Version   HP Command View EVA 9.2

Description

This document describes the HP StorageWorks Command View EVA 9.2 release for array-based management and server-based management.

The information in this document is specific to the following releases of HP StorageWorks EVA management software:

- HP StorageWorks Command View EVA 9.2
- HP StorageWorks Command View EVAPerf 9.2
- Storage Management Initiative Specification for Enterprise Virtual Array (HP SMI-S EVA) 9.2
- HP Storage System Scripting Utility (SSSU) 9.2
- HP StorageWorks Management Infrastructure Security 1.0

To determine which versions of HP StorageWorks EVA controller software support HP Command View EVA 9.2, see Table 2.0 (HP Command View EVA interoperability support) in the HP StorageWorks Enterprise Virtual Array Compatibility Reference. For the location of this document, see “Product websites and documentation” on page 15.

For more information about HP EVA VCS, see the HP StorageWorks Enterprise Virtual Array 3000/5000 Release Notes for the specific version. For more information about HP EVA XCS, see the release notes for the specific array model and XCS version.

Update recommendation   Users should upgrade to HP Command View EVA 9.2.
Enhancements

HP Command View EVA 9.2 includes the following enhancements:

- **HP StorageWorks Management Infrastructure security**—Provides the following interfaces and high level features:
  - Security interface
  - Enhanced storage-related security integration and Management Group administration
  - Configuration interface
  - Command line tools
  - Automatic discovery of machines on a LAN
  - User interface integration for Management Infrastructure capable products

  See the [HP StorageWorks Management Infrastructure Administrator Guide](#) for additional information.

**NOTE:**

- The term “XF” is used in some situations to refer to the HP StorageWorks Management Infrastructure software. For example, you may see the term “XF” used in log messages.
- For server-based management, the correct login formats for HP StorageWorks Management Infrastructure are: user@machine, user@domain, machine\user, or domain\user.
- If an array-based management machine is the Management Group Authenticator, only the following formats are supported for logging in to all machines in that Management Group:
  - User (valid only if the local machine is the Management Group authenticator)
  - user@machine (valid for all machines in the Management Group)

  The login syntax machine\user is not supported when array-based management is the Management Group Authenticator. If you use this format, you will get the error Unknown username or incorrect password.
- If you are having difficulty using HP StorageWorks Management Infrastructure, including login problems, see the Troubleshooting chapter of the [HP StorageWorks Command View EVA Installation Guide](#) for assistance.

- **Changing the management server host name**—Support for changing the name of the management server or a host connected to the management server without requiring reinstallation of the following components:
  - HP Command View EVA
  - HP SSSU
  - HP SMI-S EVA
  - HP Command View EVAPerf
  - HP Replication Solutions Manager server software
  - HP Replication Solutions Manager Windows host agent software
• HP StorageWorks Management Infrastructure security

• **Improved array-based management response time**—Overall response time in an array-based management configuration has been improved.

• **Reduced HP SMI-S EVA initial discovery time**—HP SMI-S EVA initial discovery time has been improved.

• **Support for firmware download to Vraid0 disks**—Downloading disk drive firmware to a drive that is part of a Vraid0 virtual disk is now supported.

• **Asynchronous DR groups**—Support for creating data replication (DR) groups in asynchronous mode.

• **IPv6 support**—Support for IPv6 in array-based management configurations.

• **HP MPX200 Multifunction Router support**—The MPX200 Multifunction Router is supported with HP Command View EVA 9.2.

• **Management lock**—Prevents unauthorized changes to an object’s attributes.

**NOTE:**

Consider the following when using the management lock feature:

• Do not lock a virtual disk that was created by another user or by an application. For example, if you lock a virtual disk, snapshot, or mirrorclone that was created by an application such as HP Data Protector or HP Replication Solutions Manager, then users of those applications, or scripts calling those applications, may not be able to perform important actions.

• In addition to using a lock owner comment, HP recommends that you use the virtual disk’s general comment field to indicate the owner and purpose of the lock. This provides a more permanent record about the lock, should the lock be disabled later.

• Do not unlock a virtual disk that was locked by another user or by an application. For example, unlocking a virtual disk that was locked by HP SAN Virtualization Services Platform (SVSP) could make the disk vulnerable to inadvertent deletion.

• **HP StorageWorks Command View EVA Installation Guide update**—The **HP StorageWorks Command View EVA Installation Guide** includes instructions for installing and configuring a VMware guest operating system server with HP Command View EVA. Other related HP Command View EVA documentation may also indicate this support for VMware. VMware support for the HP Command View EVA installation requires additional array controller software support, which is not available at this time. Do not install HP Command View EVA on a VMware guest operating system until this support is announced. Controller software support for HP Command View EVA on a VMware guest operating system will be announced in a future edition of the HP Command View EVA release notes.

**Fixes**

The following fixes have been implemented in HP Command View EVA 9.2:

• **Special characters allowed in domain names**—Domain security install now allows special characters in domain names.

• **Running cvutil without administrator privileges**—If you are not logged in with administrator privileges and attempt to use cvutil, a dialog is now displayed indicating you do not have the necessary privileges.

• **Accessing an EVA in safe mode**—You can now successfully access an EVA which has been started in safe mode.
• **Refresh clearing virtual disk OS unit ID**—A refresh no longer clears the virtual disk OS unit ID in the HP Command View EVA GUI.

• **Logging of management event 3047**—Management event 3047 Event config file unavailable from MLD is no longer logged when configuring event notification.

• **EVA6100/6000 licenses after upgrading**—When upgrading HP Command View EVA, the EVA6100/6000 unlimited permanent licenses are no longer displayed as **Not licensed** in the Licensed Capacity Summary.

• **Management logical disk improvements**—Fixed several management logical disk issues that resulted in objects being assigned “temporary” names or, in some cases, prevented complete management of the array.

• **Cache battery failure incorrectly reported with VCS 3.xxx**.—The cache battery log state is now displayed correctly on arrays running VCS 3.xxx.

### Compatibility/Interoperability

#### IPv6 information

If both IPv4 and IPv6 are installed on a single system, then, by default, HP Command View EVA starts on the IPv4 address. To start HP Command View EVA on a specific address, you must add the address entry under the `webserver` section of the `cveva.cfg` configuration file. For example, to start HP Command View EVA on IPv6, enter `address 0::0` under the `webserver` section of `cveva.cfg`.

**NOTE:**
IPv6 is *not* supported in an array-based management configuration.

### Installation and upgrade requirements

For supported HP Command View EVA upgrade paths, see Table 2.1 (HP Command View EVA upgrade support) in the **HP StorageWorks Enterprise Virtual Array Compatibility Reference**. For complete information on requirements and installation and upgrade procedures, see the **HP StorageWorks Command View EVA Installation Guide**.

### Installing HP Command View EVA 9.2 with other applications or libraries

**NOTE:**
- If HP Command View EVA for Tape Libraries 2.4 is currently installed, you must remove it before installing HP Command View EVA 9.2.

1. Stop the HP RSM Server and HP RSM Database services.
2. Install HP Command View EVA 9.2.
3. Launch the HP Replication Solutions Manager application.
   - Click **Tools > Configure > EVA management > Configure SMIS** and add the SMI-S credentials.
   - Click **Global refresh**.
4. Start the HP RSM Server and HP RSM Database services.

Installing HP Command View EVA for Tape Libraries

**IMPORTANT:**
- HP StorageWorks Command View for Tape Libraries version 2.4 is a limited release which is available upon request. Contact your HP representative for more information.
- HP recommends that you install HP StorageWorks Command View for Tape Libraries version 2.5 before installing HP Replication Solutions Manager to avoid PostgreSQL error messages.

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.

Error message displayed when upgrading HP Command View EVA 9.2 from previous version

When upgrading HP Command View EVA 9.2 from a previous version, the following error message may be displayed:

This application has failed to start because OvLicV5Capi_VC8.dll was not found. Re-installing the application may fix this problem.

Ignore this message and click **OK** to continue the upgrade.

Online help search function does not work consistently

The online help search function for HP Command View EVA and the HP StorageWorks EVA Web-based Operator Control Panel does not work consistently.

Enabled host information is not displayed

If HBA information is not displayed for an enabled host, install `fcinfo` on the host. You can download the `fcinfo` package from the following Microsoft website:


Verifying HP Command View EVA code

HP products deliver on the “trustworthy and reliable” brand promise. Creating and delivering an electronic cryptographic “signature” for HP code (such as software, firmware, drivers, applications, patches, and solutions) provides an industry-standard method to verify the integrity and authenticity of the code you receive from HP before deployment. Digitally signed code helps you manage your security vulnerability risk from using non-HP versions of the software and firmware, which may fail to meet expectations and may harbor malicious code (like a virus or worm).

To verify the HP Command View EVA code before installing the software, contact your HP representative for instructions.
Emulex HBA requires latest driver version

Servers that use an Emulex HBA with Storport drivers (prior to version 5-2.00a12) may experience a system hang that requires a reboot, or an Array Discovery issue in HP Command View EVA. Ensure that the version you have is 5-2.00a12 or later. To obtain the drivers, go to the following HP website:

http://www.hp.com/support/downloads

NOTE:

For Windows 2003 systems, the new driver (5-2.00a12) requires the Microsoft hotfix KB932755. To obtain the hotfix, go to the following Windows website:

http://support.microsoft.com/KB/932755

Emulex 8Gb HBA Windows hotfix

If the management server is running Windows 2003 and has Emulex 8Gb HBAs installed, HP Command View EVA 9.2 may not display any arrays. Emulex 8Gb HBA with Windows 2003 requires the Windows hotfix KB945119 to support HP Command View EVA 9.2. To obtain the hotfix, go to the following Microsoft website:

http://support.microsoft.com/kb/945119/

On the website, the title of the issue is as follows:

Stop error that is related to the Storport.sys driver on a Windows Server 2003-based computer:
"0x000000D1 (parameter1, parameter2, parameter3, parameter4)
DRIVER_IRQL_NOT_LESS_OR_EQUAL"

This issue occurs only if Emulex 8Gb HBAs (HP part numbers AJ762A and AJ763A) and HP Command View EVA 9.2 are installed on the management server. If you are using the server for storage only (not as a management server), you do not need to install this hotfix.

Status summary of hosts folder with an iSCSI host

The status summary of hosts folder does not work with an iSCSI host.

Antivirus software may degrade performance

To avoid HP Command View EVA performance issues when antivirus software is installed on the management server, HP recommends that you exclude from the antivirus software scan the log-related files that change frequently, including 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 EVAPerf is installed:
Windows 2008 and LUN shrink

LUN shrink on Windows 2008 systems is supported only on basic disks and dynamic simple volumes that are spanned or are mirrors. Striped or RAID 5 dynamic disks are not supported with LUN shrink.

Help for DR group, host port data replication settings page not displayed

When using server-based management to view the DR group, host port data replication settings page for EVA4400 storage systems, the context-sensitive help topic is not displayed. To view the help page:

1. Open the HP Command View EVA help system.
2. Select a book of help topics for any EVA model with XCS 6.x or XCS 9.5.
3. In the help table of contents, navigate to Page help > DR group pages > Host port data replication settings and open the help topic.

Failed to get Storage Cell error occurs when upgrading disk drive firmware on an EVA4400

When upgrading the disk drive firmware on an EVA4400, a Failed to get Storage Cell error may occur. This error occurs only when using server-based management. If this error occurs, refresh the browser page and restart the disk drive firmware upgrade.

Unable to add iSCSI controller with IPv6 address in array-based management configuration with MPX100

Attempting to add an iSCSI controller with an IPv6 address in an array-based management configuration with MPX100 will fail if you are using the HP Command View EVA GUI or HP SSSU. This configuration is not supported.

Large LUN presentation requires Windows hotfixes

The presentation of large LUNs requires the following Windows hotfixes: KB949001 and KB919117. To obtain the hotfixes, go to the following Microsoft websites:

http://support.microsoft.com/KB/949001
http://support.microsoft.com/KB/919117

Setting the HP StorageWorks Management Infrastructure Web Service IP address in a multi-homed configuration

On a multi-home machine (a machine with multiple NICs), HP StorageWorks Management Infrastructure binds to the first IP address reported by the operating system. If this is not the desired IP address, set the HP StorageWorks Management Infrastructure Web Service IP address as follows:
1. Navigate to the HP StorageWorks Management Infrastructure Configuration GUI and log on. The **Configuration** page opens.
2. Expand the **General** panel.
3. In the **Web Service IP Address** box, enter the IP address.
4. Click **Save Changes**.
   Wait until the change is saved.
5. After the change is saved, click **Restart Service**.
   HP StorageWorks Management Infrastructure will bind to the IP address.

**Array-based management proxy displays incorrectly**

In an array-based management configuration, the managed proxy displayed will be different from that of the web access point. When a layered application uses this information, it will see two different IP addresses in **Managed Proxy** and **Launch URL**. Although the management proxy displays incorrectly, the URL for HP Command View EVA launches the array-based management correctly.

**Using HP Command View EVA for Single Sign-on with HP SIM 5.3**

Although launching HP Command View EVA 9.2 from HP SIM 5.3 opens another browser window with a login screen for HP Command View EVA for Single Sign-on (automatic login), the feature needs HP SIM 6.0 to work as designed.

**Information update for the HP Command View EVA User Guide**

The following information in the **HP Command View EVA User Guide** is inaccurate and will be removed in the next update of the user guide.

**NOTE:**

On an x64 (64-bit) platform, Windows Performance Monitor does not provide HP Command View EVAPerf data directly. To enable interactive viewing of HP Command View EVAPerf data, you must start Windows Performance Monitor in 32-bit mode using either of the following commands:

```plaintext
mmc /32 perfmon.msc
Perfmon /32
```

You cannot collect a performance trace file in 32-bit mode.

**Help page-not-found error message**

When **Help** is selected in array-based HP Command View EVA 9.2, a **page-not-found** message is displayed in the content pane. To display the page, select **EVA4400 with XCS 9.x** from the **Help and About** drop-down menu.

**Install of HP Command View for Tape Libraries 2.5 fails during database install**

When you install HP StorageWorks Command View for Tape Libraries 2.5, an error message displays that installation of the database failed. This error message may display if **Cygwin** is installed on the...
server and appears in the Path environment variable. If this is the cause of the failure, you can temporarily remove Cygwin from the path and attempt installation again as follows:

1. Right-click My Computer.
2. Select Properties.
   The System Properties dialog box opens.
3. If Cygwin appears in the Path environment in either the User variables or the System variables, remove it.
4. Select the Advanced tab and select Environment Variables.
   The Environment Variables dialog box opens.
5. Save your changes and click OK twice to exit the Environment Variables and System Property windows.

After successful installation, you can add Cygwin back into the PATH environment variable.

**HP Command View EVAPerf 9.2**

This section describes enhancements and workarounds for HP Command View EVAPerf 9.2.

**Enhancements**

HP Command View EVAPerf 9.2 includes the following enhancements:

- The all and nall commands will now display the EVAPerf version.
- The requests per second or response per second metrics, and the metrics reported in MB/s have been modified to report the ceiling value of the metrics. This ensures that there is no loss of data due to truncation.
- The drt command now has an extra field 'Port WWN' which displays the source port WWN.
- HP Command View EVAPerf now supports iSCSI host.

**Fixes**

The following fixes have been implemented in HP Command View EVAPerf 9.2:

- Run time error with Tlviz Formatter—The problem with an undefined port in the evaperf hc command causing a run time error in TIVIZ Formatter has been fixed.
- Assertion failed popup in perfmon—The occasional assertion failed error when trying to add HP Command View EVAPerf counters in Perfmon has been fixed.
- Friendly names in host connection data of evaperf mof output—evaperf mof output for host connections will have the friendly names for the hosts.
Workarounds and limitations

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

If the host name you specify 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.

Use localhost or the host name without the domain when running the fnh command. Examples of supported entries follow:

```
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 Windows 2003 Enterprise Edition, Windows Performance Monitor may hang when the number of counters exceeds 900 (for example, a virtual disk object that exceeds 100 instances, with 9 counters per instance).

pd and hps command limitation

The incorrect enclosure and bay IDs are displayed in the `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.

`evaperf nall` command fails to execute

The `evaperf nall` command fails to execute in continuous mode on a Windows 2008 server in both local mode and remote mode. Use the `evaperf all` command instead of `evaperf nall`.

hist command limitation

When used with the object type `state_diskgroup`, the `hist` command does not display data for the EVA4400 and the EVA6400/8400.

Tlqviz Formatter Run Time error

When there is more than one FC adapter associated with a host then the friendly names for both the ports would be the same resulting in a run time error with Tlqviz Formatter. Use one of the following workarounds to avert the error:

- Open `fnames.conf` and change one of the common host names so that no two ports have the same friendly names before running `evaperf all` or `evaperf nall` commands.
- Use the `-fnid` option with the `evaperf all` or `evaperf nall` commands as shown in the following examples:
  ```
evaperf all -csv -ts2 -fnid -cont duration -dur duration -fo outputfile
  ```
HP SMI-S EVA 9.2

HP SMI-S EVA 9.2 is shipped with the HP Command View EVA 9.2 software suite. HP SMI-S EVA enables Common Information Model (CIM)-capable management software to manage EVA storage systems. HP SMI-S EVA is based on the Managed Object Format (MOF) 2.15 and is SMI-S 1.3 compliant.

NOTE:
If a version of HP SMI-S EVA earlier than 8.0.x is installed, you must remove it before installing HP SMI-S EVA 9.2.

Enhancements

HP SMI-S EVA 9.2 includes the following enhancements:

- **Host modes**—The HP SMI-S EVA Provider now returns host modes dynamically based on the storage system controller software.

- **Improved cache refresh performance**—The performance of *Initial Cache Refresh* has been improved, allowing cache building to complete faster.

- **HP Command View EVA and Brocade SMI Agent Coexistence**—HP Command View EVA 9.2 and Brocade SMI-Agent version 120.10.0 can coexist on the same server.

Fixes

The following fixes have been implemented in HP SMI-S EVA 9.2:

- **No performance rates for data replication virtual disks**—Performance rates were not being returned for DR group virtual disks in HP Storage Essentials because volumes that participate in data replication have the same LUN WWN. On encountering the same LUN WWN on the second storage system, *StartStatisticTime* was reset. This has been corrected; *StartStatisticTime* is now the same over two readings and produces a performance rate.

- **NullPointerException occurs while creating large virtual disks**—When creating large virtual disks (for example, 2 TB or larger), *CreateOrModifyElementFromStoragePool* may return a value of 0. However, the space allocation process for the virtual disk being created occurs normally in the background. The time required to complete the space allocation process is based on the size of virtual disk being created.

Compatibility/Interoperability

Supported main profiles and subprofiles

The HP SMI-S EVA Provider 9.2 supports the following main profiles and subprofiles:

- **Main profiles**—Array and Server

- **Subprofiles**—Software, Masking and Mapping Subprofile, Copy Services, Block Services, Disk Drive Lite, FC Target Ports, FC Initiator Ports, Job Control, Access Points, Physical Package, Multiple Computer System, SAS Initiator port, and Profiles Registration
SSL certificates

For information about Secure Sockets Layer (SSL) certificates for HP Command View EVA, see the HP StorageWorks Command View EVA Installation Guide.

HP SMI-S EVA initial cache building may take longer with array-based management

If you are using the HP SMI-S EVA Provider with array-based management, allow several minutes after the IP address is added to the Discoverer tool or after the HP SMI-S EVA Provider host is rebooted, to build the cache. Applications using HP SMI-S EVA do not have access to the array details until cache building is complete. To determine the status of cache building, use the getarrayrefreshstatus.bat file.

Multiple array-based management systems per SMI-S EVA

HP recommends a maximum of 12 HP Command View EVA array-based management systems configured per the HP SMI-S EVA Provider.

Workarounds and limitations

Data Protector backup fails with error Failed to create target volume

When performing a Data Protector backup of a snapshot created from the HP Command View EVA GUI, the backup may fail with error Failed to create target volume. To avoid this situation, after creating a snapshot using the HP Command View EVA GUI, wait for the next incremental SAL refresh (or force a refresh) before running a Data Protector job on the snapshot.

HP Storage System Scripting Utility 9.2

This section describes HP SSSU 9.2 enhancements, fixes, limitations, and other information.

Fixes

The following fixes have been implemented in HP SSSU 9.2:

• On an OpenVMS IA64 host, the CAPTURE CONFIGURATION command now executes successfully when one of the following characters are included in the name or comment field for objects such as disk groups and virtual disks: /, \, (, or )

Limitations and workarounds

• If you use the CODELOAD DISK command to upgrade firmware on multiple disk drives, no error is displayed for disks configured with Vraid0.
• The grep command must be entered in lowercase; uppercase does not work.
• Executing a command with grep and redirecting the output in a file does not work. However, output can be captured by specifying the command with grep in a script file and executing it using the FILE command with redirection.
Syntax error when capturing configuration of array in DR relationship

When using HP SSSU to capture the configuration of an array that is in a DR relationship, the resulting configuration file contains a syntax error that renders the file unusable when restoring the configuration.

The capture configuration incorrectly captures two properties at a time for the SET DR_GROUP command, as shown below:

```
SET DR_GROUP "\Data Replication\DR Group 001" LINK_DOWN_AUTOSUSPEND=DISABLE
SET DR_GROUP "\Data Replication\DR Group 001" LINK_DOWN_AUTOSUSPEND=DISABLE
FULLCOPY_AUTOSUSPEND=ENABLE
```

Attempting a restore using a file with this syntax error will fail because HP SSSU attempts to set two properties at a time.

After capturing the configuration, edit the SET DR_GROUP command in the configuration file as follows:

```
SET DR_GROUP "\Data Replication\DR Group 001" LINK_DOWN_AUTOSUSPEND=DISABLE
SET DR_GROUP "\Data Replication\DR Group 001" FULLCOPY_AUTOSUSPEND=ENABLE
```

Editing the file before it is needed enables you to restore the configuration successfully, if necessary.

HP SSSU CODELOAD command fails on a non-Windows platform

When using the HP SSSU CODELOAD command on a non-Windows platform, the command may fail if the local_path option is used. To avoid this situation, put the CODELOAD software image file on the management server and use the server_path option.

Accessing the HP Storage System Scripting Utility

The latest versions of HP SSSU are available on the HP software downloads website:

http://www.hp.com/support/downloads

Under Storage, click Storage Software, and then select HP StorageWorks Command View EVA Software under Storage Device Management Software. Select the appropriate version of HP Command View EVA.

Installing HP Storage System Scripting Utility

For installation instructions, see the HP StorageWorks Command View EVA Installation Guide.

Product websites and documentation

All documentation associated with this release is available on the Web. You can find the documents on the Manuals page of the HP Business Support Center website:

http://www.hp.com/support/manuals
In the Storage section, click **Storage Software** and then select **HP StorageWorks Command View EVA Software** under Storage Device Management Software.

### Table 1 HP storage websites

<table>
<thead>
<tr>
<th>Item</th>
<th>HP website</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVA4400</td>
<td><a href="http://www.hp.com/go/eva4400">http://www.hp.com/go/eva4400</a></td>
</tr>
<tr>
<td>EVA6400/EVA8400</td>
<td><a href="http://www.hp.com/go/eva6484">http://www.hp.com/go/eva6484</a></td>
</tr>
</tbody>
</table>

An HP Command View EVAPerf white paper is also available from the following HP website: