

# HP StorageWorks Enterprise Virtual Array

impact assessment checklist for  
upgrading from an EVA3000/5000 to  
an EVA4000/6000/8000

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## About this document

The EVA4000/6000/8000 uses active/active I/O rather than the active/passive I/O used on VCS 3.028. The move to active/active will have an impact on most host configurations. The impact may involve replacing HBAs and drivers, installing new multi-pathing software, and re-establishing the correct paths to the storage system LUNs.

This document takes you through the process of assessing your current host configuration to determine what changes will be required to support active/active. The information you gather will be used when upgrading the EVA 3000/5000 to an EVA4000/6000/8000.

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### NOTE:

- You must be running VCS v3.028 or VCS 4.004 to upgrade to an EVA4000/6000/8000.
  - You must perform this assessment on any host connected to the storage system you are considering upgrading. Any host connected to an EVA4000/6000/8000 must be configured to support active/active I/O.
  - This upgrade procedure is used when upgrading to 2 Gb or 4 Gb EVA4000/6000/8000 controllers. EVA4000/6000/8000 2 Gb controllers have XCS 5.031 installed; 4 Gb controllers have XCS 5.110 or 6.000 installed.
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## Intended audience

This document is intended for customers who are considering upgrading an HP StorageWorks Enterprise Virtual Array 3000/5000 to an Enterprise Virtual Array 4000/6000/8000.

## Downloading XCS 5.031/5.110/6.000 Supported Configuration Information

Before beginning the assessment, download the XCS 5.031/5.110/6.000 supported configuration information. This information is contained in a series of connectivity release notes—one for each supported operating system.

Download the connectivity release notes for each operating system you are using at the following web site:

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

Click **Storage Array Systems** under Storage, and then select **HP StorageWorks 4000/6000/8000 Enterprise Virtual Arrays** under Enterprise Virtual Array Systems.

# Upgrade assessment checklist

 **NOTE:**

The controller pair for the EVA4000/6000/8000 are 1U (1.75") taller than the controller pair for the EVA3000/5000. Additional space must be created to make room for the new controllers. If spare space is not available in the customer's current configuration, other components may have to be moved.

**Table 1 Overall assessment checklist**

Component	Issue	Response/Comments
Racks	How many racks can be re-used?	
	Will the current racks accommodate the height difference in the HSV2x0 controllers?	
	How many additional racks are required?	
	Are any third party racks being used?	
Drive Enclosures	How many drive enclosures can be reused?	
	How many new drive enclosures are required?	
	How many A- and B-I/O modules need to be replaced?	See <a href="#">Identifying I/O modules and EMUs requiring replacement</a>
	How many EMUs need to be replaced?	See <a href="#">Identifying I/O modules and EMUs requiring replacement</a>
Loop Switches	How many loop switches can be reused?	
	How many additional loop switches are required?	
HBA's and HBA Drivers	See <a href="#">Table 2</a>	
Clustering Software	Are the EVAs currently clustered?	
	What clustering software is used?	
	Is this software supported by the EVA4000/6000/8000?	
	Will this software need to be upgraded?	

<b>Component</b>	<b>Issue</b>	<b>Response/Comments</b>
SAN Switches and Firmware	Are any hubs currently being used?	
	What SAN switches are currently used?	
	Are these switches supported on the EVA4000/6000/8000?	
	What SAN firmware (and version) is currently used?	
	Is this firmware supported on the EVA4000/6000/8000?	
	How many additional SAN switches are required?	
Servers	How many servers are currently used?	
	How many HBAs in each server?	
	How many ports on the HBAs in each server?	
Disks	What disks are currently supported?	
	Are these disks supported on the EVA4000/6000/8000?	
	How many additional disks are required?	
Operating System	What operating systems (and versions) are currently used?	
	Are these operations systems supported on the EVA4000/6000/8000?	
	Will these operating systems need to be upgraded?	
Management software	See ???.	
<b>Data Center physical Requirements</b>		
Floor Space	How much additional floor space is needed?	
	Will the data center need to be reconfigured?	
	Will the data center need to be enlarged?	
HVAC	Will the current HVAC system be sufficient for the new equipment?	
	What additional HVAC equipment is required?	
Electrical Power	Will the data center's current power capabilities be sufficient	

<b>Component</b>	<b>Issue</b>	<b>Response/Comments</b>
Physical Upgrade	Who will do the upgrade?	
	How long will the upgrade take?	
	Who will create the paths to the virtual disks/LUNs/volumes?	
	Who will do the backup?	
	After the upgrade, what testing needs to be done?	
	Who will do this testing?	

## HBAs and drivers

Gather information for each HBA currently used for accessing the storage system and enter it in the following table. Compare this against the supported HBA information in the appropriate connectivity release notes to determine if it will be necessary to replace the HBA and/or driver.

**Table 2 HBA and driver information**

HBA information	Supported on XCS 5.031?		Supported on XCS 5.110/6.000?		Replacement
	Yes	No	Yes	No	
Model: Firmware: Driver:					Model: Firmware: Driver:
Model: Firmware: Driver:					Model: Firmware: Driver:
Model: Firmware: Driver:					Model: Firmware: Driver:
Model: Firmware: Driver:					Model: Firmware: Driver:
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## Management software

It may be necessary to upgrade the EVA3000/5000 management software applications to the required versions. Check the current software versions and enter them in the following table. If the versions are not correct, it will be necessary to update the software.

When upgrading the storage systems, all supporting management software applications must be at compatible versions. See the *HP StorageWorks EVA software compatibility reference* for software compatibility information. This document is available from the following web site:

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

Click **Storage software** under Storage, and then select **HP StorageWorks Command View EVA Software** under Enterprise Virtual Array Software.



### NOTE:

- EVA4000/6000/8000 2 Gb controllers have XCS 5.031 installed; 4 Gb controllers have XCS 5.110 or 6.000 installed.
  - If you are using earlier versions of any of the components listed, they must be upgraded as part of this procedure.
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# Identifying I/O modules and EMUs requiring replacement

HP Command View EVA can be used to identify which disk enclosure I/O modules and EMUs will require replacement during the upgrade. All components meeting the minimum required version can be reused in the upgraded EVA4000/6000/8000.

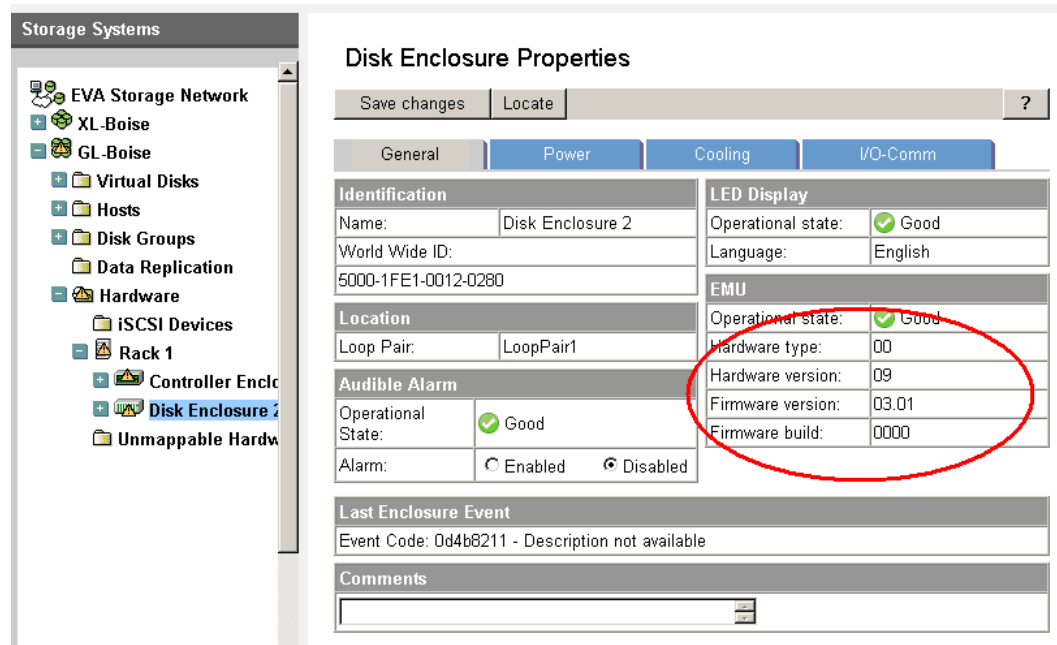
Perform the following steps, using [Table 3](#) on page 10 to record the components that must be replaced.

1. Open HP Command View EVA.
2. In the Navigation pane, select the EVA3000/5000 storage system being upgraded.
3. Select the **Hardware > Rack** to display the disk enclosure icons.
4. Select one of the disk enclosure icons.

The Disk Enclosure Properties window opens with the General tab information displayed by default.

5. Check the EMU version information. The minimum supported EMU version is: Version 2

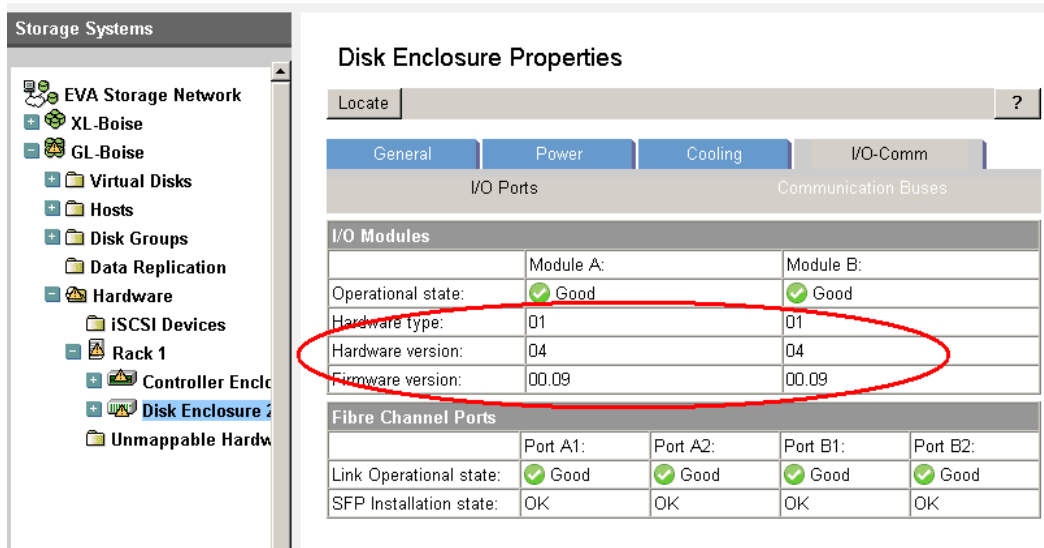
If the EMU meets the minimum version requirements, it can be used in the upgraded storage system. If it does not, it will be necessary to order a replacement.



**Figure 1 Checking EMU version**

6. Select the **I/O-Comm** tab.
7. Check the I/O module version information. The minimum supported I/O module version is:
  - Hardware type 2
  - Hardware version 2
  - Firmware version 2.002

If an I/O module meets the minimum version requirements, it can be used in the upgraded storage system. If it does not, it will be necessary to order a replacement.



**Figure 2** Checking I/O module version

**Table 3** Disk enclosure components requiring replacement

Disk enclosure	Components requiring replacement		
	EMU	I/O module A	I/O module B

# Multipathing software

To support active/active, it may be necessary to install new multipathing failover software. In most cases, this will involve moving from Secure Path to native multipathing or a third-party application.

Enter the current multipathing software in the following table. Then refer to the connectivity release to determine what multipathing software is supported by XCS 5.031/5.110/6.000.

**Table 4 Multipathing software**

Host/OS version	Current multipathing software	Supported multipathing software

# Upgrade task responsibilities

The following table provides an overview of the major tasks involved in upgrading the storage system and identifies who typically performs each task. Many of the tasks can be performed prior to the arrival of HP services to perform the upgrade. Completing these tasks in advance will reduce the amount of time required to upgrade the storage system.

**Table 5 Upgrade task responsibilities**

Task	Responsibility
<p><b>1. Complete the upgrade assessment checklist.</b> This ensures that you have recorded the changes that must be made to your environment.</p>	Customer performs prior to the upgrade. <sup>1</sup>
<p><b>2. Purchase and install any new HBAs and drivers that may be required.</b> Contact your HP sales representative for assistance in ordering new HBAs.</p>	Customer performs prior to the upgrade. <sup>1</sup>
<p><b>3. Install new multi-path and/or driver software required.</b> This software will be used to connect to the storage system following the VCS upgrade. Many operating systems support the coexistence of active/passive (VCS 3.0xx) and active/active (XCS 5.031/5.110/6.000) storage systems on the same host. It may be necessary to use separate HBAs and fabric rezoning to implement coexistence on the host. See <a href="#">Table 6</a>.</p>	Customer performs prior to the upgrade. <sup>1</sup>
<p><b>4. Backup all data on the storage system.</b> Although the upgrade does not require the restoration of data following the upgrade, it is still recommended that a complete backup be performed.</p>	Customer performs prior to the upgrade. <sup>1</sup>
<p><b>5. Upgrade the storage system to an EVA4000/6000/8000</b></p>	HP service representative
<p><b>6. Recreate all I/O paths to the storage system Vdisks.</b></p>	Customer performs following the upgrade. <sup>1</sup>

<sup>1</sup>This service can be performed by HP for an additional fee. Contact HP services for more information.

**Table 6 Support for coexistence of active/active (AA) and active/passive (AP) failover**

Operating system	Coexistence of AA and AP supported on the same host?	Coexistence supported on the same HBA?
HP-UX	Yes	Yes
Windows	Yes	Yes
Linux	Yes <sup>1</sup>	No
OpenVMS	Yes	Yes
Tru64 Unix	Yes	Yes
IBM AIX	Yes	No
Sun Solaris	Yes	No
NetWare	Yes	Yes
VMware	No	No

<sup>1</sup>Version 1.1 of the LMP utilities used during the migration from active/passive to active/active does not remove Secure Path from the host, including all LUN information. Consequently, the host can provide failover for any active/passive storage systems that are being managed using Secure Path.

Secure Path and the Qlogic driver can reside on the same host, allowing failover management of both active/active and active/passive storage systems.

The Qlogic driver supports both active/active and active/passive storage systems on the same Linux host, so coexistence is supported when only the Qlogic driver is used.