/eva_diskarrays/eva_arrays/index.html
HP Command View EVA	http://h18006.www1.hp.com/products/storage/software/cmdvieweva/index.html
HP Business Copy EVA	http://h18006.www1.hp.com/products/storage/software/bizcopyeva/index.html
HP Continuous Access EVA	http://h18006.www1.hp.com/products/storage/software/conaccesseva/index.html

An HP Command View EVAPerf white paper is also available from the following HP website: <http://h18006.www1.hp.com/storage/softwhitepapers.html>