

# HP StorageWorks

OpenVMS connectivity 4.0B for the  
3000/5000 Enterprise Virtual Array

release notes

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# About this document

This section includes the following topics:

- [Release notes information](#), page 3
- [Intended audience](#), page 3
- [Accessing future product updates](#), page 3

## Release notes information

These release notes include the following topics:

- [New features](#), page 3
- [VCS 3.028 to VCS 4.00x migration](#), page 4
- [EVA storage system](#), page 4
- [EVA compatibility](#), page 5
- [Operating constraints](#), page 7
- [Storage System Scripting Utility for EVA](#), page 7
- [Codelead usage](#), page 7

## Intended audience

This document is intended for:

- Customers who purchased the HP StorageWorks 3000/5000 Enterprise Virtual Array (EVA3000/5000) to use with the OpenVMS operating system
- HP customer service personnel responsible for installing and maintaining devices connected to the EVA3000/5000 storage system

## Accessing future product updates

HP strongly recommends that customers sign up online using the Subscriber's choice web site: <http://www.hp.com/go/e-updates>.

- Subscribing to this service provides you with e-mail updates on the latest product enhancements, newest versions of drivers, and firmware documentation updates, as well as instant access to numerous other product resources.
- After signing up, you can quickly locate your products by selecting **Business support** and then **Storage** under Product Category.

## New features

This release includes the following new features:

- Support is provided for Virtual Controller Software (VCS) 4.001.
- Support is provided for VCS 4.004.

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 **NOTE:**

You must have VCS 3.028 installed before upgrading to VCS 4.00x. HP recommends that you do a full system backup before an HP service representative performs the migrating procedure.

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- Support is provided for Active/Active failover.
- Support is provided for single-path mode.
- The same host bus adapter (HBA) can be used for Active/Passive and Active/Active configurations.

- The internal identification of the EVA3000 controller is HSV101, and the internal identification of the EVA5000 controller is HSV111. The HSV101 and HSV111 identification is internal to the VCS code only, the bezel indicates EVA3000 (HSV100) or EVA5000 (HSV110).

## VCS 3.028 to VCS 4.00x migration

The Active/Active failover feature in VCS 4.00x impacts host configurations. Contact your HP service representative to configure your system and perform the migration procedure.

## EVA storage system

These release notes contain the latest product information for operating the EVA3000/5000 on an OpenVMS system.

## EVA documentation

A complete library of EVA and related documentation is available on the following HP web sites:

<http://www.hp.com/go/eva5000>

<http://www.hp.com/go/eva3000>

## Product support information

The latest product support information and downloads for storage products are available on the HP storage web site:

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

## Supported configurations

Supported configurations are described in the EVA QuickSpecs, available on the following HP web sites:

<http://h18006.www1.hp.com/products/storageworks/eva3000/specifications.html>

<http://h18006.www1.hp.com/products/storageworks/enterprise/index.html>

## EVA best practices

The EVA3000/5000 is designed to work in a wide range of configurations; however, some of the configuration options can influence performance, capacity, or availability. With the necessary information about EVA configuration options, you can manage the configuration to optimize its attributes for a specific application. These configuration options include:

- Number of disk groups
- Type of disk group
- Type and number of disks in a disk group
- Vraid levels (0, 1, and 5)
- Disk failure protection level (none, single, and double)
- Cache settings

For more information on the configuration options, see the *HP StorageWorks Enterprise Virtual Array configuration best practices - white paper* on the HP support web site:

<http://h20000.www2.hp.com/bc/docs/support/SupportManual/lpg29448/lpg29448.pdf>

## EVA compatibility

This section lists the minimum-level operating system specifications at the time of this release. Some component versions may change due to revision. The latest information is available on the HP storage web site: <http://h18006.www1.hp.com/storage/index.html>.

## Operating system support

Table 1 lists the operating system specifications.

**Table 1 Operating system specifications**

OpenVMS version	Fibre SCSI ECO kit
OpenVMS 8.2	VMS82A_FIBRE_SCSI-V0100
OpenVMS 8.2 IA64	VMS82I_FIBRE_SCSI-V0100
OpenVMS 8.2-1 IA64	VMS821I_FIBRE_SCSI_V0100
OpenVMS 7.3-2	VMS732_FIBRE_SCSI-V0700

The Fibre SCSI ECO kit for your version of OpenVMS is available on the HP IT Resource Center web site:

<http://www.itrc.hp.com>

## FCA support

Table 2 lists the supported Fibre Channel adapters (FCAs) and the required firmware versions.

**Table 2 FCA support**

FCA	Driver	Adapter firmware version (minimum)	Adapter firmware version (recommended)
HP StorageWorks DS-KGPSA-CA 1Gb, 64-bit/33MHz PCI	Native	3.82a1	3.93a0
HP StorageWorks FCA2354 2Gb, 64-bit/66MHz PCI PN DS-KGPSA-DA	Native	3.92a2	3.93a0
HP StorageWorks FCA2384 2Gb, 64-bit/133MHz PCI-X PN DS-KGPSA-EA	Native	1.91x1	1.91x6
HP StorageWorks FCA2684 2Gb, 64-bit/133MHz PCI-X PN DS-A5132-AA	Native	1.91a1	1.91x6
HP StorageWorks FCA2684DC 2Gb, 64-bit/133MHz PCI-X Dual PN DS-A5134-AA	Native	1.91a1	1.91x6
HP StorageWorks A6826A 2Gb, 64-bit/133MHz PCI-X Dual (supported only on Integrity servers)	Native	n/a (loaded by the driver)	
HP StorageWorks A9782A PCI-X 2Gb FC, and 1Gb Ethernet (supported only on Integrity servers)	Native	n/a (loaded by the driver)	
HP StorageWorks A9784A PCI-X 2Gb FC, and 1Gb Ethernet (supported only on Integrity servers)	Native	n/a (loaded by the driver)	

## Switch support

This release supports the Fibre Channel (FC) switches and firmware versions listed in the *HP StorageWorks SAN design reference guide*, which you can download from the HP StorageWorks web site:

<http://h18004.www1.hp.com/products/storageworks/san/documentation.html>



### NOTE:

HP recommends that you *not* mix switch firmware versions in your storage area network (SAN). It is a best practice to uniformly upgrade all switches in the SAN.

## Alpha server support

Table 3 lists the EVA-compatible Alpha servers.

**Table 3 EVA-compatible Alpha servers**

Alpha server	DS-KGPSA-CA support	DS-KGPSA-DA support	DS-KGPSA-EA support	DS-A5132-AA support	DS-A5134-AA support
AS800	Yes	No	No	No	No
AS1200	Yes	No	No	No	No
AS4000	Yes	No	No	No	No
AS4100	Yes	No	No	No	No
AS8200	Yes	No	No	No	No
AS8400	Yes	No	No	No	No
DS10	Yes	Yes	Yes	No	No
DS10L	Yes	Yes	Yes	No	No
DS15	No	Yes	Yes	Yes	Yes
DS20	Yes	No	No	No	No
DS20E	Yes	Yes	Yes	Yes	No
DS25	Yes	Yes	Yes	Yes	Yes
ES40	Yes	Yes	Yes	Yes	No
ES45	Yes	Yes	Yes	Yes	Yes
ES47	No	Yes	Yes	Yes	Yes
ES80	No	Yes	Yes	Yes	Yes
GS60	Yes	No	No	No	No
GS60E	Yes	No	No	No	No
GS80	Yes	Yes	Yes	Yes	No
GS140	Yes	No	No	No	No
GS160	Yes	Yes	Yes	Yes	No
GS320	Yes	Yes	Yes	Yes	No
GS1280	No	Yes	Yes	Yes	Yes

## Integrity server support

The following Integrity servers are EVA compatible and support the A6826A, A9782A, and A9784A FCAs:

- rx16x0
- rx26x0
- rx4640
- rx7620
- rx8620
- Superdome

## Multiple-path support

OpenVMS operating software includes multipath support. No additional software is required to achieve high-availability, multipath capability.

For more information about multipath options, see the HP multi-path web site:

<http://h18006.www1.hp.com/products/sanworks/multipathoptions/index.html>

## Single-path support

OpenVMS servers require a single FCA to support single-path mode.



### NOTE:

Do not use single-path mode in mission-critical environments.

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## Operating constraints

You can find information about operating constraints specific to the EVA firmware and HP StorageWorks Command View EVA in their respective release notes.

## Storage System Scripting Utility for EVA

The latest version of the Storage System Scripting Utility (SSSU) is available on the following HP web site:

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

From this web site, click **Software and Drivers**.

## Codeload usage

When a maximally configured system is running at full load, codeload functionality is not effective. The system may time out before codeload is complete. HP recommends that you always perform VCS upgrades at an off-peak time.