

Veritas Storage Foundation for HPE-OEM Solutions 6.1 Hardware Compatibility List

Introduction

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This Hardware Compatibility List (HCL) contains support information for hardware products tested with the following Veritas Storage Foundation and Cluster File System (includes Cluster Volume Manager (CVM)) for HPE-OEM Solutions product releases and platforms:

- 6.1 for HP-UX 11.31 (11iv3)

The list is divided into sections for servers, disk storage arrays, host bus adapters, and switches.

Use the links in the Contents to access the specific sections. All devices are presented by operating system and manufacturer.

This HCL represents the limits of Veritas support for disk storage arrays qualified for use with the Veritas Storage Foundation and Cluster File System for HPE-OEM Solutions 6.1 products in this list. There are no implied additions or exceptions to the tested or compatible devices on the provided lists.

The information in the Hardware Compatibility List (HCL) for Storage Foundation documentation is provided "as is," and all express or implied conditions, representations and warranties, including any implied warranty of merchantability, fitness for a particular purpose or non-infringement, are disclaimed, except to the extent that such disclaimers are held to be legally invalid, Veritas corporation shall not be liable for incidental or consequential damages in connection with the furnishing, performance, or use of this documentation.

The information contained on this website and in this HCL documentation is subject to change without notice.

General Notes:

- For support purposes, "Yes", or the instance of any software option in a cell in any of the matrices, indicates Veritas support. To verify support for a given device, make sure that the manufacturer also shows support for the device in its own HCL.
- Devices are listed by the name and series model number provided by the manufacturer.

Contents

<u>Servers</u>	<u>Unified Computing and Blade Platforms</u>	<u>Disk Arrays and Storage Devices</u>
<u>Host Bus Adapters</u>	<u>Generic RAID SCSI/SAS/e-SATA Controller (Internal Card With External Storage Attached)</u>	<u>Switches</u>

Servers

Servers are listed on the basis of their processor architecture.

Support Legend

Symbol	Meaning
Yes	Supported
No	Not supported

HP-UX

Processor architecture	Storage Foundation
IA64 (Intel 64-bit architecture)	Yes

NOTE: For details on supported server models, see HPE's Veritas 6.1 Release Notes at https://support.hpe.com/hpesc/public/home/result?docId=emr_na-c05189345&qt=veritas+6.1+release+notes .

Unified Computing and Blade Platforms

All Unified Computing and Blade Platforms shown here were tested with drivers and firmware supported by the OS and storage manufacturers. Check with these manufacturers for:

- Minimum driver and firmware levels
- Specific driver and firmware support
- Support for the stated Veritas products
- Other functional options

Device Support

Manufacturer	Platform/module	Connection
HP	Virtual Connect Module	FC, 1GbE, 10GbE

Disk Arrays and Storage Devices

All storage configurations shown here were tested with drivers and firmware supported by the storage array vendors. Check with these vendors for:

- Minimum driver and firmware levels
- Specific driver and firmware support
- Other functional options

Veritas supports hardware products listed here that include virtualization capability, but Veritas does not support compatibility issues that can be attributed to the virtualization feature. Veritas requires any compatibility issue to be reproduced in a non-virtualization environment. If the issue is confirmed to be related to Veritas products, Veritas will support its software at the same level as when that software is not running with hardware virtualization products. Veritas will cooperate with virtualization vendors, and attempt to assist in the diagnosis of problems found between the virtualization and Veritas products.

If the Device/family column in a table includes the qualifier **with PowerPath**, it means the storage array supports EMC PowerPath. If a row does not include the **with PowerPath** qualifier, PowerPath is not supported on that storage array.

Hardware-specific features like LUN Snapshot or Thin Reclamation are supported only if they are explicitly listed for the devices.

NOTE: For Active/Active (A/A) arrays, unless stated otherwise, Veritas supports the same Non-Disruptive Upgrade (NDU) operations that the storage vendor supports.

NOTE: Device must be formatted with 512-byte sector size for support.

For more information about the arrays in this HCL, including specific settings, see "Related Documents" in the Veritas Storage Foundation and High Availability Solutions Hardware TechNote <<http://www.veritas.com/docs/TECH47728>>

Support Legend

Term	Meaning	Definition
Yes	Supported	"Yes" or any other details imply the device is supported with the features listed, if any.
No	Not supported	"No" or the absence of any details imply the device is not supported for that product.
Advanced Reporting	Advanced Reporting supported	Support reporting special properties of a LUN discovered by the Device Discovery Layer (DDL) that helps storage administration. See < http://www.veritas.com/docs/TECH176305 > for details.
NDU	NDU supported	Support for upgrading firmware/microcode on storage array controllers while applications are running on servers.
SAN Boot	SAN Boot supported	Support for booting a server from a multi-pathed storage array LUN and rootability on SAN LUNs.
Thin Reclamation	Thin Reclamation supported	Support for storage optimization by recovering blocks from deleted files or data. It supports WRITE_SAME, UNMAP, and TRIM/PTRIM depending upon the reclamation method supported by a given device. It adds the storage back to the storage thin pool. LUNs supported with thin reclamation are denoted by their Advanced Reporting attribute. See < http://www.veritas.com/docs/TECH176305 > for details.

Modes

Term	Meaning	Definition
Active/Active (A/A)	Array supported in Active/Active mode	A/A arrays support simultaneous I/O on all paths.
Active/Active-Asymmetric (A/A-A)	Array supported in Active/Active-Asymmetric mode	A/A-A arrays support simultaneous I/O on all paths, but seek the most optimized path for the I/O transmission rate. Asymmetric Logical Unit Access (ALUA) array support is also denoted by A/A-A.
Active/Passive (A/P)	Array supported in Active/Passive mode	A/P arrays in auto-trespass mode support I/O on a single primary (active) path, while the secondary (passive) path is engaged if the primary path fails. A/P implies A/P-C operation mode.
Active/Passive-Concurrent (A/P-C)	Array supported in Active/Passive-Concurrent mode	A/P-C arrays support I/O on multiple primary (active) paths, while the secondary (passive) paths are engaged if all primary paths fail.
Active/Passive-Failover (A/P-F)	Array supported in Active/Passive-Failover (explicit) mode	A/P-F arrays in explicit failover mode support I/O on a single primary (active) path, while the secondary (passive) path is engaged through the use of an explicit command if the primary path fails.

Contents

<u>HP-UX 11.31 (11iv3)</u>	<u>Device Family Membership</u>
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HP-UX 11.31 (11iv3)

NOTE: For details on specific PowerPath versions supported for storage Device/Family indicated "with PowerPath", see the EMC Support Matrices at <http://www.emc.com/interoperability> .

For details on Advanced Reporting support, see: <http://www.veritas.com/docs/TECH176305> .

For details on Thin Reclamation support, see: <http://www.veritas.com/docs/TECH176305> .

Dell EMC

Device/Family	Mode	Interface	Advanced Features
CLARiiON CX4 series [1] [2] [3] [4]	A/A-A	Fibre Channel, iSCSI	Advanced Reporting, NDU, SAN Boot, Thin Reclamation
CLARiiON CX4 series with PowerPath [1] [2] [3] [4] [5]	A/A-A	Fibre Channel	
Symmetrix DMX series [6]	A/A	Fibre Channel	Advanced Reporting, SAN Boot
Symmetrix DMX series with PowerPath [5] [6]	A/A	Fibre Channel	
Symmetrix VMAX series [7] [8] [9]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
Symmetrix VMAX series with PowerPath [5] [7] [8] [9]	A/A	Fibre Channel	
VMAX3/VMAX All Flash Family series	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
VMAX3/VMAX All Flash Family series with PowerPath	A/A	Fibre Channel	
VNX series [10] [2] [3]	A/A-A	Fibre Channel, iSCSI	Advanced Reporting, SAN Boot, Thin Reclamation
VNX series with PowerPath [10] [11] [2] [3] [5]	A/A-A	Fibre Channel	
VNX2 series [10] [3]	A/A-A	Fibre Channel, iSCSI	Advanced Reporting, SAN Boot, Thin Reclamation
VNX2 series with PowerPath [10] [3]	A/A-A	Fibre Channel	SAN Boot
VNX2e series [3]	A/A-A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
VNX2e series with PowerPath [3]	A/A-A	Fibre Channel	
VPLEX	A/A	Fibre Channel	SAN Boot
VPLEX with PowerPath	A/A	Fibre Channel	
XtremIO	A/A	Fibre Channel	
XtremIO with PowerPath	A/A	Fibre Channel	

1. A minimum flare code version 26 or above is required to support this mode.
2. NDU operations are supported. For exact procedures for performing NDU on the array, consult with Dell EMC support.
3. The management tools must be used to report physically allocated space for Thin LUNs.
4. Thin Reclamation is supported with this array; the minimum array firmware FLARE 29 is required. On HP-UX platform, CLARiiON Open Initiator Type and the minimum array firmware FLARE 29 are required to support Thin Reclamation with this array. To obtain the maximum reclamation benefits, FLARE 30 is highly recommended; for more detail, see Dell EMC Powerlink Primus Doc ID# emc233231: CLARiiON Thin LUN Space Reclamation for details. Thin Reclamation is not supported with PowerPath.
5. A minimum PowerPath version of 5.1.2 (5.1 SP2) is required to support this array with PowerPath.

6. Supports Symmetrix DMX-4 only.
7. Array microcode level 5876 or above requires the latest ASL to support Thin Reclamation function, see <http://www.veritas.com/docs/TECH194376> for more detail.
8. Reporting of physically allocated space requires firmware level of 5876.159.102 or higher.
9. Thin Reclamation is supported with this array; the minimum array firmware 5875.135.91 is required. Thin Reclamation is not supported with PowerPath.
10. Supports block mode storage only.
11. Unexpected 'udid_mismatch' flag is set on some VxVM devices after installing PowerPath on the system with VNX5500 array with HP-UX 11i v3 March 2015 OEUR.

Fujitsu

Device/Family	Mode	Interface	Advanced Features
ETERNUS DX400/DX500/DX600 series [1] [2] [3] [4]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
ETERNUS DX400/DX500/DX600 series [1] [2] [3] [4]	A/A-A	Fibre Channel	Advanced Reporting, Thin Reclamation
ETERNUS DX60/DX80/DX90/DX100/DX200 series [1] [3] [5] [6]	A/A	Fibre Channel	Advanced Reporting, Thin Reclamation
ETERNUS DX60/DX80/DX90/DX100/DX200 series [1] [3] [5] [6]	A/A-A	Fibre Channel	Advanced Reporting, Thin Reclamation
ETERNUS DX8000 S3/S4 series [1] [7] [8]	A/A	Fibre Channel	Advanced Reporting, Thin Reclamation
ETERNUS DX8000 S3/S4 series [1] [7] [8]	A/A-A	Fibre Channel	Advanced Reporting, Thin Reclamation
ETERNUS DX8000 series [1] [3] [9]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
ETERNUS DX8000 series [1] [3] [9]	A/A-A	Fibre Channel	Advanced Reporting, Thin Reclamation
ETERNUS VS850	A/A-A	Fibre Channel	
ETERNUS2000 series	A/A	Fibre Channel	
ETERNUS4000 series [10] [11] [9]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
ETERNUS8000 series [11] [9]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation

1. Ensure proper array settings are configured to support this mode.
2. Thin Reclamation is supported with this array. V20L40 or later version of firmware is required to support Thin Reclamation with ETERNUS DX400 series. There are known issues with Reclamation, see <http://www.veritas.com/docs/TECH164853> for details.
3. Thin Reclamation when the shared disk is protected by I/O fencing in SF-HA configuration is supported with the certain firmware level of ETERNUS DX S2 arrays. Please consult with the storage vendor for the firmware level.
4. Thin Reclamation when the shared disk is protected by I/O fencing in SF-HA configuration is supported with the following firmware level: ETERNUS DX500 S3 and ETERNUS DX600 S3 are supported with V10L42 or newer.
5. Thin Reclamation is not supported with ETERNUS DX60/DX60 S2/DX80/DX90. ETERNUS DX80 S2 and DX90 S2 are supported with Thin Reclamation with the minimum array firmware V10L10. There are known issues with Reclamation, see <http://www.veritas.com/docs/TECH164853> for details.
6. Thin Reclamation when the shared disk is protected by I/O fencing in SF-HA configuration is supported with the following firmware level: ETERNUS DX100 S3, ETERNUS DX200 S3 and ETERNUS DX200F are supported with V10L42 or newer, ETERNUS DX60 S3 is supported with V10L50 or newer.
7. Thin Reclamation is supported with this array. There are known issues with Reclamation, see <http://www.veritas.com/docs/TECH164853> for details.
8. Thin Reclamation when the shared disk is protected by I/O fencing in SF-HA configuration is supported with the following firmware level: ETERNUS DX8700 S3 and ETERNUS DX8900 S3 are supported with V10L50 or newer.

9. Thin Reclamation is supported with this array; the minimum array firmware V20L40 are required. There are known issues with Reclamation, see <http://www.veritas.com/docs/TECH164853> for details.

10. Excludes ETERNUS4000 models 80 and 100.

11. Thin Reclamation is not supported when the shared disk is protected by I/O fencing in SF-HA configuration.

Generic

Device/Family	Mode	Interface	Advanced Features
FC JBOD	A/A	Fibre Channel	
SAS JBOD	A/A	SAS	
SCSI JBOD	A/A	SCSI	

Hewlett Packard Enterprise

Device/Family	Mode	Interface	Advanced Features
2000 G2 series	A/A-A	Fibre Channel	SAN Boot
3PAR F/T-Class, StoreServ 7000/8000/9000/10000/20000 Storage [1] [2]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
Alletra 5000 Series	A/A-A	Fibre Channel	
Alletra 6000 Series	A/A-A	Fibre Channel	
Alletra 9000 Storage	A/A	Fibre Channel	
EVA4100/6100/8100	A/A-A	Fibre Channel	SAN Boot
EVA4400/6400/8400 series	A/A-A	Fibre Channel	NDU, SAN Boot
MSA 1040 SAN	A/A-A	Fibre Channel	Advanced Reporting, Thin Reclamation
MSA 2040 SAN	A/A-A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
MSA 2050 Storage	A/A-A	Fibre Channel	
MSA 2060 Storage [3]	A/A-A	Fibre Channel	
P2000 G3 MSA series [4]	A/A-A	Fibre Channel	SAN Boot
P6000 EVA series	A/A-A	Fibre Channel	SAN Boot
P9500	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
Primera 600 Storage	A/A	Fibre Channel	
XP10000/12000	A/A	Fibre Channel	Advanced Reporting, SAN Boot
XP20000/24000 [5]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
XP7 series	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation

Hewlett Packard Enterprise

Device/Family	Mode	Interface	Advanced Features
XP8 series	A/A	Fibre Channel	

1. 3PAR F/T-Class maximum firmware version is 3.1.3; 3PAR StoreServ 7000/10000 minimum firmware version 3.1.2 and StoreServ 8000/20000 minimum firmware version 3.2.2 are required.
2. StoreServ 8000/20000 minimum firmware version 3.2.2 MU1 is required for Thin Reclamation support.
3. VRTSaslapm 6.1.000.003 previously enabled MSA 2060 support with the requirement to disable dmp_eei_handling (using the command "vxddmpadm settune dmp_eei_handling=off"). With the installation of VRTSvxvm 6.1.0.6100 (PHKL_44920), it is no longer required to disable dmp_eei_handling for MSA 2060 support.
4. For I/O Fencing support, array FW TS250 R023 minimally required.
5. Thin Reclamation is supported with this array; the minimum array firmware 60.06.05-00 is required.

Hitachi Vantara

Device/Family	Mode	Interface	Advanced Features
HUS 100 series	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
HUS VM	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
SMS/AMS2000 series [1]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
USP/NSC series	A/A	Fibre Channel	SAN Boot
USPV/USPVM [2]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
VSP [3]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
VSP G series	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
VSP Gx00/Fx00 series	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation

1. Excludes SMS100.
2. Thin Reclamation is supported with this array; the minimum array firmware 60.06.05-00 is required.
3. Thin Reclamation is supported with this array; the minimum array firmware 70-02-02-00/00 is required.

Huawei

Device/Family	Mode	Interface	Advanced Features
18000 series [1]	A/A	Fibre Channel	Advanced Reporting, Thin Reclamation
OceanStor Series	A/A-A	Fibre Channel	Advanced Reporting, Thin Reclamation
S5000 series	A/A-A	Fibre Channel	
VIS series	A/A	Fibre Channel	

1. The 18000 series A/A only includes 18500, 18800 and 18800F.

IBM

Device/Family	Mode	Interface	Advanced Features
DS3950	A/A-A	Fibre Channel	
DS5020	A/A-A	Fibre Channel	
FlashSystem series [1]	A/A	Fibre Channel	NDU, SAN Boot
Spectrum Virtualize series [2] [3]	A/A-A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
Storwize series [2] [3]	A/A-A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
System Storage DS5000 series	A/A-A	Fibre Channel	
System Storage DS8000 series	A/A	Fibre Channel	Advanced Reporting, SAN Boot
System Storage N series [4]	A/A-A	Fibre Channel	Advanced Reporting, NDU, SAN Boot, Thin Reclamation
System Storage XIV series [5] [6]	A/A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation
System Storage XIV series [6]	A/A-A	Fibre Channel	Advanced Reporting, SAN Boot, Thin Reclamation

1. Array firmware version 1.2.x.x is required.

2. After added back a previous removed array storage controller for maintenance, issue command "vxdctl enable" to re-discover the controller if the controller is not displayed in the Volume Manager.

3. Thin Reclamation is supported with this array; the minimum array firmware 6.2 is required. Additional steps required to reclaim the storage space, see <<http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&htmlfid=TSW03164USEN>> for detail.

4. A minimum version of ONTAP 7.3.3, ONTAP 8.0.1 7-Mode, or ONTAP 8.1.1 7-Mode is required to support this array. ONTAP 8.x Cluster-Mode is not supported.

5. Thin Reclamation is supported with this array; the minimum array firmware 10.2.2 are required.

6. With array firmware version 10.2.1 or above, the array will be claimed as ALUA mode by DMP.

NetApp

Device/Family	Mode	Interface	Advanced Features
FAS2000/FAS900/FAS200 series [1] [2]	A/A-A	Fibre Channel	Advanced Reporting, NDU, SAN Boot, Thin Reclamation
FAS3000/V3000 series [1] [2]	A/A-A	Fibre Channel	Advanced Reporting, NDU, SAN Boot, Thin Reclamation
FAS6000/V6000 series [1] [2]	A/A-A	Fibre Channel	Advanced Reporting, NDU, SAN Boot, Thin Reclamation
FAS8000/FAS9000 Series [1] [2]	A/A-A	Fibre Channel	Advanced Reporting, NDU, SAN Boot, Thin Reclamation

1. A minimum version of ONTAP 7.3.3, ONTAP 8.0.1 and higher versions of 7-Mode are supported.
2. Supports Clustered Data ONTAP (cDOT) version 8.1 or greater with multiple Controller Nodes.

NimbleStorage

Device/Family	Mode	Interface	Advanced Features
CS/AF/HF-Series [1]	A/A-A	Fibre Channel	

1. To enable support, please install PHKL_44920 patch. In some path failover cases, longer I/O failover times may be observed. In that case, please set dmp_path_age=60 to see improvement.

Pure Storage

Device/Family	Mode	Interface	Advanced Features
FlashArray series	A/A	Fibre Channel	

Device Family Membership

Dell EMC

Device Family	Members
CLARiiON CX4 series	CLARiiON CX4 Model 120, CLARiiON CX4 Model 240, CLARiiON CX4 Model 480, CLARiiON CX4 Model 960
Symmetrix DMX series	Symmetrix DMX 1000, Symmetrix DMX 2000, Symmetrix DMX 3000, Symmetrix DMX 800, Symmetrix DMX-3, Symmetrix DMX-4
Symmetrix VMAX series	Symmetrix VMAX, Symmetrix VMAXe
VMAX3/VMAX All Flash Family series	VMAX 100K, VMAX 10K, VMAX 200K, VMAX 20K, VMAX 250F, VMAX 250FX, VMAX 350F, VMAX 400K, VMAX 40K, VMAX 450F, VMAX 450FX, VMAX 850F, VMAX 850FX, VMAX 950F, VMAX 950FX, VMAX3
VNX series	VNX 5100, VNX 5300, VNX 5500, VNX 5700, VNX 7500
VNX2 series	VNX5200, VNX5400, VNX5600, VNX5800, VNX7600, VNX8000
VNX2e series	VNXe1600, VNXe3200

Fujitsu

Device Family	Members
ETERNUS DX400/DX500/DX600 series	ETERNUS AF650, ETERNUS AF650 S2, ETERNUS AF650 S3, ETERNUS DX410, ETERNUS DX410 S2, ETERNUS DX440, ETERNUS DX440 S2, ETERNUS DX500 S3, ETERNUS DX500 S4, ETERNUS DX500 S5, ETERNUS DX600 S3, ETERNUS DX600 S4, ETERNUS DX600 S5
ETERNUS DX60/DX80/DX90/DX100/DX200 series	ETERNUS AF150 S3, ETERNUS AF250, ETERNUS AF250 S2, ETERNUS AF250 S3, ETERNUS DX100 S3, ETERNUS DX100 S4, ETERNUS DX100 S5, ETERNUS DX200 S3, ETERNUS DX200 S4, ETERNUS DX200 S5, ETERNUS DX200F, ETERNUS DX60, ETERNUS DX60 S2, ETERNUS DX60 S3, ETERNUS DX60 S4, ETERNUS DX60 S5, ETERNUS DX80, ETERNUS DX80 S2, ETERNUS DX90, ETERNUS DX90 S2
ETERNUS DX8000 S3/S4 series	ETERNUS DX8700 S3, ETERNUS DX8900 S3, ETERNUS DX8900 S4, ETERNUS DX900 S5
ETERNUS DX8000 series	ETERNUS DX8100, ETERNUS DX8100 S2, ETERNUS DX8400, ETERNUS DX8700, ETERNUS DX8700 S2
ETERNUS2000 series	ETERNUS2000 Model 100, ETERNUS2000 Model 200, ETERNUS2000 Model 50
ETERNUS4000 series	ETERNUS4000 Model 100, ETERNUS4000 Model 300, ETERNUS4000 Model 400, ETERNUS4000 Model 500, ETERNUS4000 Model 600, ETERNUS4000 Model 80
ETERNUS8000 series	ETERNUS8000 Model 1100, ETERNUS8000 Model 1200, ETERNUS8000 Model 2100, ETERNUS8000 Model 2200, ETERNUS8000 Model 700, ETERNUS8000 Model 800, ETERNUS8000 Model 900

Hewlett Packard Enterprise

Device Family	Members
2000 G2 series	MSA2312fc, MSA2312i, MSA2312sa, MSA2324fc, MSA2324i, MSA2324sa
3PAR F/T-Class, StoreServ 7000/8000/9000/10000/20000 Storage	3PAR F200 Storage, 3PAR F400 Storage, 3PAR StoreServ 10400 Storage, 3PAR StoreServ 10800 Storage, 3PAR StoreServ 20450 Storage, 3PAR StoreServ 20450R2 Storage, 3PAR StoreServ 20800 Storage, 3PAR StoreServ 20850 Storage, 3PAR StoreServ 20850R2 Storage, 3PAR StoreServ 7200 Storage, 3PAR StoreServ 7400 Storage, 3PAR StoreServ 7450 Storage, 3PAR StoreServ 8200 Storage, 3PAR StoreServ 8400 Storage, 3PAR StoreServ 8440 Storage, 3PAR StoreServ 8450 Storage, 3PAR StoreServ 9450 Storage, 3PAR T400 Storage, 3PAR T800 Storage
Alletra 5000 Series	Alletra 5010, Alletra 5030, Alletra 5050
Alletra 6000 Series	Alletra 6010, Alletra 6030, Alletra 6050, Alletra 6070, Alletra 6090
Alletra 9000 Storage	Alletra 9060, Alletra 9080
EVA4100/6100/8100	EVA4100, EVA6100, EVA8100
EVA4400/6400/8400 series	EVA4400, EVA6400, EVA8400
MSA 2050 Storage	MSA 2050 SAN, MSA 2050 SAS, MSA 2052 SAN, MSA 2052 SAS
MSA 2060 Storage	MSA 2060 FC, MSA 2062 FC
P2000 G3 MSA series	P2000 G3 FC, P2000 G3 FC/iSCSI, P2000 G3 iSCSI, P2000 G3 SAS
P6000 EVA series	P6300, P6350, P6500, P6550
Primera 600 Storage	Primera 630 Storage, Primera 650 Storage, Primera 670 Storage
XP10000/12000	XP10000, XP12000
XP20000/24000	XP20000, XP24000
XP7 series	XP7, XP7 Gen 2
XP8 series	XP8

Hitachi Vantara

Device Family	Members
HUS 100 series	HUS110, HUS130, HUS150
SMS/AMS2000 series	AMS2100, AMS2300, AMS2500, SMS100
USP/NSC series	NSC55, USP100, USP1100, USP600
USPV/USPVM	USP V, USP VM
VSP G series	VSP F1500, VSP G1000, VSP G1500
VSP Gx00/Fx00 series	VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, VSP F900, VSP G130, VSP G150, VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, VSP G900

Huawei

Device Family	Members
18000 series	18500, 18800, 18800F, HVS85T, HVS88T
OceanStor Series	Dorado2100, Dorado2100G2, Dorado5100, OceanStor 18500 V3, OceanStor 18500 V5, OceanStor 18500F V5, OceanStor 18800 V3, OceanStor 18800 V5, OceanStor 18800F V5, OceanStor 2100 V3, OceanStor 2200 V3, OceanStor 2600 V3, OceanStor 5300 V3, OceanStor 5300 V5, OceanStor 5300F V5, OceanStor 5500 V3, OceanStor 5500 V5, OceanStor 5500F V5, OceanStor 5600 V3, OceanStor 5600 V5, OceanStor 5600F V5, OceanStor 5800 V3, OceanStor 5800 V5, OceanStor 5800F V5, OceanStor 6800 V3, OceanStor 6800 V5, OceanStor 6800F V5, OceanStor 6900 V3, OceanStor Dorado 18000 V6, OceanStor Dorado 3000 V6, OceanStor Dorado 5000 V6, OceanStor Dorado 6000 V6, OceanStor Dorado 8000 V6, OceanStor Dorado18000 V3, OceanStor Dorado5000 V3, OceanStor Dorado6000 V3, S2200T, S2600T, S2600T V2, S3900-M100, S3900-M200, S3900-M300, S5500T, S5500T V2, S5600T, S5600T V2, S5800T, S5800T V2, S5900-M100, S5900-M200, S6800T, S6800T V2, S6900-M100
S5000 series	S2100, S2300, S2300E, S2600, S5100, S5300, S5500, S5600, S6800E, V1500, V1800
VIS series	S8000, VIS6000, VIS6000T

IBM

Device Family	Members
FlashSystem series	FlashSystem 710, FlashSystem 820, FlashSystem 840, FlashSystem 900
Spectrum Virtualize series	FlashSystem 5010, FlashSystem 5030, FlashSystem 5100, FlashSystem 7100, FlashSystem 7200, FlashSystem 9100, FlashSystem 9200, FlashSystem 9200R, FlashSystem V9000, SAN Volume Controller, SANVC(2145), Spectrum Virtualize for Public Cloud, Storwize V3500, Storwize V3700, Storwize V5000, Storwize V5010, Storwize V5020, Storwize V5030, Storwize V7000, Storwize V7000 Unified
Storwize series	FlashSystem V9000, SANVC(2145), Storwize V3500, Storwize V3700, Storwize V5000, Storwize V5010, Storwize V5020, Storwize V5030, Storwize V7000, Storwize V7000 Unified
System Storage DS5000 series	DS5100, DS5300
System Storage DS8000 series	DS8000, DS8100, DS8300, DS8700, DS8800, DS8870, DS8880
System Storage N series	N3150, N3220, N3240, N3300, N3400, N3600, N3700, N5200, N5300, N5500, N5600, N6040, N6060, N6070, N6210, N6220, N6240, N6250, N6270, N7550T, N7600, N7700, N7750T, N7800, N7900, N7950T
System Storage XIV series	FlashSystem A9000, FlashSystem A9000R, XIV Storage System, XIV Storage System Gen3

NetApp

Device Family	Members
FAS2000/FAS900/FAS200 series	FAS2020, FAS2040, FAS2050, FAS2220, FAS2240-2, FAS2240-4, FAS250, FAS2520, FAS2552, FAS2554, FAS2620, FAS2650, FAS270, FAS2720, FAS2750, FAS500F, FAS920, FAS940, FAS960, FAS980
FAS3000/V3000 series	FAS3020, FAS3040, FAS3050, FAS3070, FAS3140, FAS3160, FAS3170, FAS3210, FAS3220, FAS3240, FAS3250, FAS3270, V3020, V3040, V3050, V3070, V3140, V3160, V3170, V3210, V3220, V3240, V3250, V3270
FAS6000/V6000 series	FAS6030, FAS6040, FAS6070, FAS6080, FAS6210, FAS6220, FAS6240, FAS6250, FAS6280, FAS6290, V6030, V6040, V6070, V6080, V6210, V6220, V6240, V6250, V6280, V6290
FAS8000/FAS9000 Series	FAS8020, FAS8040, FAS8060, FAS8080EX, FAS8200, FAS8300, FAS8700, FAS9000

NimbleStorage

Device Family	Members
CS/AF/HF-Series	AF1000, AF20, AF3000, AF40, AF5000, AF60, AF7000, AF80, AF9000, CS1000, CS235, CS300, CS3000, CS500, CS5000, CS700, CS7000, HF20, HF40, HF60

Pure Storage

Device Family	Members
FlashArray series	FA-400, FA-405, FA-420, FA-450, FlashArray //X10, FlashArray //X20, FlashArray //X50, FlashArray //X90, FlashArray//C, FlashArray//m10, FlashArray//m20, FlashArray//m50, FlashArray//m70, FlashArray//x70, FlashArray//Xr2, FlashArray//Xr3

Host Bus Adapters

The information presented here does not refer to specific host bus adapter (HBA) models or architectures. Unless stated otherwise, Storage Foundation supports all the HBAs that are supported by the OS and storage array manufacturers. Storage Foundation includes support for Fibre Channel over Ethernet (FCoE) Converged Network Adapters (CNAs), but not iSCSI HBAs. For the required HBA BIOS/firmware and driver versions, see the operating system and storage array manufacturers' hardware compatibility support matrices.

For HP-UX Fibre Channel and FlexFabric FCoE Host Bus Adapter Support Matrix information, see -

http://h20565.www2.hp.com/hpsc/doc/public/display?sp4ts.oid=5039733&docId=emr_na-c03056605&docLocale=en_US

Generic RAID SCSI/SAS/e-SATA Controller (Internal Card With External Storage Attached)

All RAID SCSI/SAS/e-SATA Controllers shown here were tested with drivers and firmware supported by the OS and the storage vendors. Check with these vendors for:

- Minimum driver and firmware levels
- Specific driver and firmware support
- Support for the stated Veritas products
- Other functional options

NOTE: Mode page 83 SCSI inquiry and native OS SCSI driver support are required. For more details, check with the hardware manufacturer. Symantec recommends adding SCSI3 conformant disk support.

Switches

The information presented here does not refer to specific switch models or architectures.

Unless stated otherwise, Storage Foundation supports all Fibre Channel switches that are supported by the OS and storage array manufacturers listed here. For the required BIOS/firmware and driver versions for the switches, see the operating system and storage array manufacturers' hardware compatibility support matrices.

The information presented here is only to add exceptions for switch models that have issues and are therefore not supported by the Storage Foundation products listed.