

# HP StorageWorks 3000/5000 Enterprise Virtual Array release notes (VCS 4.100)

Part number: 5697-7028  
First edition: October 2007



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## Description

This document contains the most recent product information for an HP StorageWorks Enterprise Virtual Array 3000/5000 running VCS 4.100. Much of the information included here is not documented elsewhere, so it is recommended that you read this information thoroughly before installing and operating the EVA3000/5000.

[Update recommendation](#) Recommended

## Upgrade paths

The upgrade paths to VCS 4.100 are listed in [Table 1](#).

When upgrading to VCS 4.100, the following conditions must be met:

- Upgrading to VCS 4.100 should only be performed by HP service-trained personnel. Contact HP Customer Services for assistance in upgrading the storage system to VCS 4.100.
- The storage system must be at VCS 3.028, VCS 3.110, VCS 4.001, VCS 4.004, VCS 4.005 or VCS 4.007 to upgrade to VCS 4.100.
- Upgrading to VCS 4.100 from VCS 3.110 or earlier must be done offline (all host I/O halted). The online upgrade option is not supported for these upgrades.
- Upgrading to VCS 4.100 from VCS 4.007 or earlier can be done online or offline (all host I/O halted).

**Table 1 VCS 4.100 Upgrade Paths**

Current VCS Version	Upgrade Path to VCS 4.100	Upgrade method supported
3.028	Upgrade directly to 4.100	Offline
3.110	Upgrade directly to 4.100	Offline
4.001	Upgrade directly to 4.100	Online or offline
4.004	Upgrade directly to 4.100	Online or offline
4.007	Upgrade directly to 4.100	Online or offline

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### NOTE:

It may be necessary to restart the HP Command View EVA service on the management server to resume management of the array after an upgrade from VCS 3.xxx to 4.100.

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## Downgrading

Downgrading while retaining existing data is supported from VCS 4.100 to any earlier version of VCS 4.00x firmware.

Downgrading while retaining existing data from VCS 4.100 to any earlier version of VCS 3.xxx firmware is not supported. Downgrade is only possible on an uninitialized storage system.

Contact your HP-authorized service representative for more information on VCS downgrades.

## Enhancements

The following enhancements have been made in VCS 4.100:

- The ability to upgrade disk drives while the drives remain online and grouped.

- An indicator to display the progress of disk ungrouping operations.
- Online upgrade support from VCS 4.00x to VCS 4.100
- Windows Server 2008 host mode
- Queue depth resolution support in IBM AIX host mode

## Additional operating system support

Support for the following operating systems has been added since the release of VCS 4.007:

- Linux Red Hat Advanced Server 5.0
- Windows Server 2003 SP2 (x86 and IA32)

## Operating systems no longer supported

The following operating system is no longer supported in VCS 4.100:

- SP4 of Novell NetWare 6.5

## Fixes

The following fixes have been implemented in VCS 4.100.

## Controller termination

The following issues which caused controller termination or restarts have been resolved:

- Conflicts between write buffer and allocation routine
- Access to unallocated policy memory
- Management commands from multiple initiators
- Invalid cache node deallocation
- Recursive termination due to allocated cache page
- Excessive I/O on the proxy controller
- Large transfer size read requests to proxy controller

## HP Continuous Access EVA

- After a site failover, the LUN presentation is restored to avoid duplicate naming.
- Deallocated DR log space is properly returned to disk group.
- DR group state change completes if there is a tunnel closure.
- Target host connection states are properly reported to HP Command EVA.
- Access to virtual disks by HP OpenVMS hosts is retained after a site failover.
- Prevent erroneous transition of the DR log disk to the proxy controller.
- Added event information to monitor and diagnose HP Continuous Access EVA replication tunnel activity.
- Allow the failover mechanism to interrupt the group online process.

## General

- Management commands continue to be processed if there is an improper command termination.
- Metadata updates are retried to prevent inadvertently declaring drive failures.
- Mode pages are properly populated after a controller reset.
- Detailed information indicating when and how array initialization occurs has been added to the Controller Event Log.
- Inserted drives are discovered within the device discovery period.

# EVA3000/5000 overview

## Software

Table 2 lists the HSV controller software and the optional software products supported on VCS 4.100. See the *HP StorageWorks EVA software compatibility reference* for the latest support information.

**Table 2 HP StorageWorks Enterprise Virtual Array 3000/5000 software**

Software	Version	Description
HP StorageWorks EVA3000/5000 Series 4.1 Controller Media Kit	4.100	Required for EVA5000 and EVA3000.
HP OpenView Storage Management Appliance software	2.1	Required with VCS 4.100 if you are using an SMA to manage the storage system.
HP StorageWorks Command View EVA <ul style="list-style-type: none"><li>HP StorageWorks Business Copy EVA</li><li>HP StorageWorks Continuous Access EVA</li></ul>	7.0.1	Required with VCS 4.100. Proper capacity license is required to use HP StorageWorks Command View EVA. HP Business Copy EVA and HP Continuous Access EVA are optional replication features. You must purchase a license to access these features.
HP StorageWorks Replication Solutions Manager	3.0 or later	Optional. An interface that offers enhanced management capability of both local and remote replication. HP Replication Solutions Manager includes management capability for both HP Continuous Access EVA and HP Business Copy EVA environments.

## Additional Enterprise Virtual Array information

Additional information for the EVA3000/5000 and associated software is listed in Table 3.

**Table 3 Additional information**

Information	Location
Enterprise Virtual Array product documentation	<a href="http://www.hp.com/support/manuals">http://www.hp.com/support/manuals</a> Click <b>Disk Storage Systems</b> under storage, and then select either <b>HP StorageWorks 3000 Enterprise Virtual Array</b> or <b>HP StorageWorks 5000 Enterprise Virtual Array</b> under EVA Disk Arrays.
HP StorageWorks Command View EVA	<a href="http://h18006.www1.hp.com/products/storage/software/cmdvieweva/index.html">http://h18006.www1.hp.com/products/storage/software/cmdvieweva/index.html</a>
HP StorageWorks Business Copy EVA	<a href="http://h18006.www1.hp.com/products/storage/software/bizcopyeva/index.html">http://h18006.www1.hp.com/products/storage/software/bizcopyeva/index.html</a>
HP StorageWorks Continuous Access EVA	<a href="http://h18006.www1.hp.com/products/storage/software/conaccesseva/index.html">http://h18006.www1.hp.com/products/storage/software/conaccesseva/index.html</a>

## VCS Media Kit for dual HSV controllers

The following items are included in the HP StorageWorks EVA3000/5000 Series 4.1 Controller Media Kit:

- Upgrade License

- HP StorageWorks EVA3000/5000 VCS 4.100 system software CD (VCS 4.007 is also included on this CD)
- HP StorageWorks Enterprise Virtual Array 3000/5000 Documentation CD

HP StorageWorks Command View EVA 7.0.1 is required to access all the features and benefits provided by VCS 4.100.

## Supported system configurations

For complete information about supported configurations and operating systems, see the *HP StorageWorks SAN design reference guide*, which can be downloaded from the following website:

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

Click **Storage Networking** under storage, and then select **HP StorageWorks SAN** under HP StorageWorks SAN Solutions.

## Supported operating system specifications

Detailed system specifications for each supported operating system are included in a series of connectivity installation and reference guides and associated connectivity release notes, which can be downloaded from the following website:

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

Click **Disk Storage Systems** under Storage and then select either **HP StorageWorks 3000 Enterprise Virtual Array** or **HP StorageWorks 5000 Enterprise Virtual Array** under EVA Disk Arrays.

## Supported disks

Table 4 lists the supported Fibre Channel disks.



### NOTE:

- The information in this table is current as of the date the document was published.
- To maintain your storage system at the most current configuration, HP recommends that all disk drives use the recommended version of firmware.
- A minimum of eight disks is required to create a disk group. Additional disks may be added up to the established disk group limits.
- A disk group cannot contain both online (high performance) disks and FATA disks. It must contain only one type of disks.

## Using FATA disk drives

FATA drives are designed for lower duty cycle applications such as near online data replication for backup. These drives should not be used as a replacement for EVA's high performance, standard duty cycle, Fibre Channel drives. Doing so could shorten the life of the drive. Download the following document for more information on FATA drives, their uses and benefits:

<http://h71028.www7.hp.com/ERC/downloads/5982-7353EN.pdf>

**Table 4 Supported disks**

Fibre Channel disk	HP model displayed in HP Command View EVA	Minimum supported firmware version	Recommended firmware version
<b>High-performance disks</b>			
36GB, 10K RPM	BD03654499	3BE9	3BE9
	BD03655B28	HP05	HP07
	BD03656ABA	HP09	HPOA
	BD03659532	HP02	HPO4
72GB, 10K RPM	BD07254498	3BE9	3BE9
	BD07255B29	HP05	HP07
	BD07256ABB	HP09	HPOA
	BD07258224	HP01	HPO4
	BD0725822B	HP01	HPO4
146GB, 10K RPM	BD14656ABC	HP09	HPOA
	BD14658225	HP01	HPO4
	BD14655B2A	HP05	HP07
	BD1465822C	HP01	HPO4
	BD1465B778	HP01	HP01
300GB, 10K RPM	BD30058226	HP00	HPO4
	BD30058232	HP00	HPO4
	BD3005B779	HP01	HP01
36GB, 15K RPM	BF03654564	3BE9	3BE9
	BF03655B2B	HP05	HP07
	BF03658242	HP00	HP03
	BF03653005	HP01	HP02
72GB, 15K RPM	BF07255B2C	HP05	HP07
	BF0725754B	HP05	HP06
	BF07258243	HP00	HP03
	BF07258222	HP04	HP06
	BF0725A692	HP01	HP03
	BF0725A476	HP00	HP02
146GB, 15K RPM	BF14658244	HP00	HP03
	BF14658227	HP04	HP06
	BF1465A693	HP01	HP03
	BF1465A477	HP00	HP02
	BF146DA47A	HP00	HP00
300GB, 15K RPM	BF3005A478	HP00	HP02
	BF300DA47B	HP00	HP00
<b>FATA (near-online) disks</b>			

Fibre Channel disk	HP model displayed in HP Command View EVA	Minimum supported firmware version	Recommended firmware version
250GB	ND2505823A	HP00	HP04
	ND25058238	HP00	HP04
400GB	NB40059392	HP02	HP03
500GB	NB50058855	HP02	HP03

## Important notes and workarounds

This section identifies important notes and workarounds specific to the EVA3000/5000 hardware and VCS software. Operating constraints for related software applications are included in the following documents:

- *HP StorageWorks Command View EVA release notes*
- *HP StorageWorks EVA replication software consolidated release notes*

These documents can be downloaded from the following website:

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

Click **Storage Software** under storage and then select your product.

Information on avoiding problem situations specific to operating systems can be found in the individual operating system release notes. See “[Supported operating system specifications](#)” on page 6.

## Connecting an EVA3000/5000 to a 4 GB McData switch

When connecting an EVA3000/5000 to a 4 GB-capable McData switch, do not connect any of the EVA ports to port 0 on the McData switch. Otherwise, the storage system will not start up.

The port 0 restriction will remain effective until a firmware fix is available.

## Login failure occurs for EVA connected to a Brocade 4100 switch with 2 GB SFP cables

An EVA3000/5000 running VCS 4.100 that is connected to a Brocade 4100 switch with 2 GB SFP cables may intermittently experience a login failure. This issue is not experienced if the Brocade switch has 4 GB SFP cables.

To resolve this issue, do one of the following:

- Power down and then power up the storage system.
- Remove the cable from the port that is experiencing the login failure and then reconnect it.

## Disk Resource Pending Timeout for Microsoft Windows cluster configurations

If the disk resource count is greater than 8, HP recommends increasing the Pending Timeout parameter for each disk resource from 180 seconds to 360 seconds. Increasing the timeout value helps maintain continuous operation of disk resources across SAN perturbations.

To view and set the Pending Timeout parameter:

1. Open the Microsoft Cluster Administrator.
2. Select a disk group resource in the left pane.
3. Right click each disk resource in right pane, one at a time, and select **Properties**.
4. Select the **Advanced** tab from the Properties menu.
5. Locate the Pending Timeout value and change it to 360.



6. Click **OK**.

## HP Command View EVAPerf does not display virtual disk and disk group after upgrading

HP Command View EVAPerf issue exists when upgrading an EVA3000 or EVA5000 from VCS 3.x to VCS 4.x. Following the upgrade, HP Command View EVAPerf will not be able to display VD (virtual disk) and VDG (Virtual Disk Group) statistics when HP Command View EVAPerf is run on a Windows host with LUN presentations from the storage system. The situation occurs because VCS does not change the SCSI inquiry string when firmware detects that the storage system has LUNs presented to that Windows host. This situation does not occur on a new EVA3000 or EVA5000 running VCS 4.007, or a 3.x storage system that is uninitialized before it is upgraded.

The following technique can be used to avoid this situation:

- Ensure that HP Command View EVAPerf is run on a host that never had LUN presentations from the storage system. Typically, HP Command View EVAPerf is run on a management server which will not have I/Os to the storage system. In this configuration, the management server does not have any LUNs presented to it and this issue will not occur.