

HP P6000 Enterprise Virtual Array Compatibility Reference

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HPE Part Number: 5200-1515

Published: February 2017

Edition: 50

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Introduction

This document contains tables that describe the compatible hardware, operating systems, and software for the following HP P6000 products:

- HP P6000 Business Copy
- HP P6000 Command View Software
- HP P6000 Continuous Access
- HP P6000 Replication Solutions Manager
- HP P6000 Dynamic Capacity Management
- HP P6000 Performance Advisor
- HP 3PAR Online Import for EVA Storage

IMPORTANT: General references to HP P6000 Command View Software (formerly HP StorageWorks Command View EVA) can also refer to earlier versions of HP Command View EVA. P6000 is the current branding for the Enterprise Virtual Array product family.

TIP: HP Supports English and Japanese in HP Command View 10.0, 10.1, 10.2, and 10.3. For additional language support, see Table 4.1.

How to use this document

- bullet (•) = compatibility or support
- blank = no compatibility or support
- NA = combination does not apply
- Y = Yes
- N = No

To determine support or compatibility, in a selected table, start from a row in the first column and find its intersection with the appropriate column. The cell content such as a bullet or NA provides the support or compatibility information. For example, to determine which local replication features are supported on the controller software version you are running, use Table 6.2, "Supported local replication features by controller software version." Locate a feature, such as, 'Space-efficient empty containers', in the first column ("Feature") and traverse to the intersection of that row with the column that contains the controller software version you are running, such as XCS 11001100. Because the cell at the intersection of these two searches contains a bullet (•), the controller software version you are using supports this feature. If, however, you are running XCS 095xx000, the feature is not supported. Footnotes in a continued table may appear on an earlier page.

1.0 HP P6000 software solution compatibility

A P6000 software solution is comprised of controller software, management software, replication software, and all applicable licenses. See Table 2.0, "HP P6000 Command View interoperability support," for detailed management software support. The replication features that are supported with your HP P6000 Business Copy or HP P6000 Continuous Access license depend on the controller software version that is installed on the arrays. See Table 6.2, "Supported local replication features by controller software version," and Table 6.3, "Supported remote replication features by controller software version," for more information.

To determine operating system and connectivity component (such as HBAs and multipathing) support for your P6000 software solution:

1. Use this table (Table 1.0) to identify the XCS version that is supported with the software solution.
2. See the Enterprise Virtual Array release notes specific to the XCS version for general operating system support information.
3. See Table 7.0, P6000 EVA host connectivity, for details about locating operating system support information for your array model.

	EVA4000/6000/8000 EVA4100/6100/8100		EVA4400/6400/8400					P6300/P6500 EVA	P63x0/P65x0 EVA			HP P6000 Command View					
	XCS 6.1xx ²	XCS 6.2xx	XCS 095xx000 ²	XCS 10001000 ²	XCS 11001100 ²	XCS 11200000	XCS 11300000	XCS 1000100	XCS 11001100 ²	XCS 11200000	XCS 11300000	9.4	9.4.1	10.0	10.1	10.2 & 10.2.1	10.3, 10.3.8 [†]
HP RSM 5.32		*	*	*				*				*	*				
HP P6000 RSM 5.42		*	*	*				*						*			
HP P6000 RSM 5.5		*	*	*	*			*	*						*		
HP P6000 RSM 5.6		*	*	*	*	*	*	*	*	*	*					*	*
HP EVAInfo 9.01	*	*	*														
HP EVAInfo 9.21	*	*	*														
HP EVAInfo 9.31	*	*	*														
HP EVAInfo 9.41		*	*	*				*									
HP EVAInfo 10.x1		*	*	*	*	*	*	*	*	*	*						

¹ HP EVAInfo 8.0 or later is supported on HPLUX PA-RISC 11.11/11iv1 (64b), HPLUX 11.23 PJ/11iv2 (64b PA-RISC, 64b Intel), and HPLUX 11.31/11iv3 (64b PA-RISC, 64b Intel). With EVAInfo 9.x in addition to the HPLUX support, support for Red Hat Enterprise Linux AS & ES 4 Update 6, 7 (x86 32-bit, x64 64-bit, Itanium), Red Hat Enterprise Linux AS & ES 5 Update 3 (x86 32-bit, x64 64-bit, Itanium), SUSE Linux Enterprise Server

10.0 SP1, SP2 (x86, x86_64 32-bit, x64 64-bit, Itanium, and SUSE Linux Enterprise Server 11.0 (x86, x86_64 32-bit, x64 64-bit, Itanium) is added.

² This version is inactive.

[†] This patch level incorporates all previous patches and is the recommended version to be used.

2.0 HP P6000 Command View Software interoperability support

This table lists the controller software and layered applications that are supported with HP P6000 Command View.

- HP P6000 Command View 9.4 includes HP P6000 Command View 9.4 for server-based management and array-based management, HP Command View EVAPerf 9.4, SMI-S EVA 9.4, and SSSU 9.4.
- HP P6000 Command View 10.0 includes HP P6000 Command View 10.0 for server-based management and array-based management, HP P6000 Performance Data Collector 10.0, HP P6000 Performance Advisor 10.0, HP SMI-S EVA 10.0, and SSSU 10.0.
- HP P6000 Command View Software Suite 10.1 includes HP P6000 Command view 10.1 for server-based management and array-based management, HP P6000 Performance Data Collector 10.1, HP P6000 Performance Advisor 10.1, HP SMI-S EVA 10.1, SSSU 10.1, HP P6000 SmartStart 4.1 and HP Management Integration Framework 1.5.
- HP P6000 Command View Software Suite 10.2 includes HP P6000 Command View 10.2 for server-based management and array-based management, HP P6000 Performance Data Collector 10.2, HP P6000 Performance Advisor 10.2, HP SMI-S EVA 10.2, SSSU 10.2, HP P6000 SmartStart 4.2, EVA to 3PAR Online Import 10.2 and HP Management Integration Framework 1.6.
- HP P6000 Command View Software Suite 10.3 includes HP P6000 Command View 10.3 for server-based management and array-based management, HP P6000 Performance Data Collector 10.3, HP P6000 Performance Advisor 10.3, HP SMI-S EVA 10.3, SSSU 10.3, HP P6000 SmartStart 4.3, HP EVA to 3PAR StoreServ Online Import 10.3 and HP Management Integration Framework 1.7.

	9.4 ² & 9.4.1 ²	10.0 ²	10.1 ^{2,6}	10.2 ^{2,6} & 10.2.1 ^{2,6}	10.3 ^{2,6} , 10.3.8 ^{2,6} , [†]
Controller software					
VCS 3.110/4.100 ^{2,6A}	*3				
XCS 6.1xx ^{6A}	*4	*4	*4	*4	*4
XCS 6.200, 6.220 ^{6A}	*	*	*	*	*
XCS 6.240, 6.250	*	*	*	*	*
XCS 09501x00 ^{6A}	*	*	*	*	*
XCS 0952x000 ^{6A}	*	*	*	*	*
XCS 0953x000 ^{6A}	*	*	*	*	*
XCS 10001000 ^{6A}	*	*	*	*	*
XCS 11001100 ^{6A}			*	*	*
XCS 11200000					*
XCS 11300000					*
SAN applications					
HP Configuration Collector 1.2.4	*	*	*	*	
HP Command View for Tape Libraries 2.8	*5	*5			
HP Command View for Tape Libraries 3.0			*		
HP Command View for Tape Libraries 3.0.1				*	
HP Command View for Tape Libraries 3.1				*	
HP Command View for Tape Libraries 3.5					*
HP Command View for Tape Libraries 3.6					*
HP P9000 Performance Advisor 5.2	*				
HP P9000 Performance Advisor 5.3		*			
HP P9000 Performance Advisor 5.4			*	*	
HP P9000 Performance Advisor 5.5					*
HP Command View XP AE 5.86			*		

¹Where an HP P6000 Command View version (or HP P6000 Replication Solutions Manager) is not supported with a particular XCS version, the HP P6000 Command View version (or HP P6000 Replication Solutions Manager) is supported for the purposes of upgrading to the latest XCS version. For example, you are currently running XCS 11001100 and want to upgrade to XCS 11200000.

²When HP P6000 Command View is running on a VMware virtual machine, communication between layered applications and HP P6000 Command View or later is supported if VMDirectPath is enabled.

³VCS 3.110 and 4.100 are inactive versions but remain the latest and only recommended versions for use with EVA3000/5000 arrays.

⁴HPF recommends that you upgrade to XCS 6.2xx if you are using HP Command View EVA 8.0.1 or later.

⁵HP P6000 Command View and HP Command View for Tape Libraries may coexist on the same server. P6000 and Tape providers will have separate instances of SMI-S CIMOM. See the HP P6000 Command View Release Notes for installation sequencing of HP P6000 Command View, HP Command View for Tape Libraries, and HP P6000 Replication Solutions Manager.

⁶HP P6000 Command View and HP Command View XP and/or HP Command View XP AE may coexist on the same server.

^AThis version is inactive.

[†]This patch level incorporates all previous patches and is the recommended version to be used.

2.0 HP P6000 Command View Software interoperability support (cont'd)

	9.4 ² & 9.4.1 ²	10.0 ²	10.1 ²	10.2 ² & 10.2.1 ²	10.3 ² , & 10.3.8 ^{2†}
SAN applications (cont'd)					
HP Command View XP AE 7.0	•	•	• ⁶		
HP Command View XP AE 7.2			• ⁶	• ⁶	
HP Command View XP AE 7.2.1				• ⁶	
HP Command View XP AE 7.3.1				• ⁶	
HP Command View XP AE 7.4.1					•
HP Cluster Extension for Windows 3.00.00 (x86, x64, Itanium)	• ⁷				
HP Cluster Extension for Windows 4.00.01 (x86, x64, Itanium)	•	• ^{7,8,11}	• ^{7,8,11}	• ^{7,8,11}	
HP Cluster Extension for Windows 5.00.00 (x86, x64, Itanium)				• ^{7,8,11}	
HP Cluster Extension for Windows 5.01.00 (x86, x64, Itanium)					• ^{7,11}
HP EVA Storage Virtualization Adapter for VMware Site Recovery Manager 4.01.00 and 5.0	• ¹²	•	•	•	•
HP EVA Storage Virtualization Adapter for VMware Site Recovery Manager 5.1			•	•	•
HP Matrix OE 7.2	•	•	•	•	
HP Matrix OE 7.2.1	•	•	•	•	• ¹⁶
HP Matrix OE 7.2.2	•	•	•	•	• ¹⁶
HP Matrix OE 7.3	•	•	•	•	• ¹⁶
HP Matrix OE 7.3.1	•	•	•	•	• ¹⁶
HP Matrix OE 7.3.2	•	•	•	•	• ¹⁶
HP Matrix OE 7.4					• ¹⁶
HP Insight Remote Support Advanced software ⁹	•	• ¹³	• ¹³	• ¹³	
HP Insight Remote Support software 7.x14			• ¹³	• ¹³	•
HP Metrocluster A.05.01 - HP/UX	• ^{7,13}	• ^{7,11}	• ^{7,11}	• ^{7,11}	• ^{7,11}
HP Metrocluster B.01.00.00 Linux				•	•
HP Navigator 5.5 or later	•	•	•	•	•
HP Remote Support Configuration Collector	• ⁷	• ⁷	• ⁷	• ⁷	•
HP Data Protector software 6.2.110	•	•	•		
HP Data Protector software 7.0.x10	•	•	•	•	•
HP Data Protector software 8.0.x10		•	•	•	•
HP Data Protector software 8.1.x10		•	•	•	
HP P6000 SmartStart 3.4	•				
HP P6000 SmartStart 4.0		•			
HP P6000 SmartStart 4.1			•		
HP P6000 SmartStart 4.2				•	
HP P6000 SmartStart 4.330					•

⁷Only supported on the server-based management version of HP P6000 Command View.

⁸When HP P6000 Command View is running on a virtual machine, the default cluster timeout setting (180 seconds) for HP Cluster Extension may be too short to allow all management commands to complete, which can lead to failure of Cluster Extension operations. Increase the timeout setting in the Microsoft Cluster software to 300 seconds or more to resolve the problem.

⁹HP recommends that you always install and use the latest version of HP Insight Remote Support Advanced software. Can coexist on the same platform with HP Command View 8.0.1 or later.

¹⁰This compatibility reference applies only to HP Data Protector customers who use either the Zero Downtime Backup and Instant Recovery for EVA integration or Microsoft Volume Shadow Copy Services for P6000/EVA-based backups. It does not restrict HP P6000 Command View and HP Data Protector deployments where these components are not used.

¹¹Due to dropped support of EVA3000/5000 arrays, both the source and destination must have the same version of HP P6000 Command View.

¹²05.01 patch for 9.4 or 9.4.1.

¹³HP P6000 Command View managing XCS 10x00000 and earlier is supported only with HP Insight Remote Support Advanced software.

¹⁴HP P6000 Command View managing XCS 11001100 and later is supported.

¹⁶Check the Insight Management Support Matrix for specifics on 10.3.x version support for each Matrix OE version.

[†]This patch level incorporates all previous patches and is the recommended version to be used

2.0 HP P6000 Command View Software interoperability support (cont'd-2)

	9.4 ² & 9.4.1 ²	10.0 ³	10.1 ²	10.2 ² & 10.2.1 ²	10.3 ² , & 10.3.8 ^{2†}
SAN applications (cont'd)					
HP Storage Essentials 9.4.1 (Windows/Linux)	• ¹⁹	• ¹⁹			
HP Storage Essentials 9.5.1 (Windows/Linux) ¹⁷			• ¹⁹	• ¹⁹	
HP Storage Essentials 9.6 (Windows/Linux)			•	•	•
HP Storage Provisioning Manager 2.2 (used with Matrix OE 7.2, 7.2.1, and 7.2.2)	•	•	•	•	• ³¹
HP Storage Provisioning Manager 2.3 (used with Matrix OE 7.3 and 7.3.1)	•	•	•	•	• ³¹
HP Storage Provisioning Manager 2.3.2 (used with Matrix OE 7.3.2)	•	•	•	•	• ³¹
HP Storage Provisioning Manager 2.4 (used with Matrix OE 7.4)	•	•	•	•	• ³¹
HP Systems Insight Manager 7.0 (with HP Insight Remote Support Advanced software)	•	•			
HP Systems Insight Manager 7.1 (with HP Insight Remote Support Advanced software)	•	•	•		
HP Systems Insight Manager 7.2 (with HP Insight Remote Support Advanced software)	•	•	•	•	
HP Systems Insight Manager 7.2.1 (with HP Insight Remote Support Advanced software)	•	•	•	•	
HP Systems Insight Manager 7.2.2 (with HP Insight Remote Support Advanced software)	•	•	•	•	•
HP Systems Insight Manager 7.3 (with HP Insight Remote Support software)	•	•	•	•	•
HP Systems Insight Manager 7.3.1 (with HP Insight Remote Support software)	•	•	•	•	•
HP Systems Insight Manager 7.3.2 (with HP Insight Remote Support software)	•	•	•	•	•
HP Systems Insight Manager 7.4 (with HP Insight Remote Support software)	•	•	•	•	•
HP VDS/VSS Hardware Provider 4.0x.00	•	•	•	•	
HP VDS/VSS Hardware Provider 6.0x.00	•	•	•	•	
HP VSS Hardware Provider 6.08.00				• ²⁷	•
HP WEBES22	•	• ²⁰	• ²⁰	• ²⁰	•
Microsoft System Center: Virtual Machine Manager 2012				•	•
iSCSI connectivity²³					
mpx100 firmware 2.4.x.x ²⁹	•	•	•	•	
mpx100b firmware 2.4.x.x ^{24,29}	•	•	•	•	
MPX200 firmware 3.02x, 3.1x, 3.2.x.x, 3.3.x.x, 3.4.2.X ^{28,30}	•	•	•	•	•
MPX200 firmware 3.2.2x ²⁵ , 3.3.1.2, 3.4.0.0 ³⁰	•	•	•	•	•
MPX200 firmware 3.4.2.2 ³⁰					•
P63x0/P65x0 EVA Mez50 iSCSI module firmware 3.0.4.1, 3.2.2.x ²⁶ , 3.2.2.11 ^{28,30}	•	•	•	•	•
P63x0/P65x0 EVA Mez75 iSCSI/FCoE module firmware 3.2.2.6, 3.2.2.x ²⁶ , 3.2.2.11 ^{28,30}	•	•	•	•	•
<p>¹⁷ Requires HP Storage Essentials 9.5 or 9.5.1 with the latest patch.</p> <p>¹⁹ HP Storage Essentials Performance Pack is not supported when HP P6000 Command View is running on a VMware virtual machine.</p> <p>²⁰ Supported on the same server as HP Systems Insight Manager 5.3 or later as long as the server is running HP P6000 Command View 9.0.1 or later (server-based management only).</p> <p>²¹ Supported with array-based management by installing HP P6000 Command View SMI-S software on a supported Windows server.</p> <p>²² This represents WEBES as a standalone product. HPE recommends that you always install and use the latest version of WEBES. For server-based management, requires WCCProxy(ELMC) 6.3.</p> <p>²³ See the Single Point of Connectivity Knowledge (SPOCK) website (http://www.HP.com/storage/spock) for the latest supported mpx firmware versions and MPIO versions. Table 7.0 provides instructions to access SPOCK.</p> <p>²⁴ The mpx100b is supported on the EVA4400 only.</p> <p>²⁵ If you are using FCoE, this MPX200 firmware version is the minimum required version.</p> <p>²⁶ XCS 10100000 requires iSCSI module firmware 3.2.2.7 or later.</p> <p>²⁷ Is only for Win 2012 Server OS. For Win 2012 there is no VDS Hardware Provider.</p> <p>²⁸ With MPX FW and XCS 11200000, Windows Server 2012 host can be created and Windows UNMAP and VMware UNMAP is also supported.</p> <p>²⁹ Thin Provision primitives function of Windows Server 2012 and VMware is supported if XCS version is 11200000 or later.</p> <p>³⁰ HP P6000 SmartStart 4.3 is supported only with CV 10.3</p> <p>[†] This patch level incorporates all previous patches and is the recommended version to be used.</p>					

2.1 HP P6000 Command View upgrade support

This table shows upgrade support for HP P6000 Command View Software versions. A bullet (•) indicates you can perform an upgrade from the version in the FROM column to the version in the TO column without removing the earlier version. A blank cell (or if an HP P6000 Command View Software version is not listed) indicates an upgrade to a later version (without removing the earlier version) is not supported. For unsupported upgrade paths, you must remove the previous version using Windows Add/Remove Programs, reboot the management server, and install the applicable version listed below.

NOTE: For supported upgrade paths, a reboot may occur automatically during the upgrade. During an upgrade, a reboot occurs only if files are marked for deletion or services are in a disabled state. After a reboot, the user should start the installation again.

TO HP P6000 Command View version								
FROM HP P6000 Command View version	9.4	9.4.1 ¹	10.0	10.1	10.2	10.2.1 ²	10.3	10.3.n ^{3,4}
9.3	•		•					
9.4		•	•	•				
9.4.1			•	•				
10.0				•	•			
10.1					•		•	
10.2						•	•	
10.2.1							•	
10.3								•
10.3.m ⁴								•

¹ To upgrade from 9.3 to 9.4.1, upgrade from 9.3 to 9.4 and then apply the 9.4.1 patch.

² To upgrade from 10.1 to 10.2.1, upgrade from 10.1 to 10.2 and then apply the 10.2.1 patch.

³ To upgrade from 10.2 to 10.3.n, upgrade from 10.2 to 10.3 and then apply the 10.3.n patch, where n= 1, 2,3,4,5,6,7,8.

⁴Upgrade to 10.3.n is possible from 10.3.m, where m=1,2,3,4,5,6,7

2.2 HP P6000 Command View downgrade support

This table shows downgrade support for HP P6000 Command View versions. A bullet (•) indicates you can perform a downgrade from the version in the FROM column to the version in the TO column. A blank cell indicates a downgrade is not supported. For downgrade instructions, see the HP P6000 Command View Software Suite Installation Guide.

FROM HP P6000 Command View version	TO HP P6000 Command View Version			
	9.4 or 9.4.1 ¹	10.0	10.1	10.2 or 10.2.1 ²
10.0	•			
10.1	•	•		
10.2		•	•	
10.3 ³ , 10.3.n ³			•	•

¹ If 9.4.1 is uninstalled, the entire Command View Software Suite is removed.

² If 10.2.1 is uninstalled, the entire Command View Software Suite is removed.

³ If 10.3.n is uninstalled, the entire Command View Software Suite is removed, where n=1, 2,3,4,5,6,7,8

2.3 HP P6000 Replication Solutions Manager upgrade support

This table shows upgrade support for HP P6000 Replication Solutions Manager server and host agent software versions. A bullet (•) indicates you can perform an upgrade from the version in the FROM column to the version in the TO column without removing the earlier version. A blank cell (or if an HP P6000 Replication Solutions Manager version is not listed) indicates an upgrade to a later version (without removing the earlier version) is not supported.

	TO HP P6000 RSM server version		
FROM HP P6000 RSM server version	5.4 ²	5.5 ²	5.6
5.4			•
5.5			•

	From this HP P6000 RSM host agent version to version 5.6	
WITH operating system	5.4 ²	5.5
HP HP-UX	•	•
HP OpenVMS	•	•
HP Tru64 UNIX	•	•
IBM AIX	•	•
Linux (Red Hat and SUSE) ¹	•	•
Microsoft Windows	•	•
Sun Solaris	•	•
Sun Solaris (x86)	•	•
VMware guest OS	•	•

¹Upgrading is not supported on a Linux Itanium server. You must remove the previous version first and then install the new version. ² This version is inactive

2.4 Active/inactive support for P6000 management and replication software

This table identifies which versions of P6000 management and replication software are active and inactive. Because the active/inactive designations became effective in November 2009, there are multiple versions that list the same inactive date. Active and inactive are defined as:

– Active: An active version has full Engineering support. Issues are addressed and patches can be provided.

– Inactive: An inactive version has limited Engineering support. Customers will be requested to move to an active version. Engineering is available for consultation but lab resources are not available to address issues. The escalation path for an issue on an inactive version is limited. The oldest active software version goes inactive approximately six months after a new version is released. For example, if the current active versions are 9.3, 9.4, and 10.0, 9.3 goes inactive six months after 10.0 is released.

NOTE: When a version of HP P6000 Command View Software goes inactive, the same version of HP Command View EVAPerf, HP Storage System Scripting Utility, and HP SMI-S EVA also goes inactive.

Software	Active As Of	Inactive As Of
HP P6000 Command View		
9.2		31 Dec 2011
9.2.1		31 Dec 2011
9.3		30 Mar 2012
9.4		28 Mar 2014
9.4.1		28 Mar 2014
10.0 ¹		28 Mar 2014
10.1 ²		13 July 2014
10.2 ³	5 Dec 2012	20 June 2017
10.2.1	8 Jul 2013	20 June 2017
10.3 ⁴	6 Sep 2013	
10.3.6	21 April 2015	
10.3.7	10 Sep 2015	
10.3.8 ⁵	TBD	
HP P6000 Replication Solutions Manager		
5.0		6 June 2011
5.1		31 Dec 2011
5.2		30 Mar 2012
5.3		29 Jun 2012
5.4		13 July 2014
5.5	29 Jun 2012	30 June 2017
5.6	5 Dec 2012	
HP P6000 SmartStart		
3.0.1		6 June 2011
3.1		6 June 2011
3.2		31 Dec 2011
3.3		30 Mar 2012
3.4		29 Jun 2012
4.0		28 Mar 2014
4.1		13 July 2014
4.2	5 Dec 2012	30 June 2017
4.3	6 Sep 2013	

1 Includes HP P6000 SmartStart 4.0.

2 Includes HP P6000 SmartStart 4.1.

3 Includes HP P6000 SmartStart 4.2.

4 Includes HP P6000 SmartStart 4.3.

5 10.3.8 patch incorporates all previous patches i.e., 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, and 10.3.7 and is the recommended version to be used

2.5 Active/inactive support for controller software

This table identifies which versions of controller software are active and inactive. Active and inactive are defined as:

– **Active:** An active version has full Engineering support. Issues are addressed and patches can be provided.

– **Inactive:** An inactive version has limited Engineering support. Customers will be requested to move to an active version, if one is available. Engineering is available for consultation but lab resources are not available to address issues. The escalation path for an issue on an inactive version is limited. The oldest active software version goes inactive approximately six months after a new version is released.

Controller Software	Active As Of	Inactive As Of
EVA3000/5000		
3.110 ¹		31 Dec 2010
4.100 ¹		31 Dec 2010
EVA4000/6000/8000 and 4100/6100/8100		
6.200		31 Aug 2011
6.220		31 Aug 2012
6.240	7 Mar 2011	31 Oct 2015
6.250	23 Jan 2012	
EVA4400		
09006000		31 Jan 2010
EVA4400 and 6400/8400		
09501000		31 Jan 2010
09501100		31 Jan 2010
09520000		1 Nov 2011
09521000		1 Nov 2011
09522000		1 Nov 2011
09531000		15 Jun 2010
09534000		28 Feb 2013
10000000		11 Nov 2011
10001000		31 Mar 2014
10100000		11 Jun 2012
11001000		16 Nov 2012
11001100		30 Apr 2015
11200000	6 Sep 2013	30 June 2017
11300000	9 Oct 2014	
P63x0/P65x0 EVA²		
10000000		11 Nov 2011
10001000		31 Mar 2014
10100000		11 Jun 2012
11001000		16 Nov 2012
11001100		30 Apr 2015
11200000	6 Sep 2013	30 June 2017
11300000	9 Oct 2014	

¹ VCS 3.110 and 4.110 are inactive versions but remain the latest and only recommended versions for use with EVA3000/5000 arrays.

² P6350/P6550 must be at controller software version 11001100 or later.

3.0 Controller software version support

3.1.1 Upgrade support for EVA4000/6000/8000 and EVA4100/6100/8100 controller software versions

This table shows upgrade support for the controller software versions. A bullet (•) indicates you can perform an upgrade from the version in the FROM column to the version in the TO column. A blank cell indicates an upgrade is not supported.

FROM controller software version	TO controller software version	
	XCS 6.1xx ¹	XCS 6.2xx
XCS 5.1xx ¹	• ²	
XCS 6.1xx	• ²	• ²
XCS 6.2xx		• ²

¹This version is inactive.

²An online upgrade is supported. For additional guidelines and procedures, see the Updating Product Software Guide for the applicable array model and controller software version.

3.1.2 Upgrade support for EVA4400/6400/8400 controller software versions

This table shows upgrade support for the controller software versions. A bullet (•) indicates you can perform an upgrade from the version in the FROM column to the version in the TO column. A blank cell indicates an upgrade is not supported. HPE always recommends upgrading to the latest version supported for your array model.

FROM controller software version	TO controller software version				
	XCS 0953x000 ⁴	XCS 10001000 ^{3,4}	XCS 11001100 ⁴	XCS 11200000	XCS 11300000
XCS 0900x000 (EVA4400 only) ⁴	• ¹				
XCS 09501x00 ⁴	• ²				
XCS 0952x000 ⁴	• ²				
XCS 09522000 ⁴	• ²	• ²			
XCS 0953x000 ⁴	• ²				
XCS 09534000 ⁴		• ²			
XCS 1000x000 ⁴			• ²	• ²	
XCS 10100000 ⁴			• ²	• ²	
XCS 11001x00 ⁴				• ²	• ²
XCS 11200000 ⁵					• ²

¹ An offline upgrade is required.

² An online upgrade is supported. See the Updating Product Software Guide (for the applicable array model and controller software version) for additional guidelines and procedures.

³ XCS 10001000 supercedes XCS 10000000. XCS 10000000 is an inactive version.

⁴ This version is inactive.

⁵ XCS 11200000 supercedes XCS 11001100. XCS 11001100 is inactive.

3.1.3 Upgrade support for P63x0/P65x0 EVA controller software versions

This table shows upgrade support for the controller software versions. A bullet (•) indicates you can perform an upgrade from the version in the FROM column to the version in the TO column. A blank cell indicates an upgrade is not supported. HPE always recommends upgrading to the latest version supported for your array model.

FROM controller software version ³	TO controller software version	
	XCS 11200000	XCS 11300000
XCS 1000x000 ²	• ¹	
XCS 10100000 ²	• ¹	
XCS 11001x00 ²	• ¹	• ¹
XCS 11200000 ⁴		• ¹

¹An online upgrade is supported. See the Updating Product Software Guide (for the applicable array model and controller software version) for additional guidelines and procedures.

² This version is inactive.

³For P6x50 arrays, minimum version is 11001000.

⁴XCS 11200000 supercedes XCS 11001100. XCS 11001100 is inactive.

3.2.1 Downgrade support for EVA4000/6000/8000 and EVA4100/6100/8100 controller software versions

This table shows downgrade support for the controller software. A bullet (•) indicates you can downgrade from the version in the FROM column to the version in the TO column. A blank cell indicates a downgrade is not supported.
NOTE: If you are running XCS 6.110 on an EVA4100/6100/8100, you cannot downgrade to XCS 6.100 or earlier versions.

FROM controller software version	TO controller software version	
	XCS 6.1xx	XCS 6.2xx
XCS 6.1xx ³	• ²	
XCS 6.2xx	• ²	• ¹

¹An offline downgrade is required.

²An array initialization is required, which causes data loss or requires a restore.

³This version is inactive.

3.2.2 Downgrade support for EVA4400/EVA6400/8400 controller software versions

This table shows downgrade support for the EVA4400 controller software versions. A bullet (•) indicates you can downgrade from the version in the FROM column to the version in the TO column. A blank cell indicates a downgrade is not supported.

NOTE:

Downgrading to a controller software version not listed in Table 3.2.2 may require an array initialization. Contact HP for recommendations and procedures for downgrading.

FROM controller software version	TO controller software versions							
	XCS 09534000 (EVA4400)	XCS 09534000 (EVA6400/8400)	XCS 10001000 (EVA4400)	XCS 10001000 (EVA6400/8400)	XCS 11001100 ⁵ (EVA4400)	XCS 11001100 ⁵ (EVA6400/8400)	XCS 11200000 (EVA4400)	XCS 11200000 (EVA6400/8400)
XCS 10001000 ^{2,5} (EVA4400)	• ¹							
XCS 10001000 ^{2,5} (EVA6400/8400)		• ¹						
XCS 10100000 ⁵ (EVA4400)	• ¹		• ³					
XCS 10100000 ⁵ (EVA6400/8400)		• ¹		• ³				
XCS 1100xx00 ⁵ (EVA4400)	• ¹		• ¹					
XCS 1100xx00 ⁵ (EVA6400/8400)		• ¹		• ¹				
XCS 11200000 (EVA4400)			• ¹		• ¹			
XCS 11200000 (EVA6400/8400)				• ¹		• ¹		
XCS 11300000 (EVA4400)					• ¹		• ¹	
XCS 11300000 (EVA6400/8400)						• ¹		• ¹

¹ An offline downgrade with array initialization is required. The array initialization causes data loss or requires a restore.

² XCS 10001000 supersedes XCS 10000000.

³ An offline downgrade is required, and then you must manually restart the controller.

⁵ This version is inactive.

3.2.3 Downgrade support for P6300/P6500/P6350/P6550 controller software versions

This table shows downgrade support for the P6300/P6500 controller software versions. A bullet (•) indicates you can downgrade from the version in the FROM column to the version in the TO column. A blank cell indicates a downgrade is not supported. P6350/P6550 support downgrades only to 11001100. .

NOTE: Downgrading to a controller software version not listed in this table may require an array initialization. Contact HP for recommendations and procedures for downgrading.

FROM controller software version	TO controller software version		
	XCS 10001000 ³	XCS 11001100 ³	XCS 11200000
XCS 10100000 ³	• ¹		
XCS 1100xx00 ³	• ²		
XCS 11200000 ⁴	• ²	• ²	
XCS 11300000		• ²	• ²

¹ An offline downgrade is required, and then you must manually restart the controller.

² An off line downgrade with array initialization is required. Array initialization causes data loss or requires a restore.

³ This version is inactive.

⁴ XCS 11200000 supersedes XCS 11001100.

3.3 Data-in-place (hardware) upgrade support for EVA 4400/6400/8400 controllers

This table shows data-in-place upgrade support for when you upgrade the hardware. A bullet (•) indicates you can perform a data-in-place upgrade from the array controller in the FROM column to the array controller in the TO column. A blank cell indicates a data-in-place upgrade is not supported.

NOTE: When doing a data-in-place upgrade, the old and new controllers must be running the same version of controller software. A data-in-place upgrade must be performed offline.

FROM array controller	TO array controller			
	EVA4400 (HSV300)	EVA4400 (HSV300-S)	EVA6400 (HSV400)	EVA8400 (HSV450) ¹
EVA4400 (HSV300)		•	•	•
EVA4400 (HSV300-S)	•		•	•
EVA6400 (HSV400)				•

¹ Includes EVA8400 HSV450 controller variations (14 GB cache and 22 GB cache).

3.3.1 Data-in-place (hardware) upgrade support for P6300/P6350/P6500/P6550 EVA controllers

This table shows data-in-place upgrade support for when you upgrade the hardware. A bullet (•) indicates you can perform a data-in-place upgrade from the array controller in the FROM column to the array controller in the TO column. A blank cell indicates a data-in-place upgrade is not supported.

NOTE: When doing a data-in-place upgrade, the old and new controllers must be running the same version of controller software. A data-in-place upgrade must be performed offline.

FROM array controller	TO array controller		
	P6350 EVA (HSV340) ^{1,2}	P6500 (HSV360) ²	P6550 EVA (HSV360) ²
P6300 EVA (HSV340)	• ²		• ^{2,3}
P6350 EVA (HSV340)	• ¹		• ³
P6500 EVA (HSV360)		• ^{1,2}	• ²

¹ Includes FC, iSCSI, and iSCSI/FCoE controller variations.

² Requires 11001100 or later firmware, and HP Command View 10.3 or later.

³ Requires 11001100 or later firmware, HP Command View 10.3 or later, and new controller.

3.4 Remote replication support for controller software versions (server-based management only)

This table shows support between controller software versions in remote replication environments, meaning the controller software versions that are running on the source and destination arrays. A bullet (•) indicates support when the source and destination arrays are running the controller software versions listed. A blank cell indicates replication between the controller software versions is not supported.

Controller software version (source array)	Controller software version (destination array)										
	VCS 3.1xx ¹³	VCS 4.1xx ¹³	XCS 6.1xx ^{2,3,13}	XCS 6.2xx	XCS 0952x000 ¹³ (EVAx400)	XCS 0953x000 ¹³ (EVAx400)	XCS 10001000 (EVAx400)	XCS 10001000 ¹³ (P6300/P6500 EVA)	XCS 11001100 ¹³ (EVAx400) (P63x0/P65x0 EVA) ¹²	XCS 11200000 (EVAx400) (P63x0/P65x0 EVA) ¹²	XCS 11300000 (EVAx400) (P63x0/P65x0 EVA) ¹²
VCS 3.1xx ¹³	• ⁴	• ^{1,4}	• ⁵	• ⁴		• ⁸	• ⁹	• ⁹			
VCS 4.1xx ¹³	• ^{1,4}	• ⁴	• ⁵	• ⁴		• ⁸	• ⁹	• ⁹			
XCS 6.1xx ¹³	• ⁵	• ⁵	• ⁶	• ^{1,6}	• ^{6,7}	• ⁶	• ^{6,7}	• ^{6,7}	• ^{6,7}	• ^{6,7}	• ^{6,7}
XCS 6.2xx	• ⁴	• ⁴	• ^{1,6}	• ⁶	• ⁶	• ⁶	• ⁶	• ⁶	• ⁶	• ⁶	• ⁶
XCS 0952x000 (EVAx400) ¹³			• ^{6,7}	• ⁶	• ⁶	• ⁶	• ^{6,8}	• ^{6,8}	• ^{6,8}	• ^{6,8}	• ^{6,8}
XCS 0953x000 (EVAx400) ¹³			• ^{6,7}	• ⁶	• ⁶	• ^{6,9}	• ^{6,8,10}	• ^{6,8,10}	• ^{6,8,10}	• ^{6,8,10}	• ^{6,8,10}
XCS 10001000 ¹³ & XCS 11001100 ¹³ (P6xx0/EVAx400)			• ^{6,7}	• ⁶	• ^{6,8}	• ^{6,8,10}	• ^{10,11}	• ^{10,11}	• ^{10,11}	• ^{10,11}	• ^{10,11}
XCS 11200000			• ^{6,7}	• ⁶	• ^{6,8}	• ^{6,8,10}	• ^{10,11}	• ^{10,11}	• ^{10,11}	• ^{10,11}	• ^{10,11}
XCS 11300000			• ^{6,7}	• ⁶	• ^{6,8}	• ^{6,8,10}	• ^{10,11}	• ^{10,11}	• ^{10,11}	• ^{10,11}	• ^{10,11}

¹ Supported during the 60 day upgrade window only, meaning the source and destination arrays can be running these different controller software versions while you are upgrading the arrays and the upgrades must be completed within 60 days. The upgrade window begins with the upgrade of the first array. It concludes when all arrays in a direct or indirect replication relationship with the first array have been upgraded. You can only upgrade one controller software family (either VCS or XCS) at a time and only allow two versions within that family. During the upgrade window, do not make changes to DR groups (adding/delete DR groups or adding/deleting members of DR groups).

² Before upgrading your storage system to XCS 6.xxx firmware, all source and destination DR groups must be in Synchronous mode. Check each DR group to verify this setting, before proceeding with the firmware upgrade process. Enhanced asynchronous replication is only available when both arrays are running XCS 6.000 or later. Asynchronous replication in XCS 6.000 or later (not including 6.200) is not compatible with asynchronous replication in earlier versions of controller software.

³ When this version of XCS is running on either the source or destination array, asynchronous write mode is not available when creating a DR group. Asynchronous write mode is available only after the DR group is created.

⁴ Synchronous and standard asynchronous replication is supported between these controller software versions.

⁵ Asynchronous replication is not supported between these controller software versions. Only synchronous replication is supported.

⁶ Synchronous and enhanced asynchronous replication is supported between these controller software versions.

⁷ Supported as long as the controller software on the HSV200x/HSV210x controller is upgraded to XCS 6.2xx within 60 days.

⁸ Supported as long as the controller software on the EVAx400 controller is upgraded to XCS 10001000 or later within 60 days.

⁹ The following restrictions apply:

- a) Synchronous write mode only
- b) Supported on VCS 4.1xx; all restrictions apply
- c) Fibre Channel connectivity supported (no long distance support)
- d) The 60 day upgrade window applies, no permanent relationships are supported

¹⁰ Replication between these versions supports the HP SCSI FC Compliant Data Replication Protocol. For configuration requirements, see the HP P6000 Continuous Access Implementation Guide.

¹¹ Synchronous, enhanced and basic asynchronous replication is supported between these controller software versions.

¹² P6350/P6550 supported by XCS 11001100 or later.

¹³ This version is inactive.

3.5 Controller software and management module software support

This table shows support between controller software and management module software. A bullet (•) indicates support; a blank cell indicates no support. The management module is applicable to the EVA4400 and P63x0/P65x0 EVA only.

Management module software ¹	Controller software											
	09000000 ⁵	09001000 ⁵	09003000 ⁵	09004000 ⁵	09006000 ⁵	09501x00 ⁵	0952x000 ⁵	0953x000 ⁵	10001000 ^{3,5}	11001100 ⁵	11200000 ⁴	11300000
0001.0000	•	•	•									
0001.0020				•	•							
0001.1000					• ²							
0001.2000					• ²	• ²						
0001.2010					• ²	• ¹						
0001.3000						• ²	• ²	• ²				
0001.4000						• ²	• ²	• ²				
0001.4100								• ²				
0001.4200								• ²				
0001.4300								• ²	• ²			
0002.0000								• ²	• ²			
0002.1000								• ²	• ²	• ²		
0002.2000								• ²	• ²	• ²		
0002.3000									•	•	•	•

¹ Where a management module software version is not supported with a particular XCS version, the management module software version is supported for the purposes of upgrading to the latest XCS version. For example, you are currently running XCS 09001000 and want to upgrade to XCS 09522000. Although XCS 09001000 is not supported with management module software version 0001.3000, you can upgrade to version 0001.3000 while the array is running XCS 09001000 and then upgrade to XCS 09522000.

² Installing HP Command View EVA 8.1 or later will automatically install management module software 0001.1000 or later.

³ XCS 10001000 supercedes XCS 10000000.

⁴ XCS 11200000 supercedes XCS 11001100.

⁵ This version is inactive.

3.6 Management module software compatibility

This table shows how the management module software is compatible with HP P6000 Command View and the HP P6000 Control Panel.

Management module software version	HP P6000 Command View							HP P6000 Control Panel										
	9.2.x	9.3	9.4 & 9.4.1	10.0	10.1	10.2 & 10.2.1	10.3 & 10.3.8 [†]	1.0	2.1	2.2	2.3	2.3.1	2.4	2.5	2.6	2.7	2.8	
0001.0000								•										
0001.0020								•										
0001.1000									•									
0001.2000										•								
0001.2010										•								
0001.3000	•										•							
0001.4000	•										•							
0001.4100	•										•							
0001.4200		•										•						
0001.4300			•										•					
0002.0000				•										•				
0002.1000					•										•			
0002.2000						•										•		
0002.3000							•										•	

[†]This patch level incorporates all previous patches and is the recommended version to be used.

4.0 HP P6000 software deployment options

<p>For server-based management, you can install HP P6000 management and replication software on a management server. The management servers are:</p> <p>General-purpose server: A server that runs customer applications, such as file and print services.</p> <p>Dedicated management server: A Windows host that is intended solely for HP storage software, such as HP OpenView Storage Node Manager, HP OpenView Storage Area Manager add-on software modules, or HP P6000 software.</p> <p>HP X1000/X3000 Network Storage Systems and Gateways: A server similar to the general-purpose server; it can be used for managing EVAs in the SAN as well as traditional NAS-based applications.</p> <p>For array-based management (EVA4400, P63x0/P65x0 EVA only), you can install HP P6000 Command View on the management module within the controller enclosure. The server you use to browse to HP P6000 Command View on the management module can be any server running any operating system and meets the browser requirements listed in Table 5.0, Browser support. All other applications require a separate server. See the HP P6000 Command View Software Suit Installation Guide for the appropriate application for more information.</p>	
Required hardware	
<p>General-purpose server Dedicated management server</p>	<p>x86 and x64 architectures are supported¹</p> <p>Processor: 1.26 GHz (minimum), dual-processor or dual-core 1.86 GHz (recommended)^{2,3}</p> <p>Memory: 2 GB (minimum), 4 GB (recommended)^{2,3,5}</p> <p>Disk space requirements:</p> <ul style="list-style-type: none"> — 200 MB for HP P6000 Command View installation — 2 GB for HP P6000 Command View log files (During heavy management command activity, the required space for logs may increase sharply in a 72-hour period.) — 5.2 GB for HP P6000 Command View 10.3.8 — 10 MB for each managed array — 550 MB for HP P6000 Replication Solutions Manager installation — Additional 300–400 MB for HP P6000 Replication Solutions Manager installation to accommodate log and database growth — 10/100 Mbps for HP P6000 RSM server to HP P6000 RSM host agent connectivity <p>NOTE: HP P6000 Command View and HP P6000 Replication Solutions Manager are supported on any server (including blade servers) as long as the server meets the minimum configuration requirements for a general purpose server as noted above.</p>
<p>HP X1000/X3000 Network Storage Systems and Gateways</p>	<p>HP X1400 G2 Network Storage System HP X1800 G2 Network Storage System HP X1800sb G2 Network Storage Blade HP X3400 G2 Network Storage Gateway HP StorageWorks X3400 Network Storage System HP X3800 G2 Network Storage Gateway HP X3800sb G2 Network Storage Blade HP ProLiant DL380 G5 x64 SAN Storage Server HP ProLiant DL380 G5 Base Storage Server</p> <p>Note: In most configurations, the X3400 Network Storage System is preferred. The X3800 or X1800 Network Storage System or Gateway is recommended when HP P6000 Command View and HP Insight Remote Support are installed on the same server. For more information about the X3800 or X1800 Network Storage System or Gateway, go to the following websites: X3800: http://www.HP.com/go/X3000-G2 X1800: http://www.HP.com/go/X1000-G2</p>
<p>VMware virtual machine (where HP P6000 Command View is installed on a Windows guest operating system)⁴</p>	<p>Processor: 1.260 GHz reserved (minimum), 3.0 GHz reserved (recommended)</p> <p>Memory: 2.096 GB reserved (minimum), 4.192 GB reserved (recommended)</p> <p>Server hardware requirement: VMDirectPath supports a direct device connection for virtual machines running on Intel Xeon 5500 systems, which feature an implementation of the I/O memory management unit (IOMMU) called Virtual Technology for Directed I/O (VT-d). If you are using VMDirectPath, the VMware virtual machine must be an HP ProLiant G6 (or later) server, which supports VT-d. For HBA support with VMDirectPath, see the Single Point of Connectivity Knowledge (SPOCK) website (http://www.HP.com/storage/spock). Table 7.0 provides instructions to access SPOCK.</p>
<p>Hyper-V enabled server and Hyper-V virtual machine (where HP P6000 Command View is installed on a Windows guest operating system)⁵</p>	<p>Processor: 1.260 GHz reserved (minimum), 3.0 GHz reserved (recommended)</p> <p>Memory: 2.096 GB reserved (minimum), 4.192 GB reserved (recommended)</p>
<p>¹These are minimum requirements. As the number of arrays and objects on the arrays increases, HPE recommends that the management server be upgraded to a higher-end machine.</p> <p>²A minimum of a dual-processor or dual-core 1.86 GHz Intel Xeon Processor (or AMD equivalent) and 2 GB memory is recommended if you are managing 4 or more arrays.</p> <p>³A minimum of a dual-processor or dual-core 1.86 GHz Intel Xeon Processor (or AMD equivalent) and 4 GB memory is recommended if HP P6000 Replication Solutions Manager, HP Cluster Extension, HP Metrocluster, HP Insight Remote Support, HP Storage Essentials, HP Data Protector, or HP Systems Insight Manager are in the configuration.</p> <p>⁴The X3800 and X1800 Network Storage Systems and Gateways are not supported for a VMware virtual machine. If you require a server to host VMware, HP Insight Remote Support, and HP P6000 Command View, select the DL380 with a minimum of 6 GB of memory and a 2.5 MHz processor.</p> <p>⁵55 GB is required if you are running HP P6000 Command View, HP P6000 Performance Advisor, and HP 3PAR Online Import for EVA Storage.</p>	

4.1 Supported software on management servers and the management module

This table lists the software that is supported on each management server and the management module. Although multiple software products are compatible with a management server, these software products may not be compatible with each other.				
	General-purpose server	Dedicated management server	HP X1000/X3000 Network Storage Systems and Gateways	Management module
HP P6000 Command View	• ¹	• ¹	• ¹	•
HP P6000 Command View and HP P9000 Command View and/or HP P9000 Command View AE coexistence on same Windows server	•	•	•	
HP Command View for Tape Libraries and HP P6000 Command View software coexistence ⁷	•	•	•	
HP Insight Remote Support software ⁵	•	•	•	
HP P6000 Replication Solutions Manager ²	•	•	•	
HP Storage Essentials ³		•		
HP Storage Management Pack for Microsoft System Center	•	•	•	
Number of HP Enterprise Virtual Arrays supported ¹	16	16	16	
Number of SAN islands supported (managing multiple SANs)	6	6	6	
Operating system connectivity 3.0e and later OR Storport Driver	•	NA	•	
Operating systems	Microsoft Windows Server 2008 Standard and Enterprise SP1/SP2/R2 (x86 32-bit or x64 64-bit) ⁶ , Windows Server 2012 and Windows Server 2012 R2 ⁸	Microsoft Windows Server 2008 Standard and Enterprise SP1/SP2/R2 (x86 32-bit or x64 64-bit) ⁶ , Windows Server 2012 and Windows Server 2012 R2 ⁸	Microsoft Windows Storage Server 2008 Standard SP2/R2 (x64) (X1800) ⁶ , Microsoft Windows Storage Server 2008 Enterprise SP2/R2 (x64) (X3400, X3800) ⁶	
WEBES (HP Services obligation required)	•	•	•	
<p>¹ HPE recommends a maximum of ten EVAs per HP P6000 Command View 10.x or later instance, eight EVAs per HP P6000 Command View 9.2 or later instance, or four EVAs per HP P6000 Command View 9.1 or earlier. This recommendation applies to all management server types.</p> <p>² Do not install HP Command View SDM 1.09 and HP P6000 Replication Solutions Manager 1.1 or 1.2 on the same management server. Do not install HP P9000 Command View and HP P6000 Replication Solutions Manager on the same management server.</p> <p>³ A dedicated management server is required for HP Storage Essentials. Do not install HP P6000 Command View and HP Storage Essentials on the same server.</p> <p>⁵ Microsoft Storage Server 2008 Standard and Enterprise are supported and licensed operating systems for a central management server or hosting device with HP Insight Remote Support. There are no unique issues identified with using these operating systems. Follow the recommendations and notes applicable to implementing HP Insight Remote Support on the Microsoft Server 2008 R2 platform.</p> <p>⁶ Language support on the server for Windows 2008 R2, or Windows Server 2012 Datacenter edition running the Microsoft Windows language package is available for English, Japanese, German, French, Spanish, Italian, and Portuguese. HP supports English and Japanese in the HP P6000 Command View 10.0, 10.1, 10.2, 10.2.1, 10.3, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.7, and 10.3.8 user interface.</p> <p>⁷ HP Command View TL software is only fully compatible with English-language versions of Windows. ⁸ It supports Windows Server 2012 and 2012 R2 Datacenter, Windows Server 2012 and 2012 R2 Standard, Windows Server 2012 and 2012 R2 Essentials, and Windows Server 2012, and 2012 R2 Foundation.</p>				

4.2 Supported Host Operating Systems and Migration Types for HP 3PAR Online Import for EVA Storage

HP 3PAR Online Import for EVA Storage is supported when running HP P6000 Command View 10.2 or later to a 3PAR array running HP 3PAR Operating System 3.1.2 MU1 or later.

Additional information on Command View version requirements, 3PAR OS version requirements, supported host operating systems and XCS controller software can be found on the Single Point of Connectivity Knowledge (SPOCK) website:

<http://www.hpe.com/storage/spock>

Go to Software > Array SW: 3PAR > HP 3PAR Peer Motion Online Migration Host Support.

Note: HP P6000 Command View and HP 3PAR Management Console can co-exist on the same server.

4.3 Supported P6000 software operating environments

This table lists the supported servers, operating systems and application integration for P6000 software. A bullet (*) indicates support on all P6000 EVA models, a specific model number indicates support with that model only, and a blank cell indicates no support. The environments are:

HP P6000 Business Copy Basic I/O—The ability for HP P6000 Business Copy to work with an operating system or application is determined by the operating system support documents posted on the Single Point of Connectivity Knowledge (SPOCK) website (<http://www.HP.com/storage/spock>). (To enable SPOCK access, you must sign up for an HP Passport.) To access SPOCK, see Table 7.0. If an operating system is supported with a particular P6000 EVA model and controller software version, then HP P6000 Business Copy is supported with that operating system. There may or may not be support through HP P6000 RSM on that operating system, as indicated in this table.

HP P6000 Continuous Access Basic I/O—The ability for HP P6000 Continuous Access to work with an operating system or application is determined by the operating system support documents posted on the Single Point of Connectivity Knowledge (SPOCK) website (<http://www.HP.com/storage/spock>). (To enable SPOCK access, you must sign up for an HP Passport.) To access SPOCK, see Table 7.0. If an operating system is supported with a particular P6000 EVA model and controller software version, then HP P6000 Continuous Access is supported with that operating system. There may or may not be support through HP P6000 RSM on that operating system, as indicated in this table.

HP P6000 RSM host agent—The HP P6000 RSM host agent is installed on servers running this operating system. The CLUI client is also supported on this operating system if the HP P6000 RSM host agent is supported on it.

HP Storage Volume Growth—The ability for HP Storage Volume Growth to work with this operating system.

HP P6000 RSM Server—The ability for HP P6000 Replication Solutions Manager to be installed on this operating system. You can use HP P6000 RSM Server to manage LUNs that are presented to any P6000 EVA-supported operating system.

HP P6000 SmartStart Storage—The ability for HP P6000 SmartStart Storage to work with this operating system.

HP P6000 Performance Advisor — The ability to monitor and analyze the performance of HP P6000 EVA storage systems.

HP 3PAR Online Import for EVA Storage — The ability to initiate and track Migration of Hosts and VDisks from an HP P6000 EVA storage system to an HP 3PAR storage system.

HP P6000 CV and EVAPerf /HP P6000 Performance Data Collector —The ability for HP P6000 Command View and HP P6000 Performance Data Collector to work with this operating system.

HP SSSU—The ability for HP Storage System Scripting Utility to be installed on and work with this operating system.

Note: Only English and Japanese versions of Linux, Windows, and HP-UX operating systems are supported.

Server, OS, or application type	HP P6000 RSM host agent ^{1,2}		HP Storage Volume Growth 1.1	HP P6000 RSM server		HP P6000 SmartStart 4.0, 4.1, 4.2, & 4.3	HP P6000 CV 9.4, 9.4.1 & EVAPerf 9.4	HP P6000 CV, Performance Advisor, & Performance Data Collector 10.0 & 10.1	HP P6000 CV 10.2, 10.2.1, 10.3, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.7, 10.3.8	HP 3PAR Online Import for EVA Storage 10.2, 10.2.1, 10.3, & 10.3.8†	HP SSSU	
	5.4 ⁶	5.5 & 5.6		5.4 ⁶	5.5 & 5.6						9.4	10.0, 10.1, 10.2, 10.3, 10.3.3 ²² , & 10.3.8 ^{22a}

Server	HP P6000 RSM host agent ^{1,2}		HP Storage Volume Growth 1.1	HP P6000 RSM server		HP P6000 SmartStart 4.0, 4.1, 4.2, & 4.3	HP P6000 CV 9.4, 9.4.1 & EVAPerf 9.4	HP P6000 CV, Performance Advisor, & Performance Data Collector 10.0 & 10.1	HP P6000 CV 10.2, 10.2.1, 10.3, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.7, 10.3.8	HP 3PAR Online Import for EVA Storage 10.2, 10.2.1, 10.3, & 10.3.8†	HP SSSU	
Dedicated management server			*	*	*		*	*	*	*	*	*
General-purpose server	*	*	*	*	*		*	*	*	*	*	*
General-purpose server IP only connectivity ³							*	*	*	*	*	*
HP X1000/X3000 Network Storage Systems and Gateways	*	*	. ⁴	*	*		*	*	*	*	*	*
Operating System												
HP HP-UX 11.23 PI/11iv2 (64b PA-RISC)5	*	*									*	*
HP HP-UX 11.23 PI/11iv2 (64b Intel)5	*	*									*	*
HP HP-UX 11.31/11iv3 (64b PA-RISC)5	*	*								*	*	*
HP HP-UX 11.31/11iv3 (64b Intel)5	*	*								*	*	*
HP OpenVMS 8.3 on Alpha and Integrity servers	*	*									*	*
HP OpenVMS 8.4 on Alpha and Integrity servers	*	*									*	*
HP Tru64 5.1b-4	*	*									*	*
IBM AIX 5.3	*	*									*	*
IBM AIX 6.1	*	*									*	*
IBM AIX 7.1										*		

¹ See Table 4.4, "HP P6000 RSM host agent support" for host volume mounting restrictions.

² Always use the same version of HP RSM host agent and server software.

³ This is an iSCSI only implementation and only applies to HP P6000 Command View. For more information, see the EVA iSCSI information available on the EVA iSCSI Connectivity Option (<http://h18000.www1.HP.com/products/storageworks/evaaisconnect/index.html>) and the MPX200 Multifunction Router (http://h18006.www1.HP.com/products/storageworks/mpx200m/index.html?jumpid=reg_R1002_USEN) websites.

⁴ For the HP X3000 Network Storage Gateways, HP SVG is supported on Windows Storage Server 2003 only.

⁵ Only English and Japanese versions of this operating system are supported.

⁶ This version is inactive. 22 HP SSSU 10.3.3 & 10.3.8 do not support any flavor of HP-UX, HP OpenVMS, and IBM AIX.

† This patch level incorporates all previous patches and is the recommended version to be used. a HP SSSU 10.3.8 is the recommended version

4.3 Supported P6000 software operating environments (cont'd)

Server, OS, or application type	HP P6000 RSM host agent1,2		HP Storage Volume Growth 1.1	HP P6000 RSM server		HP P6000 SmartStart 4.0, 4.1, 4.2, & 4.3	HP P6000 CV 9.4, 9.4.1 & EVAPerf 9.4	HP P6000 CV, Performance Advisor & Performance Data Collector 10.0 & 10.1	HP P6000 CV, Performance Advisor, Performance Data Collector and HP 3PAR Online Import for EVA Storage 10.2, 10.2.1, 10.3, & 10.3.8†	HP SSSU		
	5.4 ¹²	5.5 & 5.6		5.4 ¹²	5.5 & 5.6					9.4 ¹²	10.0 ¹² & 10.1 ¹²	10.0, 10.1, 10.2, 10.3, 10.3.3 ²² , & 10.3.8 ^{22a}
Microsoft Windows Server 2003 Standard SP2/R2 (x86 32-bit) ^{6A,7}	• ⁹	• ⁹	•	•	•	•	•	• ⁸	• ⁸	•	•	•
Microsoft Windows Server 2003 Standard SP2/R2 (x64 64-bit) ^{6A,7}	• ⁹	• ⁹	•	•	•	•	•	• ⁸	• ⁸	•	•	•
Microsoft Windows Server 2003 Standard SP2 (Itanium) ^{6A,8}	• ⁹	• ⁹	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2003 Enterprise SP2/R2 (x86 32-bit) ^{6A,7}	• ⁹	• ⁹	•	•	•	•	•	• ⁸	• ⁸	•	•	•
Microsoft Windows Server 2003 Enterprise SP2/R2 (x64 64-bit) ^{6A,7}	• ⁹	• ⁹	•	•	•	•	•	• ⁸	• ⁸	•	•	•
Microsoft Windows Server 2003 Enterprise SP2 (Itanium) ^{6A,7}	• ⁹	• ⁹	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2003 Datacenter SP2 (Itanium) ^{6A,7}	• ⁹	• ⁹	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 Standard SP1/SP2 (x86 32-bit) ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 Standard SP1/SP2 (x64 64-bit) ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 Enterprise SP1/SP2 (x86 32-bit) ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 Enterprise SP1/SP2 (x64 64-bit) ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 (Itanium) ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 R2 x64 64-bit ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 R2 SP1 x64 64-bit ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 R2 SP2 x64 64-bit ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 R2 Itanium ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 R2 SP1 Itanium ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2008 R2 SP2 Itanium ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Microsoft Windows Server 2012 and Windows Server 2012 R2 ¹³	•	•	•	•	•	• ^{10A, 11}	•	• ^{10A}	• ^{10A}	•	•	•
Microsoft Windows XP ^{6A}	•	•	•	• ¹⁰	• ¹⁰	•	•	•	•	•	•	•
Red Hat Enterprise Linux AS & ES 4 (x86 32-bit) Update 7,8 ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Red Hat Enterprise Linux AS & ES 4 (x64 64-bit) Update 7,8 ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•
Red Hat Enterprise Linux AS & ES 4 (Itanium) Update 7,8 ^{6A}	•	•	•	•	•	•	•	•	•	•	•	•

6A Only English and Japanese versions of this operating system are supported.

7 The minimum supported version for HP P6000 RSM host agent 3.1 or later is SP2 or R2. SP1 is no longer supported.

8 IPv6 not supported on this platform, but is supported on all other platforms unless explicitly marked as not supported.

9 The host agent on this operating system depends on the VMI HBA classes that are part of Microsoft's Icinio package, which you can download from <http://www.microsoft.com>.

10 HP RSM server on Windows XP is supported for simulation mode only.

10A If Emulex HBA is used with Microsoft Windows Server 2012, the following firmware and driver versions are required:
HBA Firmware Version : 2.01A4
HBA Driver Version : 2.72.012.001/2.72.205.004
HBA Model : A1763A/AH403A

11 It supports HP P6000 Smart Start 4.3

12 This version is inactive.

138 supports Windows Server 2012 and 2012 R2 DataCenter, Windows Server 2012 and 2012 R2 Standard, Windows Server 2012 and 2012 R2 Essentials, and Windows Server 2012, and 2012 R2 Foundation

†This patch level incorporates all previous patches and is the recommended version to be used. a HP SSSU 10.3.8 is the recommended version.

4.3 Supported P6000 software operating environments (cont'd-2)

Server, OS, or application type	HP P6000 RSM host agent1,2		HP Storage Volume Growth 1.1	HP P6000 RSM server		HP P6000 SmartStart 4.0, 4.1, 4.2, & 4.3	HP P6000 CV 9.4, 9.4.1 & EVAPerf 9.4	HP P6000 CV, Performance Advisor & Performance Data Collector 10.0 & 10.1	HP P6000 CV, Performance Advisor, Performance Data Collector and HP 3PAR Online Import for EVA Storage 10.2, 10.2.1	HP P6000 CV, Performance Advisor, Performance Data Collector and HP 3PAR Online Import for EVA Storage 10.2, 10.2.1, 10.3, & 10.3.8†	HP SSSU	
	5.4 ²¹	5.5 & 5.6		5.4 ²¹	5.5 & 5.6						9.4 ²¹	10.0 ²¹ , 10.1 ²¹ , 10.2, 10.3, & 10.3.8 ^{22a}
Red Hat Linux AS & ES 5 (x86 32-bit) Update 1, 2 ⁶	*	*										
Red Hat Linux AS & ES 5 (x64 64-bit) Update 1, 2 ⁶	*	*										
Red Hat Linux AS & ES 5 (Itanium) Update 1, 2 ⁶	*	*										
Red Hat Linux AS & ES 5 (x86 32-bit) Update 3, 4 ⁶	*	*			*						*	
Red Hat Linux AS & ES 5 (x64 64-bit) Update 3, 4 ⁶	*	*			*						*	
Red Hat Linux AS & ES 5 (Itanium) Update 3, 4 ⁶	*	*			*						*	
Red Hat Linux AS & ES 5 (x86 32-bit) Update 5,6 ⁶	*	*			*						*	
Red Hat Linux AS & ES 5 (x64 64-bit) Update 5,6 ⁶	*	*			*						*	
Red Hat Linux AS & ES 5 (Itanium) Update 5,6 ⁶	*	*			*						*	
Red Hat Linux AS & ES 6 (x86 32-bit) Update 1 ⁶	*	*									*	
Red Hat Linux AS & ES 6 (x64 64-bit) Update 1 ⁶	*	*									*	
Sun Solaris 9 (SPARC) ²²	•11,12	•11,12									*	
Sun Solaris 10 (SPARC)	•11	•11									*	*
Sun Solaris 10 (x86)	•11	•11									*	*
Sun Solaris 10 (x64)	•11	•11									*	*
SUSE Linux Enterprise Server 10.0 (x86 32-bit) SP1, SP2	*	*			*						*	*
SUSE Linux Enterprise Server 10.0 (x64 64-bit) SP1, SP2	*	*			*						*	*
SUSE Linux Enterprise Server 10.0 (Itanium) SP1, SP2	*	*			*						*	*
SUSE Linux Enterprise Server 10.0 (x86 32-bit) SP3	*	*			*						*	*
SUSE Linux Enterprise Server 10.0 (x64 64-bit) SP3	*	*			*						*	*
SUSE Linux Enterprise Server 10.0 (Itanium) SP3	*	*			*						*	*
SUSE Linux Enterprise Server 11.0 (x86 32-bit) SP1	*	*			*						*	*
SUSE Linux Enterprise Server 11.0 (x64 64-bit) SP1	*	*			*						*	*
SUSE Linux Enterprise Server 11.0 (Itanium) SP1	*	*			*						*	*
VMware ESX Server 4.0 U1, U2, U3 ²²	•13	•13		*	*	*	•14, 15, 16	•14, 15, 16	•14, 15, 16	•14, 15, 16	•17	•17
VMware ESX/ESXi Server 4.1 U1, U2	•13,19	•13,19		•18,19	•18,19	*	•14, 15, 16	•14, 15, 16	•14, 15, 16	•14, 15, 16	•17	•17
VMware ESXi Server 5.0					*	*	•14, 15, 16	•14, 15, 16	•14, 15, 16	•14, 15, 16		
VMware vSphere 4.x, 5.1										*		
Hyper-V enabled server ²⁰										•20		•20

11 The host agent on this operating system depends on SNIA libraries that are delivered with HP's SAN Infrastructure offerings. If you have not already done so, go to the software downloads page of the HP Business Support Center website (<http://www.hp.com/support/downloads>). In the Storage section, click Storage Networking and then select your product.

12 The host agent on this operating system does not support VERITAS DMP when accessing an EVA4000, EVA4100, EVA6x00, or EVA8x00.

13 Supported with Windows 2003 Standard and Enterprise R2 (x86 and x64) and Windows 2008 Standard and Enterprise R2 (x86 and x64) as a guest operating system. No HBA information will be reported by the host agent in the Windows guest operating system. With HP P6000 RSM 5.0 or later, the Windows guest operating system can be used as both the source and the target or mount host. All operations are supported only on Raw Device Mapped LUNs configured with physical compatibility mode and replicas can also be presented to and mounted on physical hosts running a compatible Windows operating system. HP P6000 DC-Management (extend only on ESX 4.0 or later) and replication operations (virtual machine to virtual machine and only on ESX 4.0 or later) are supported on VMFS volumes using HP P6000 Replication Solutions Manager 5.1 or later. VMFS volume replicas can also be presented to and mounted on compatible Windows guest operating systems running on compatible ESX servers.

14 HP Command View EVAPerf 9.3 or later is supported on a virtual machine running VMware 4.0 or later if VMDirectPath is enabled.

15 VMware support (using SCSI Proxy Method) for HP P6000 Command View 9.2 or later installation requires XCS 09534000 or later. Before installing HP P6000 Command View on a VMware virtual machine, upgrade the EVAs (EVA4400, EVA6400/8400) to XCS 09534000 or later. EVAs that do not support this controller software version, including EVA3000/5000, EVA4000/6000/8000, and EVA4100/6100/8100, should only be managed through HP Command View EVA 9.2 or later installed on a physical management server.

16 You can use HP P6000 Command View on a VMware virtual machine to manage any EVA model if you are running version 9.3 or later on a virtual machine running VMware 4.0 or later with VMDirectPath enabled.

17 There is no HP SSSU executable for VMware. To install HP SSSU on a VMware host, use the Linux executable.

18 HP P6000 RSM server is supported only on a Windows 2008 guest OS for ESX Server 4.1.

19 ESXi version is not supported for HP P6000 RSM Host Agent and HP P6000 RSM Server.

20 Supported with Windows 2008 and Windows 2012 virtual machines. 21 This version is inactive. 22 Sun Solaris and VMware ESX are not supported on HP SSSU 10.3.3 and 10.3.6 †This patch level incorporates all previous patches and is the recommended version to be used. a HP SSSU 10.3.8 is the recommended version

4.4 HP P6000 Replication Solutions Manager host agent support

This table describes HP P6000 Replication Solutions Manager host agent support for:

- Volume Manager
- Mounting host volume copies on the same host
- Multipath solutions
- Cluster software

NOTE: The information in this table is specific to what has been qualified with the HP P6000 Replication Solutions Manager host agent software. It may contain version information that conflicts with the array/operating system support listed on the Single Point of Connectivity Knowledge (SPOCK) website. To access SPOCK, see Table 7.0. Use the information in this table specifically for HP P6000 Replication Solutions Manager host agent environments.

Host operating system	Supported Volume Manager ¹	Mounting a host volume copy on the same host as the source ²	Compatible multipath solution ³				Supported cluster software	Supported file systems	Cluster aware
			EVA4000/6000/8000 EVA4100/6100/8100 EVA6400	EVA8400	EVA4400	P63x0/P65x0 EVA			
HP HP-UX	11.23: Native Logical Volume Manager and Veritas Volume Manager (VxVM) 11.31: Native Logical Volume Manager 1.0, 2.0	Y ⁴	11.23: Secure Path 3.0F SP4, PVlinks ⁵ (no VERITAS DMP) 11.31: Native multipathing	11.23: Secure Path 3.0F SP4, PVlinks ⁵ (no VERITAS DMP) 11.31: Native multipathing	11.23: Autopath/ Secure Path 3.0F SP4 11.31: Native multipathing	11.23: PVlinks ⁵ 11.31 Native multipathing	Serviceguard ⁶	HFS, VxFS ⁹	N
HP OpenVMS	NA	Y	Native multipathing software				Native cluster software	ODS-2, ODS-5	N
HP Tru64 5.1b-4	Native Logical Volume ⁷	Y	Native multipathing software	Not supported	Not supported	Not supported	TruCluster	UFS, Native AdvFS	N
IBM AIX	Native Logical Volume	N	MPIO 1.0.4.1 or 1.0.5.0 (Antemeta basic HP P6000 Business Copy support only, no host agent support)	MPIO 1.0.4.1 or 1.0.5.0 (Antemeta basic HP P6000 Business Copy support only, no host agent support)	MPIO 1.0.5.0 (MPIO beta version)	MPIO 1.0.5.0 (MPIO beta version)	HACMP 5.3	JFS	N
Microsoft Windows 2003	Replication and DC-Management of Windows dynamic disks and VERITAS Volume Manager are not supported.	Y, except dynamic disks or copies of Windows Cluster Quorum disks in the same cluster	HP MPIO full featured DSM for EVA 4.0.0 or 3.02.0x with RSM 5.3 HP MPIO full featured DSM for EVA 4.02.00 or 4.01.00 with RSM 5.4 or later			HP MPIO full featured DSM for EVA 4.02.00	Microsoft Cluster Server	NTFS, FAT32	Y ⁸
Microsoft Windows 2008	DC-Management of Windows dynamic disks and Veritas Volume Manager are not supported.		HP MPIO full featured DSM for EVA 4.02.00 or 4.01.00			HP MPIO full featured DSM for EVA 4.02.00			
Microsoft Windows 2008 R2	DC-Management of Windows dynamic disks and Veritas Volume Manager are not supported.		HP MPIO full featured DSM for EVA 4.02.00 or 4.01.00			HP MPIO full featured DSM for EVA 4.02.00			

¹ If a volume group spans more than one storage system, HP P6000 Replication Solutions Manager only supports replication of volume groups spanning storage systems with the same controller software version.

² Mounting a host volume copy on the same host as the source is supported with HP P6000 Business Copy and HP P6000 Replication Solutions Manager.

³ These solutions apply to HP P6000 Continuous Access in general.

⁴ With Veritas Volume Manager, this action requires a minimum of version 5.0 and is subject to specific disk layout versions as specified in Veritas documentation.

⁵ If you use PVlinks and require multiple paths to a host volume, you must create the additional paths after the host volume is created. See the HP P6000 Replication Solutions Manager User Guide or HP P6000 Replication Solutions Manager Administrator Guide for more information.

⁶ P6000 DCManagement is not supported on cluster-aware disks and volume groups.

⁷ Replication of Advfs volumes on disks is supported, but replication of LSM volumes is not supported.

⁸ DCManagement is supported on cluster-aware disks. The cluster name in the HP P6000 RSM job name is only supported on Windows 2003.

⁹ VxFS with Thin Provisioned LUNs on any operating system is not supported.

4.4 HP P6000 Replication Solutions Manager host agent support (cont'd)

Host operating system	Supported Volume Manager ¹	Mounting a host volume copy on the same host as the source ²	Compatible multipath solution ³			Supported cluster software	Supported file systems	Cluster aware
			EVA4000/6000/8000 EVA4100/6100/8100 EVA6400/8400	EVA4400	P63x0/P65x0 EVA			
Red Hat Linux AS & ES 4 Update 7, 8	Sistina 1.08-13	N	HP Device Mapper Multipath kit 4.x13 QLogic failover driver 8.01.07.25 (no Secure Path) ¹⁵ Emulex Multipulse driver 2.2.2015 Native Device Mapper ¹⁶			Serviceguard 11.16.xx	EXT2, EXT3	N
Red Hat Linux AS & ES 5 (5.1 for x64) Update 1, 2, 3, 4, 5, 6, and Red Hat Linux AS & ES 6 Update 1	Sistina 2.02.17					Serviceguard 11.18.xx ¹⁴		
Sun Solaris (SPARC) ¹⁰	Veritas Volume Manager 4.1	Y, except copies of Veritas Volume Manager disk groups	MPxIO ¹¹ and Veritas DMP ¹²	MPxIO 4.4.13	MPxIO 4.4.13	NA	UFS, VxFS	N
Sun Solaris (x86)	Veritas Volume Manager 5.0	Y	Native Multipath			NA	UFS, VxFS	N
SUSE Linux SLES 10.0 SP1, SP2, SP3	Sistina 2.02.17	N	HP Device Mapper Multipath kit 4.x13 QLogic failover driver 8.01.07.25 (no Secure Path) ¹⁵ Emulex Multipulse driver 2.2.2015 Native Device Mapper ¹⁶			Serviceguard 11.18.xx ¹⁴	EXT2, EXT3	N
SUSE Linux SLES 11.0 SP1	Sistina 2.02.39	N	HP Device Mapper Multipath kit 4.x ¹³ QLogic failover driver 8.01.07.25 (no Secure Path) ¹⁵ Emulex Multipulse driver 2.2.20 ¹⁵ Native Device Mapper ¹⁶			Serviceguard 11.18.xx ¹⁴	EXT2, EXT3	N
<p>¹⁰ The HP P6000 RSM host agent on the Solaris 9 operating system does not support VERITAS Volume Manager when accessing an EVA4000, EVA4100, EVA6x00, or EVA8x00.</p> <p>¹¹ To display host properties correctly, HP RSM requires the QLA2342 (SUN) host bus adapter when running the MPxIO multipath solution.</p> <p>¹² To display host properties correctly, HP RSM requires the ASL libraries on the host for QLA2310F/FCA2257P, QLA2342, or QLA2340 host bus adapter when running the VERITAS multipath solution.</p> <p>¹³ HP Device mapper Multipath kit 4.x supported only on RHEL version 5.5 or earlier, SLES version 10 SP3 or earlier, and SLES version 11.0.</p> <p>¹⁴ Service Guard 11.18.xx supported only on RHEL version 5.6 or earlier.</p> <p>¹⁵ QLogic failover driver 8.01.07.25 and Emulex Multipulse driver 2.2.20 supported only on RHEL version 5.3 or earlier and SLES version 10 SP2 or earlier.</p> <p>¹⁶ Native Device Mapper supported on RHEL versions 5.3, 6.1 and above and SLES version 10 SP3, SLES version 11, and above.</p>								

4.5 HP P6000 Replication Solutions Manager host agent and HP P6000 DC-Management compatibility

This table shows which versions of HP P6000 Replication Solutions Manager host agent software (by operating system) that are supported with HP P6000 Dynamic Capacity Management features. See Table 4.3, Supported P6000 software operating environments, for operating system and HP P6000 Replication Solutions Manager host agent compatibility.

Operating system	HP P6000 RSM host agent 5.49 ^{4a}		HP P6000 RSM host agent 5.5 & 5.6	
	P6000 DCM Extend	P6000 DCM Shrink	P6000 DCM Extend	P6000 DCM Shrink
HP HP-UX 11.23 PI/11iv2 (64b Intel)1	• ²	• ²	• ²	• ²
HP HP-UX 11.31/11iv3 (64b PA-RISC)1	• ³	• ³	• ³	• ³
HP HP-UX 11.31/11iv3 (64b Intel)1	• ³	• ³	• ³	• ³
Microsoft Windows Server 2003 Standard SP2/R2 (x86 32-bit)	•		•	
Microsoft Windows Server 2003 Standard SP2/R2 (x64 64-bit)	•		•	
Microsoft Windows Server 2003 Standard SP2 (Itanium)	•		•	
Microsoft Windows Server 2003 Enterprise SP2/R2 (x86 32-bit) ⁴	•		•	
Microsoft Windows Server 2003 Enterprise SP2/R2 (x64 64-bit) ⁴	•		•	
Microsoft Windows Server 2003 Enterprise SP2 (Itanium)	•		•	
Microsoft Windows Server 2003 Datacenter SP2 (Itanium)	•		•	
Microsoft Windows Server 2008 (Itanium)	•	•	•	•
Microsoft Windows Server 2008 Standard SP1/SP2 (x86 32-bit)	•	•	•	•
Microsoft Windows Server 2008 Standard SP1/SP2 (x64 64-bit)	•	•	•	•
Microsoft Windows Server 2008 Enterprise SP1/SP2 (x86 32-bit) ⁴	•	•	•	•
Microsoft Windows Server 2008 Enterprise SP1/SP2 (x64 64-bit) ⁴	•	•	•	•
Microsoft Windows Server 2008 R2 x64 64-bit	•	•	•	•
Microsoft Windows Server 2008 R2 SP1 x64 64-bit ⁴	•	•	•	•
Microsoft Windows Server 2008 R2 Itanium	•	•	•	•
Microsoft Windows Server 2008 R2 SP1 Itanium	•	•	•	•

1 Online extend is supported on VxVM configurations.

2 On HP-UX 11.23, only manual (not policy-based) extend and shrink is supported. For more information, see "P6000 DC-Management support" in the HP P6000 Replication Solutions Manager User Guide.

3 On HP-UX 11.31, extend and shrink is not supported on HFS file systems. Shrink is supported only on Veritas online JFS host volumes that are not part of a volume manager (Native or Veritas). For more information, see "DC-Management support" in the HP P6000 Replication Solutions Manager User Guide and the latest HP P6000 Replication Solutions Manager release notes.

4 Also supported as a guest OS with the HP P6000 RSM host agent and the HP P6000 RSM server software on VMware ESX 4.x.

4a This version is inactive

4.5 HP P6000 Replication Solutions Manager host agent and HP P6000 DC-Management compatibility (cont'd)

Operating system	HP P6000 RSM host agent 5.49 ^{4a}		HP P6000 RSM host agent 5.5 & 5.6	
	P6000 DCM Extend	P6000 DCM Shrink	P6000 DCM Extend	P6000 DCM Shrink
Red Hat Enterprise Linux AS & ES 5 (x86 32-bit) Update 1, 2, 3, 4, 5, 6 ⁵	•	•	•	•
Red Hat Enterprise Linux AS & ES 5 (x64 64-bit) Update 1, 2, 3, 4, 5, 6 ⁵	•	•	•	•
Red Hat Enterprise Linux AS & ES 5 (Itanium) Update 1, 2, 3, 4, 5, 6 ⁵	•	•	•	•
Red Hat Enterprise Linux AS & ES 6 (x86 32-bit) Update 1			•	•
Red Hat Enterprise Linux AS & ES 6 (x64 64-bit) Update 1			•	•
SUSE Linux Enterprise Server 10.0 (x86 32-bit) SP1, SP2, SP3 ⁵	•	•	•	•
SUSE Linux Enterprise Server 10.0 (x64 64-bit) SP1, SP2, SP3 ⁵	•	•	•	•
SUSE Linux Enterprise Server 10.0 (Itanium) SP1, SP2, SP3 ⁵	•	•	•	•
SUSE Linux Enterprise Server 11.0 (x86 32-bit) SP1	•	•	•	•
SUSE Linux Enterprise Server 11.0 (x64 64-bit) SP1	•	•	•	•
SUSE Linux Enterprise Server 11.0 (Itanium) SP1	•	•	•	•
VMware ESX 4.0 U1, U2 ⁶	•	• ⁷	•	• ⁷
VMware ESX/ESXi 4.1 U1, U2 ⁶	• ⁸	• ^{7,8}	• ⁸	• ^{7,8}

5 Offline HP P6000 Dynamic Capacity Management on limited non-LVM configurations is supported.

6 Supported with Windows 2003 Standard and Enterprise R2 (x86 and x64) and Windows 2008 Standard and Enterprise R2 (x86 and x64) as a guest operating system. No HBA information will be reported by the host agent in the Windows guest operating system. With HP P6000 RSM 5.0 or later, the Windows guest operating system can be used as both the source and the target or mount host. All operations are supported only on Raw Device Mapped LUNs configured with physical compatibility mode and replicas can also be presented to and mounted on physical hosts running a compatible Windows operating system. HP P6000 DC-Management (extend only on ESX 4.0 or later) and replication operations (virtual machine to virtual machine and only on ESX 4.0 or later) are supported on VMFS volumes using HP P6000 Replication Solutions Manager 5.1 or later. VMFS volume replicas can also be presented to and mounted on compatible Windows guest operating systems running on compatible ESX servers.

7 Shrink is not supported when using Windows 2003 as the guest operating system on Raw Device Mapping LUNs. Shrink is not supported on VMFS volumes.

8 ESXi version is not supported for HP P6000 RSM Host Agent and HP P6000 RSM Server. 9 This version is inactive

4.6 Array configuration by HP P6000 Replication Solutions Manager version

This table describes the recommended array configuration by HP P6000 Replication Solutions Manager version.	
Feature	HP P6000 RSM 5.41¹, 5.5, & 5.6
Maximum number of arrays per HP P6000 Command View instance	8
Maximum number of array-based management systems per HP P6000 Replication Solutions Manager instance	12
Maximum number of enabled hosts	12
Maximum number of host volumes across all enabled hosts	600
Maximum number of virtual disks per volume group	32
Maximum number of host volumes per volume group	127
Maximum number of jobs running simultaneously using the same enabled host	Linux: 1 UNIX: 8 Windows: 5 Windows Guest: 1
Maximum number of jobs running simultaneously per HP P6000 Replication Solutions Manager instance	8
¹ This version is inactive.	

4.7 HP P6000 Performance Advisor

This table describes HP P6000 Performance Advisor array configurations.	
Feature	Capability
Maximum number of objects ¹ per HP P6000 Performance Advisor instance	4096
Maximum number of browser client sessions	8
Maximum number of storage systems	8
Maximum number of performance objects ¹ to be monitored per storage system	1024
	2048 ²
Maximum number of objects per HP P6000 Command View connected to HP P6000 Performance Advisor	2048
Recommended polling interval for live data	10 secs for 4-8 objects
	5 secs for 1-4 objects
Recommend polling interval for historical data	30 secs for fewer than 2048 objects (Fibre Channel)
	30 secs for fewer than 500 objects (iSCSI/FCoE/VM)
	45 secs for 2048 objects (Fibre Channel)
	90 secs for 4096 objects (Fibre Channel)
	60 secs for 2048 objects (iSCSI/FCoE/VM)
	120 secs for 4096 objects (iSCSI/FCoE/VM)
¹ An object can be a virtual disk, virtual disk group, host port, host connection, physical disk, physical disk group, controller or array performance counter.	
² Without performance expectation.	

5.0 Browser support

This table lists the supported browsers you can use to access HP P6000 software user interfaces. If the browser version you are using is earlier than what is listed here, you must upgrade your browser. When using HP P6000 Command View, HP P6000 Performance Advisor, HP Management Integration Framework, or HP 3PAR Online Import for EVA Storage, a minimum of Adobe Flash Player 10.2 is required on the browser you are using.

Browser	Version	
Firefox	4.0 to 30, and 33.0.2 onwards	
Internet Explorer	8.0, 9.0, 10.0 ¹ , and 11.0 ²	

¹ Internet Explorer 10.0 is supported with Windows Server 2008 R2 and Windows Server 2012.

² Internet Explorer 11.0 is supported with Windows Server 2008 R2 Service Pack 1 (SP1) and Windows Server 2012 R2.

6.0 Features supported by controller software version

For useful information on managing and configuring your storage system, see the HP 4400/6400/8400 Enterprise Virtual Array configuration Best practices white paper available at: <http://h18006.www1.hp.com/storage/arraywhitepapers.html>

6.1 Supported array features by controller software version

Array features depend on the controller software version. An HP P6000 Command View license is required to use these features.

Feature	Controller software version						
	XCS 6.2xx EVA4000/6000/8000 EVA4100/6100/8100	XCS 095xx000 ¹⁵ EVA4400	XCS 095xx000 ¹⁵ EVA6400/8400	XCS 10001000 ¹⁵ / XCS 11001100 ¹⁵ / XCS 11200000/ XCS 11300000 EVA4400	XCS 10001000 ¹⁵ / XCS 11001100 ¹⁵ / XCS 11200000/XCS 11300000 EVA6400/8400	XCS 10001000 ¹⁵ P6300/P6500 EVA	XCS 11001100 ¹⁵ / XCS 11200000/ XCS 11300000 P63x0/P65x0
Maximum number of arrays per HP P6000 Command View instance ¹	16	16	16	16	16	16	16
Maximum number of virtual disks per array (includes snapshots, snapclones, mirrorclones, and DR group logs)	1024	1024 ^{2,3}	2048 ^{2,3}	1024 ^{2,3}	2048 ^{2,3}	1024/2048 ^{2,3,4}	1024/2048 ^{2,3,4}
Maximum number of disk groups per array ⁵	16	12 ⁶	16	12 ^{6,7}	16 ^{6,8}	16 ^{6,8}	16 ^{6,8}
Maximum number of hosts (clustered or standalone) per array ⁸	256	256	256	256	256	256	256
Maximum virtual mapping capacity ⁹	120/120/300 TB	120 TB	300/500 TB	120 TB	300/500 TB	300/800 TB	300/800 TB ¹³
Large LUN support		• ¹⁰	• ¹⁰	• ¹¹	• ¹¹	• ¹¹	• ¹¹
Thin provisioning ¹²				• ¹⁶	• ¹⁶	•	• ¹⁶
Vraid6 (4+2) support		•	•	•	•	•	•
Windows Thp RECLAIM(UNMAP)				• ¹⁷	• ¹⁷		• ¹⁷
VMWare vAAI UNMAP				• ¹⁷	• ¹⁷		• ¹⁷

¹ HPE recommends a maximum of eight arrays per HP P6000 Command View 9.2.1 or later instance. This recommendation applies to all management server types.

² On the EVA4400 and P63x0/P65x0 EVA, the maximum number of virtual disks per array also includes DR group logs. One LUN (LUN 0) is always reserved by the controller software. The number of DR group log virtual disks will reduce the total number of virtual disks available to the user.

³ If the array configuration includes virtual disks that are greater than 2 TB, then the maximum number of virtual disks (including snapshots, snapclones, and mirrorclones) per array will be less than the maximum listed.

⁴ The P63x0/P65x0 EVA iSCSI and P63x0/P65x0 EVA iSCSI/FCoE controllers support a maximum of 1024 initiators, 1024 LUNs, and 255 LUNs (plus LUN 0) per virtual port group.

⁵ The maximum number of disk groups is also limited by the maximum number of disks. For Fibre Channel or SAS disk drives, each disk group requires a minimum of 8 disks. For solid state disk (SSD) drives, each disk group requires a minimum of 6 and a maximum of 8 for the EVA4400 and 25 for the P6x00 disks.

⁶ See the QuickSpecs for your array model for the maximum addressability limits and maximum array sizes for this array.

⁷ The EVA4400 supports a maximum of 96 disks, so a maximum of 12 disk groups (8 disks per group) is supported.

⁸ For additional maximums and rules on host presentations, see the "Configuration parameters" section of the "P6000/EVA storage system rules" chapter in the HP SAN Design Reference Guide.

⁹ The virtual mapping capacity is the sum of all virtual disks plus the mapped capacity of snapshots, snapclones, and mirrorclones. For HP P6000 Continuous Access configurations, the DR log file size is also included in this sum. Note that demand-allocated and fully-allocated snapshots consume mapping capacity equal to the size of the source virtual disk. For information about enclosure capacity, see the QuickSpecs for the applicable array model.

¹⁰ Create virtual disks (LUNs) that are larger than 2 TB (32 TB maximum). The operations allowed on virtual disks that are 2 TB or greater are create, present, and delete. A LUN of less than 2 TB created on XCS 095xxx00 can be grown to greater than 2 TB on XCS 10001000 or later.

¹¹ Create virtual disks (LUNs) that are larger than 2 TB (32 TB maximum). The operations allowed on virtual disks or snapshots that are 2 TB or greater are create, present, delete, extend, and shrink virtual disks; create and delete snapshots; and create, delete, and attach empty containers. A LUN of less than 2 TB created on XCS 095xxx00 can be grown to greater than 2 TB on XCS 10000000 or later.

¹² The operations allowed on thin provisioned virtual disks are create, present, delete, extend, and shrink.

¹³ For P6350/P6550, 800/1200 TB.

¹⁴ P6350/P6550 supported only by XCS 11001100 or later.

¹⁵ This version is inactive. 16 XCS 11200000 additionally supports space reclamation on thin provisioned LUN (with OS support).

¹⁷ XCS 11200000 is the minimum XCS version supported.

6.2 Supported local replication feature by controller software version

Local replication features depend on the controller software version. An HP P6000 Business Copy license is required to use these features. When using one of the P6000 software user interfaces or command line interfaces, if the selected resource does not support an action, it will not be available in either the user interface or the command line interface. For example, in HP P6000 Replication Solutions Manager, if you try to create a container on an array that does not support containers, the New Container action will not work.

Feature	Controller software version			
	XCS 6.2xx	XCS 095xx000 (EVAx400) ⁵	XCS 10001000 ⁵ , 11001100 ⁵ , 11200000, 11300000 (EVAx400)	XCS 10001000 ⁵ , 11001100 ⁵ , 11200000, 11300000 (P63x0/P65x0 EVA) ⁴
Direct connect	Not supported in HP P6000 Replication Solutions Manager environments, except with certain restrictions ¹ for Windows hosts.			
Boot from SAN	If the operating system supports Boot from SAN, replication of a point-in-time copy of the boot volume (snapshot, snapclone, or mirrorclone) is supported.			
Containers				
Maximum size of a container	2 TB (less 1 GB)		32 TB	
Maximum number of virtual disks supported with MULTISNAP commands (HP SSSU)	10	28	28	28
Space-efficient empty container			•	•
Mirrorclones²				
Create mirrorclones	•	•	•	•
Create mirrorclones of virtual disks in DR groups	•	•	•	•
Maximum number of virtual disks supported with MULTIMIRROR commands (HP SSSU)	10	28	28	28
Online virtual disk migration (Vraid and disk group)			•	•
Restore data from mirrorclone to source virtual disk	•	•	•	•
Restore data from snapshot of mirrorclone to source virtual disk	•	•	•	•
Resynchronize data from source virtual disk to mirrorclone	•	•	•	•
Set Vraid in copy	•	•	•	•
Snapclones²				
Create containers (for snapclones)	•	•	•	•
Create snapclones in preallocated containers	•	•	•	•
Set disk group (for snapclones)	•	•	•	•
Set Vraid in copy	•	•	•	•
Snapshots				
Controller software enforced cross Vraid guidelines	•	•	•	•
Create fully-allocated snapshots in preallocated containers	•	•	•	•
Maximum number of snapshots per source virtual disk ³	16	64	64	64
Maximum number of virtual disks supported with MULTISNAP commands (HP SSSU)	10	28	28	28
Restore data from snapshot to source virtual disk ²	•	•	•	•
Set Vraid in copy	•	•	•	•
Space-efficient empty container			•	•

¹ Specifically, you cannot mount snapshots or snapclones on a Windows host that is running the HP P6000 Replication Solutions Manager host agent and is directly attached to an array running XCS controller software.

² Supported with virtual disks up to 2TB only.

³ 16 TB maximum across the parent and all active snapshots of that parent. For XCS 095xxx00 and later, the maximum is 80 TB.

⁴ P6350/P6550 supported only by XCS 11001100 or later.

⁵ This version is inactive.

6.3 Supported remote replication features by controller software version

Remote replication features depend on the controller software version. An HP P6000 Continuous Access license is required to use these features. When using one of the P6000 software user interfaces or command line interfaces, if the selected resource does not support an action, it will not be available in either the user interface or the command line interface. For example, in HP P6000 Replication Solutions Manager, if you try to force a full copy on an array that does not support this feature, the Force Full Copy action will not work.

The following general rules apply to remote replication between arrays running different controller software versions. For controller software version compatibility, see Table 3.3, "Data-in-place (hardware) upgrade support for EVA 4400/6400/8400 controllers" and Table 3.3.1, "Data-in-place (hardware) upgrade support for P6350/P6500/P6550 EVA controllers."

— If a feature, such as the maximum number of members of a DR group, is supported differently in the source and destination arrays, the more restrictive value applies to the source-destination DR group pair.

— If a feature is not available in both controller software versions, the feature cannot be used in a source-destination DR group pair.

IMPORTANT: Testing of FC-IP support with HP P6000 Continuous Access is ongoing. For the latest information, see "Part IV, SAN extension and bridging" of the HP SAN Design Reference Guide.

Feature	Controller software version				
	XCS 6.2xx	XCS 0952x000 ^{6A} (EVAx400)	XCS 0953x000 ^{6A} (EVAx400)	XCS 10001000 ^{6A} , 11001100 ^{6A} , 11200000, 11300000 (EVAx400)	XCS 10001000 ^{6A} , 11001100 ^{6A} , 11200000, 11300000 (P63x0/P65x0 EVA) ⁶
Asynchronous write mode (basic)				•	•
Asynchronous write mode (enhanced)	•	•	•	•	•
Auto suspend on full copy (set at creation)	•	•	•	•	•
Auto suspend on links down (set at creation)	•	•	•	•	•
Bandwidth	HP P6000 Continuous Access supports a minimum bandwidth of 4 Mb/s. See the HP P6000 Continuous Access Implementation Guide for more information about selecting the appropriate replication link. Note: HP P6000 Replication Solutions Manager exhibits long management delays when managing remote arrays that are connected via low bandwidth links with over 36 ms of one-way latency.				
Boot from SAN	If the operating system supports Boot from SAN, replication of the boot disk is supported.				
Clustering solutions with HP P6000 Continuous Access	HP P6000 Continuous Access supports all clustering solutions that are supported on the EVA. To determine the supported clustering solution for an operating system, go to the Single Point of Connectivity Knowledge (SPOCK) website (http://www.HP.com/storage/spock). Table 7 provides instructions to access SPOCK.				
Create a DR group or add/remove DR group members in enhanced asynchronous mode	•	•	•	•	•
Cross Vraid for remote copy	•	•	•	•	•
Data Replication Protocol (user configurable)			• ¹	• ¹	• ¹
DR group log file size (controller software default)	Smaller of: – 2,047.99 GB maximum virtual disk size – Remaining space in disk group in which the DR group log resides – The sum of the sizes of the members within the DR group ²		100 GB (Synchronous and Asynchronous)		
DR group log file size (user configurable) ³	Maximum log file size within these parameters: – 2,047.99 GB maximum virtual disk size – Greater than 136 MB ^{4, 5} – Less than or equal to the available capacity in the source log disk group. The capacity selected must also be available in the destination log disk group.				
DR group member extend	•	•	•	•	•
DR group member shrink		•	•	•	•
Dynamic Capacity Management		•	•	•	•

¹ The HP SCSI/FC Protocol is supported on controller software versions 0953x000 or later. For more information, see the HP P6000 Continuous Access Implementation Guide.

² The controller software default maximum log size for XCS 6.2xx or later running on the EVA4000/4100/6x00/8x00 is 100 GB for enhanced asynchronous.

³ You can only change the size of the log file when the DR group write mode is set to synchronous. The transition from asynchronous logging to synchronous logging must complete before changing the log file size, which is available in XCS 6.1xx or later.

⁴ If the size specified is not greater than or equal to the asynchronous minimum log size and you attempt to change to asynchronous mode, the command will fail. For the EVA4000/4100/6x00/8x00 running XCS 6.1xx or later, the minimum log size is 1,624 MB for enhanced asynchronous mode.

⁵ For the EVA4400 running XCS 09000000 or later, the capacity must be greater than 5 GB.

⁶ P6350/P6550 supported only by XCS 11001100 or later.

^{6A} This version is inactive.

6.3 Support remote replication features by controller software version (cont'd)

Feature	Controller software version			
	XCS 6.2xx	XCS 095xx000 ¹¹ (EVAx400)	XCS 10001000 ¹¹ , 11001100 ¹¹ , 11200000,11300000(EVAx400)	XCS 10001000 ¹¹ , 11001100 ¹¹ , 11200000, 11300000 (P63x0/P65x0 EVA) ⁶
Fail over or delete a DR group during normalization		•	•	•
Failsafe on Link-down/Power-up support		•	•	•
Failsafe on Unavailable Member (Failsafe mode)	•	•	•	•
Force a full copy	•	•	•	•
Host HBAs per array	The maximum depends on an array's platform/operating system rules. See "Part III, Host and storage systems rules" of the HP SAN Design Reference Guide and the Quickspecs for HP P6000 Continuous Access and the applicable array model.			
Instant restore of virtual disks ⁷ – Restore data from mirrorclone to source virtual disk – Restore data from snapshot of mirrorclone to source virtual disk – Restore data from snapshot to source virtual disk	•	•	•	•
Maximum number of single-member DR groups per array ⁸	256	128 (4400) 256 (64/8400)	128 (4400) 256 (64/8400)	256
Maximum number of virtual disk members of all DR groups per array ⁸	256	128 (4400) 256 (64/8400)	128 (4400) 256 (64/8400)	256
Maximum number of virtual disk members per DR group	32	32	32	32
Maximum combined capacity (in TB) of a DR group's virtual disk members and those members' snapshots, snapclones, or mirrorclones	32	80	80	80
Preferred path	•	•	•	•
Replication relationships	4:1	4:1 ⁹	4:1 ⁹	4:1 ⁹
Set access to <i>no-read</i> on remote copy	•	•	•	•
Set disk group for log disk (at creation)	•	•	•	•
Set host port priority for replication	•	•	•	•
Set maximum log disk size (at creation)	•	•	•	•
Set Vraid on remote copy (at creation)	•	•	•	•
Source and destination pair size	1 GB to 2 TB (in 1 GB increments)			
Suspend on failover (set at creation)	•	•	•	•
Switches per fabric ¹⁰	See "Part II, Fabric infrastructure rules" of the HP SAN Design Reference Guide.			

⁷ In XCS versions 6.2xx and 09501x000 or later, the instant restore of the source DR group member results in a Fast Copy of the new data, not a Full Copy.

⁸ For best performance when using HP P6000 Replication Solutions Manager, do not exceed 512 single-member DR groups and 512 source-destination pairs across all arrays. Other limits may apply.

⁹ 4:1 is only supported when the source of the FAN-out or the target of the FAN-in is a high-end array, which is an array with 4 host ports per controller or 8 host ports per array. Any HP P6000 Continuous Access-supported array can be the target of the FAN-out or the source of the FAN-in.

¹⁰ The switch restrictions that previously applied to XCS 09003000 have been removed. See Table 7.0, P6000 EVA host connectivity, for details on how to locate switch support information.

¹¹ This version is inactive.

7.0 P6000 EVA host connectivity

For detailed specifications about supported operating systems, adapters and switches, see the Single Point of Connectivity Knowledge (SPOCK) website (<http://www.hpe.com/storage/spock>).

You must register for an HP Passport to access SPOCK. If you do not already have an account, click **Register** to log in on the main page and follow the instructions. After signing into HP Passport, you will be directed to the SPOCK website. After you gain access, select **View by Array** or **View by OS** under SAN Compatibility in the left menu, and then select the array and operating system combination that applies to your environment. After you make your selection, you can view component support information about your environment. Expand **Host Bus Adapter (HBA)** to view supported HBA details. Expand **Fibre Channel Switch** to view supported switches. To view details for a supported switch, navigate to Other Hardware in the left menu and select **Switches**. Then select the connectivity stream document for the switch model/series you are using to view specific support details.

For more information on how to use SPOCK, see the User Guide at https://h20272.www2.hpe.com/SPOCK/Pages/spock2Html.aspx?htmlFile=ud_guides.html. You must sign in to HPE Passport to gain access.

8.0 Solid state disk (SSD) support

<p>This table lists feature support for solid state disks. SSDs must be in a separate disk group. For disk drive firmware versions and other general disk drive and XCS support, see the HP P6000 Enterprise Virtual Array Disk Drive Firmware Support document, which is available at http://www.HP.com/support/manuals. Under storage, select Disk Storage Systems, and then select your array model under P6000/EVA Disk Arrays.</p>				
Array family	Minimum/maximum number of drives	Vraid level	HP P6000 Business Copy	HP P6000 Continuous Access
EVA4400/6400/8400 ¹	6/8	Vraid1 ² , Vraid5	All features supported	Not supported
P63x0/P65x0 ³	6/25	Vraid1, Vraid5, Vraid6	All features supported	Not supported
<p>¹ The 72 GB SSD requires XCS 09500000 or later. The 200 GB and 400 GB SSDs require XCS 09534000⁴ or later. ² Vraid1 requires XCS 09534000⁴ or later. ³ P6350/P6550 support requires XCS 11200000 or later. ⁴ This version is inactive.</p>				