

# HP StorageWorks

## OpenVMS connectivity 3.0J for the 3000/5000 Enterprise Virtual Array

### release notes

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# About this document

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## Release notes information

These release notes cover the following topics:

- [New features](#)
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- [Storage System Scripting Utility for EVA](#)
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## Intended audience

This document is intended to assist customers who purchased the HP StorageWorks Enterprise Virtual Array (EVA) to run on an OpenVMS operating system.

This document is also intended for use by HP customer service personnel responsible for installing and maintaining devices connected to the EVA storage system.

## Accessing future product updates

HP strongly recommends that customers sign up online using the Subscriber's choice web site at <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

The following are major enhancements included in this release:

- Support is provided for Virtual Controller Software (VCS) 3.028.
- The same host bus adapter (HBA) can attach to any combination of the following storage systems:
  - EVA4000/6000/8000
  - EVA3000/5000
  - XP series
  - MSA series
  - HSG80

## EVA storage system

This document contains the most recent product information about operating the EVA on a system running OpenVMS.

## EVA documentation

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

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

## Supported configurations

Supported configurations are described in the Enterprise Virtual Array QuickSpecs, available at the following web sites:

<http://welcome.hp.com/country/us/en/support.html>

The extended interoperability of the heterogeneous Storage Area Network (SAN) allows you to mix several types of HP StorageWorks storage systems. The *HP StorageWorks SAN design reference guide* is a detailed guide for SAN configurations and is available at the following web site:

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

## EVA best practices

Although the HP StorageWorks EVA3000/5000 is designed to work in a wide range of configurations, some of the configuration options can influence performance, usable capacity, or availability. With the necessary information about the configuration options for the HP StorageWorks EVA, you can manage the configuration to optimize its attributes for a specific application. These configuration choices 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 any of the configuration choices, see the *HP StorageWorks Enterprise Virtual Array configuration best practices - white paper* at the following web site:

<http://h71028.www7.hp.com/ERC/downloads/5982-9140EN.pdf>

## EVA compatibility

### Operating system support

Table 1 lists the operating system's specifications.



#### NOTE:

Table 1 contains current minimum-level operating system specifications at the time of the VCS 3.028 release. Some component versions may change due to revision. For the latest information, go to this web site:

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

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**Table 1 Operating system specifications**

OpenVMS version	Fibre SCSI ECO kit
OpenVMS 7.3-2	DEC-AXPVMS_VMS732_FIBRE_SCSI_V0400
OpenVMS 8.2	n/a
OpenVMS 8.2 IA64	n/a
OpenVMS 8.2-1 IA64	n/a

You can find the current Fibre SCSI ECO kit for you version of OpenVMS at 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 (HBA) Support**

FCA (HBA)	Driver	Adapter firmware version (minimum)	Adapter firmware version (recommended)
HP StorageWorks DS-KGPSA-CA 1Gb, 64-bit/33MHz PCI	Native	3.82a1	3.92a2
HP StorageWorks DS-KGPSA-DA 2Gb, 64-bit/66MHz PCI	Native	3.91a1	3.92a2
HP StorageWorks DS-KGPSA-EA 2Gb, 64-bit/133MHz PCI-X	Native	1.90a4	1.91x1
HP StorageWorks DS-A5132-AA 2Gb, 64-bit/133MHz PCI-X	Native	1.90a4	1.91a1
HP StorageWorks DS-A5134-AA 2Gb, 64-bit/133MHz PCI-X Dual	Native	1.90a4	1.91a1
HP StorageWorks A6826A 2Gb, 64-bit/133MHz PCI-X Dual Only supported on Integrity servers.	Native	n/a (loaded by the driver)	n/a
HP StorageWorks A9782A 64bit/133MHz PCI-X, 2Gb Fibre Channel/1000Base SX Only supported on Integrity servers.	Native	n/a (loaded by the driver)	n/a
HP StorageWorks A9784A 64bit/133Mhz PCI-X, 2Gb Fibre Channel/1000Base T Only supported on Integrity servers.	Native	n/a (loaded by the driver)	n/a

## Switch support

This release supports the Fibre Channel switches and firmware versions listed in the *HP StorageWorks SAN design reference guide*, which can be downloaded from the following web site:

<http://h18000.www1.hp.com/products/storageworks/san/documentation.html>

**NOTE:**

HP recommends that you do not mix switch firmware versions in your SAN. It is considered a best practice to uniformly upgrade all switches in the SAN.

## Alpha servers 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 servers support

The following Integrity servers are EVA-compatible and support the A6826A FCA.

- rx1600
- rx1620
- rx2600
- rx2620

- rx4640
- rx7620
- rx8620
- Superdome

## Multiple-path support

Multiple-path capability is integrated into the OpenVMS operating system. No additional software is required to achieve high-availability, multiple-path capability.

## Single-path support

OpenVMS servers require a single Fibre Channel Adapter (FCA) to support single-path mode.



### NOTE:

Single-path mode should not be used in mission-critical environments.

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## Operating constraints

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

## Storage System Scripting Utility for EVA

The HP StorageWorks Command View EVA software includes a Storage System Scripting Utility (SSSU). You can download the HP StorageWorks Command View EVA with SSSU from the following HP web site:

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



### NOTE:

The minimum version of the HP StorageWorks Command View EVA that supports the EVA3000/5000 is 4.0 build 53.

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## Avoiding problem situations

You can find information about problems specific to the EVA and Command View EVA in their respective release notes.