

Symantec Storage Foundation and High Availability Solutions 6.1, DDI_R1_2016 and Dynamic Multi-Pathing 6.1 for Windows Hardware Compatibility List

Introduction

Created on June 30, 2020

This Hardware Compatibility List (HCL) contains support information for hardware products tested with the following Symantec Storage Foundation and High Availability Solutions for Windows product releases and platforms:

- 6.1, and DDI_R1_2016 for Windows Server 2008 R2, Windows Server 2012, and Windows Server 2012 R2

The HCL also contains information for Symantec Dynamic Multi-Pathing 6.1 for Windows.

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 Symantec support for disk storage arrays qualified for use with the Symantec Storage Foundation for Windows 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, Symantec corporation shall not be liable for incidental or consequential damages in connection with the furnishing, performance, or use of this documentation.

The information contained 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 Symantec support for the product stack under which it appears. 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.
- All hardware configurations listed have been qualified with the following products: Symantec Storage Foundation for Windows, Symantec Dynamic Multi-Pathing for Windows, and Symantec Storage Foundation and High Availability Solutions for Windows (SFW plus Symantec Cluster Server for Windows). The following options are also supported by this HCL list: Symantec Storage Foundation for Windows - Volume Replicator Option, Symantec Storage Foundation for Windows - FlashSnap Option, Symantec Storage Foundation for Windows - Dynamic Multi-pathing (DMP), Symantec Storage Foundation for Windows - Cluster Option for Microsoft Failover Cluster (FOC).
- Configurations using any multi-pathing software (Symantec Storage Foundation for Windows - Dynamic Multi-pathing (DMP) or third-party) are restricted to the Symantec HCL list. This includes Symantec DMP implementations based upon Symantec MPIO Device Specific Modules (DSMs). For third party multi-pathing products only the ones listed on the HCL are fully tested and supported. The supported hardware list has been specifically qualified and approved by the Symantec Compatibility Lab (cLAB). Hardware that does not appear on this list is not supported when used with Symantec DMP or any 3rd-party multi-pathing solution. Employing a multi-pathing solution with Symantec Storage Foundation for Windows on non-certified hardware can result in unpredictable and possibly data-threatening behavior. Certified hardware is selected by Symantec Product Management, based on market research and input from the field, including customer feedback. If a customer would like to have their hardware considered for inclusion on this HCL, simply submit your request to your Symantec Sales Representative.
- Configurations should follow storage configuration best practices set forth by the hardware manufacturer in addition to those provided by Symantec. Symantec provided storage configuration best practices for zoning in a Storage Foundation for Windows environment are at <http://www.veritas.com/docs/TECH54713> .
- Storage Foundation for Windows 6.1 supports Windows Server 2012 and Windows Server 2012 R2 with Virtual Fibre Channel configuration.
- Cluster Volume Manager now only supports Microsoft Failover Cluster (FOC) with A/A and A/A-A (ALUA) arrays.

NOTE: The new functionality and cumulative fixes of the Device Specific Module (DSM) are delivered through the updated Device Driver Installation (DDI) package to ensure proper functioning of the storage hardware. The latest DDI package can be found at <https://sort.veritas.com/asl> .

Product Acronyms

| Acronym | Definition |
|---------|--|
| DMP | Dynamic Multi-pathing for Windows |
| SFW | Storage Foundation for Windows |
| SFW HA | Storage Foundation High Availability for Windows |

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 Symantec products
- Other functional options

Device Support

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

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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
- Support for the stated Symantec products
- Other functional options

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

If the Device/family column in a table includes a third party multipathing qualifier (i.e. **with PowerPath, with Subsystem Device Driver, with HDLM, or with DS Storage Manager**), it means the storage array supports third party multipathing. If a row does not include a third party Multipathing qualifier, third party multipathing is not supported on that storage array.

Supported third party multi-pathing solutions are: PowerPath, SDD DSM, HDLM, and Storage Manager.

Hardware-specific features like LUN Snapshot or Thin Reclamation are supported only if they are explicitly listed for the devices in the **Advanced Features** column. When a hardware-specific feature is listed, it applies to all product stacks (SFW, and SFW HA).

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

Symantec Dynamic Multi-pathing (DMP) with Multipath I/O (MPIO) Device Specific Modules (DSMs) support:

- Symantec Storage Foundation for Windows
- DMP supports multi-pathing via DSMs integrated with the MPIO framework
- Supported with FC Storport Miniport drivers, iSCSI HBAs, Microsoft iSCSI Software Initiator
- Basic disks are supported with DMP. SCSI-3 support is supported with basic disks
- Boot from SAN is supported with Dynamic and Basic disks provided customers follow Microsoft's Boot from SAN recommendations
- Boot and Data Volumes are supported on the same bus/HBA's for clustered and non-clustered servers
- Symantec DMP MPIO DSMs are not supported with FC Port drivers or FC SCSI Miniport drivers

Arrays listed in the HCL are also supported with the Microsoft DSM (MSDSM) in configurations where it coexists with Symantec Storage Foundation for Windows, as long as the array satisfies Microsoft's requirements for support, including being supported for use with MSDSM by the array vendors.

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 Enclosure information and special properties of a LUN discovered by the Device Discovery Layer (DDL) that helps storage administration. |
| NDU | NDU supported | Support for upgrading firmware/microcode on storage array controllers while applications are running on servers. |
| Thin Reclamation | Thin Reclamation supported | Support for storage optimization by recovering blocks from deleted files or data. It adds the storage back to the storage thin pool. LUNs supported with thin reclamation are denoted by their Advanced Reporting attribute. |

Modes

| Term | Meaning | Definition | Supported DSM Load Balance Mode |
|---|---|--|---|
| Active/Active (A/A) | Array supported in Active/Active mode | A/A arrays support simultaneous I/O on all paths. | Fail Over Only (Active/Passive), Round Robin (Active/Active), Round Robin with Subset, Dynamic Least Queue Depth, Weighted Paths, Least Blocks, Balanced Path |
| Asymmetric Logical Unit Access (ALUA) [1] | Array configured in Active/Active-Asymmetric mode | ALUA arrays support Active-Optimized (AO), Active-Non Optimized (ANO), Standby (Standby) path, and Unavailable states; the multi-pathing driver seeks the most optimized path for the I/O transmission rate. On ALUA arrays that support AO, and ANO path states, simultaneous I/O on all paths is supported. On ALUA arrays that support AO, and Standby path states, I/O can be sent through AO paths only, not Standby paths. | Fail Over Only (Active/Passive), Round Robin (Active/Active), Dynamic Least Queue Depth, Least Blocks, Balanced Path |
| 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. | Fail Over Only (Active/Passive), Round Robin (Active/Active), Dynamic Least Queue Depth, Least Blocks, Balanced Path |

1. Denoted as A/A-A

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| | | |
|--|-------------------------------|--|
| 3PAR | Dell EMC | Fujitsu |
| Hewlett Packard Enterprise | Hitachi | Huawei |
| IBM | Imation | Infinidat |
| Intel | NetApp | Nexenta |
| Nexsan | NimbleStorage | Oracle |
| Pure Storage | SanDisk | StorageTek |
| Sun | Violin Memory | Device Family Membership |

3PAR

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|--|------|---------------|-------------------|---------|------|---------|
| E-Class, S-Class [1] [2] [3] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |

1. Consult 3PAR's Configuration Matrix for interoperability and space reclamation support.
2. More 3PAR array systems support information is under the HP section.
3. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

Dell EMC

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---|-------|----------------------|-------------------|---------|------|---------|
| Celerra series | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| Celerra series | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| CLARiiON AX series [1] | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| CLARiiON AX series [1] | A/P-C | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| CLARiiON AX series with PowerPath [1] | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |

Dell EMC

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---|-------|----------------------------|---|---------|------|---------|
| CLARiiON AX series with PowerPath [1] | A/P-C | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| CLARiiON CX3 series | A/A-A | Fibre Channel, iSCSI | Advanced Reporting, NDU | Yes | Yes | Yes |
| CLARiiON CX3 series | A/P-C | Fibre Channel, iSCSI | Advanced Reporting, NDU | Yes | Yes | Yes |
| CLARiiON CX3 series with PowerPath | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| CLARiiON CX3 series with PowerPath | A/P-C | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| CLARiiON CX4 series | A/A-A | Fibre Channel, iSCSI | Advanced Reporting, NDU, Thin Reclamation | Yes | Yes | Yes |
| CLARiiON CX4 series | A/P-C | Fibre Channel, iSCSI | Advanced Reporting, NDU, Thin Reclamation | Yes | Yes | Yes |
| CLARiiON CX4 series with PowerPath | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| CLARiiON CX4 series with PowerPath | A/P-C | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| EqualLogic PS5000 series [2] | A/A | iSCSI | | Yes | Yes | Yes |
| EqualLogic PS6000 series | A/A | iSCSI | | Yes | Yes | Yes |
| PowerMax series | A/A | Fibre Channel | | Yes | Yes | Yes |
| PowerVault MD32xx Series | A/P-C | iSCSI, SAS | | Yes | Yes | Yes |
| PowerVault MD36xx Series | A/P-C | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| PowerVault MD38xx Series [3] | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| SC Series [4] | A/A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| ScaleIO | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| Symmetrix DMX series [5] [6] | A/A | Fibre Channel | Advanced Reporting | Yes | Yes | Yes |
| Symmetrix DMX series with PowerPath [6] | A/A | Fibre Channel | | Yes | Yes | Yes |
| Symmetrix VMAX series [7] | A/A | FCoE, Fibre Channel, iSCSI | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| Symmetrix VMAX series with PowerPath | A/A | Fibre Channel | | Yes | Yes | Yes |
| Unity series | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| Unity series with PowerPath | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| VMAX3/VMAX All Flash Family series | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| VMAX3/VMAX All Flash Family series with PowerPath | A/A | Fibre Channel | | Yes | No | No |
| VNX series [8] | A/A-A | Fibre Channel, iSCSI | Thin Reclamation | Yes | Yes | Yes |

Dell EMC

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|----------------------------|-------|----------------------------|--------------------|---------|------|---------|
| VNX series [8] | A/P-C | Fibre Channel, iSCSI | Thin Reclamation | Yes | Yes | Yes |
| VNX series with PowerPath | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| VNX series with PowerPath | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| VNX2 series [8] | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| VNX2 series with PowerPath | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| VNX2e series | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| VPLEX [7] | A/A | Fibre Channel | Advanced Reporting | Yes | Yes | Yes |
| VPLEX with PowerPath | A/A | Fibre Channel | | Yes | Yes | Yes |
| XtremIO | A/A | FCoE, Fibre Channel, iSCSI | | Yes | Yes | Yes |

1. Supports CLARiiON AX4 only.
2. There is a known problem of IO hang sometimes when a NIC port is disabled on the Switch. Also, it is recommended to use 2 NICs for private heartbeat and a separate NIC for public-mix use or client-only use in MSCS environments due to a known issue when Private NICs are used for private heartbeat and other types of traffic.
3. Requires CP5 or higher for VDID or Enclosure discovery.
4. Support Storage Center OS (SCOS) software version 6.2.2 and higher.
5. Requires firmware version 5670.73 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
6. Supports Symmetrix DMX-3 and Symmetrix DMX-4 only.
7. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
8. Supported with block mode storage only.

Fujitsu

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---|-------|---------------|--------------------------------------|---------|------|---------|
| ETERNUS DX400/DX500/DX600 series [1] [2] [3] [4] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX400/DX500/DX600 series [1] [2] [3] [4] | A/A-A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX60/DX80/DX90/DX100/DX200 series [1] [2] [3] [4] [5] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX60/DX80/DX90/DX100/DX200 series [1] [2] [3] [4] [5] | A/A-A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX8000 S3/S4 series [1] [2] [3] [4] | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX8000 S3/S4 series [1] [2] [3] [4] | A/A-A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX8000 series [1] [2] [3] [4] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| ETERNUS DX8000 series [1] [2] [3] [4] | A/A-A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| ETERNUS VS850 | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| ETERNUS VS850 with Subsystem Device Driver | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| ETERNUS2000 series [3] | A/A | Fibre Channel | | Yes | Yes | Yes |
| ETERNUS4000 series [3] [4] [6] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| ETERNUS8000 series [3] [4] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |

1. Ensure proper array settings are configured to support this mode.
2. Fujitsu Storage Cluster is not supported.
3. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
4. There are known issues with Reclamation, see <<http://www.veritas.com/docs/TECH164853>> for more details.
5. Thin Reclamation is not supported with ETERNUS DX60/DX60 S2/DX80/DX90.
6. Excludes ETERNUS4000 models 80 and 100.

Hewlett Packard Enterprise

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|--|-------|----------------------------|-----------------------|---------|------|---------|
| 2000 G2 series [1] | A/A-A | Fibre Channel, iSCSI, SAS | | Yes | Yes | Yes |
| 3PAR F/T-Class, StoreServ 7000/8000/9000/10000/20000 Storage [1] [2] [3] | A/A | Fibre Channel | NDU, Thin Reclamation | Yes | Yes | Yes |
| EVA4100/6100/8100 [4] [5] | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| EVA4400/6400/8400 series [4] | A/A-A | Fibre Channel | NDU | Yes | Yes | Yes |
| MSA 1040 SAN | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| MSA 2040 SAN | A/A-A | Fibre Channel, iSCSI, SAS | | Yes | Yes | Yes |
| MSA P2000 | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| MSA1000 | A/A | Fibre Channel | | Yes | Yes | Yes |
| MSA1500 [1] [6] | A/A | Fibre Channel | | Yes | Yes | Yes |
| MSA2000fc series [1] | A/A | Fibre Channel | | Yes | Yes | Yes |
| MSA2012i [1] | A/A | iSCSI | | Yes | Yes | Yes |
| MSA2012sa [1] | A/A | SAS | | Yes | Yes | Yes |
| MSA2212i | A/A | iSCSI | | Yes | Yes | Yes |
| MSA2212sa | A/A | SAS | | Yes | Yes | Yes |
| P2000 G3 MSA series [1] [7] | A/A-A | Fibre Channel, iSCSI, SAS | | Yes | Yes | Yes |
| P6000 EVA series [1] | A/A-A | FCoE, Fibre Channel, iSCSI | | Yes | Yes | Yes |
| P9500 [8] | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| XP10000/12000 [9] | A/A | Fibre Channel | | Yes | Yes | Yes |
| XP20000/24000 | A/A | Fibre Channel | | Yes | Yes | Yes |
| XP7 | A/A | Fibre Channel | | Yes | Yes | Yes |

1. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
2. 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.
3. StoreServ 8000/20000 minimum firmware version 3.2.2 MU1 is required for Thin Reclamation support.
4. Requires firmware version 5030 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

5. When utilizing the HP EVA arrays with SFW DMP, iSCSI is supported when used with the HP EVA iSCSI Connectivity Option. However, Active/Active Load Balancing algorithms are not supported in this configuration because SCSI-3 Persistent Reservation is not supported with the EVA iSCSI Connectivity Option at this point in time. Therefore, SCSI-3 support cannot be used and must be disabled in the system registry or system wide in the Symantec Enterprise Administrator (VEA) Control Panel System Settings when the EVA iSCSI Connectivity Option, by itself or in combination with other arrays, is connected to a host.
6. Active/Active array firmware is required. Contact your local HP representative for more information.
7. There is a known issue with support for HP P2000 G3 MSA series arrays where disabling all but 1 active path to the lun causes disk missing from the server.
8. Requires firmware version 70-01-04-00/00 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
9. Requires firmware version 50-01-40-00/00 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

Hitachi

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---|-------|----------------------|--------------------------------------|---------|------|---------|
| AMS/WMS series | A/P-C | Fibre Channel | Advanced Reporting | Yes | Yes | Yes |
| HUS 100 series | A/A | Fibre Channel | Advanced Reporting | Yes | Yes | Yes |
| HUS 100 series with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| HUS VM | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| HUS VM with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| SMS/AMS2000 series [1] [2] | A/A | Fibre Channel, iSCSI | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| SMS/AMS2000 series with HDLM (Hitachi Dynamic Link Manager) [1] | A/A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| Thunder 9500V series | A/P-C | Fibre Channel | Advanced Reporting | Yes | Yes | Yes |
| Thunder 9500V series with HDLM (Hitachi Dynamic Link Manager) | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| USP/NSC series [3] | A/A | Fibre Channel | | Yes | Yes | Yes |
| USP/NSC series with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| USPV/USPVM | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| USPV/USPVM with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| VSP [4] | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| VSP with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| VSP G series | A/A | Fibre Channel | Thin Reclamation | Yes | Yes | Yes |
| VSP G series with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | No | No | Yes |

Hitachi

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|----------------------|------|---------------|--------------------------------------|---------|------|---------|
| VSP Gx00/Fx00 series | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |

1. Excludes SMS100.
2. SMS does not support Thin Provisioning.
3. Requires firmware version 50-05-22-00/00 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
4. Requires firmware version 70-01-04-00/00 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

Huawei

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|--------------------------|-------|----------------------|-------------------|---------|------|---------|
| 18000 series [1] | A/A | Fibre Channel | | Yes | Yes | Yes |
| OceanStor Series [2] [3] | A/A-A | Fibre Channel, iSCSI | Thin Reclamation | Yes | Yes | Yes |
| S5000 series | A/P-C | Fibre Channel | NDU | Yes | Yes | Yes |
| VIS series | A/A | Fibre Channel | | Yes | Yes | Yes |

1. For Huawei 18000 A/A, MS KB <<http://support.microsoft.com/kb/2522766>> is required. Check "Prerequisites" of the KB to install MS KB.
2. For OceanStor V3 models, MS KB <<http://support.microsoft.com/kb/2522766>> is required. Check "Prerequisites" of the KB to install MS KB.
3. Thin Reclamation is only supported with OceanStor Series with volumes track aligned to 2048 sectors, the ALUA explicit trespass on Thin LUN is not supported.

IBM

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---|-------|---------------------------|--------------------------------------|---------|------|---------|
| DS3950 [1] [2] | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| DS3950 with DS Storage Manager | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| DS5020 [1] [2] | A/P-C | Fibre Channel | NDU | Yes | Yes | Yes |
| DS5020 with DS Storage Manager | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| FlashSystem series [3] | A/A | Fibre Channel | | Yes | Yes | Yes |
| Storwize series [2] | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| Storwize series with Subsystem Device Driver | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| System Storage DS3000 series [1] [2] | A/P-C | Fibre Channel, iSCSI, SAS | | Yes | Yes | Yes |
| System Storage DS3500 series [1] [2] | A/P-C | Fibre Channel, iSCSI, SAS | | Yes | Yes | Yes |
| System Storage DS5000 series [1] [2] | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| System Storage DS5000 series with DS Storage Manager | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| System Storage DS6000 series [4] | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| System Storage DS6000 series with Subsystem Device Driver | A/A-A | Fibre Channel | | Yes | Yes | Yes |
| System Storage DS8000 series [4] | A/A | Fibre Channel | | Yes | Yes | Yes |
| System Storage DS8000 series with Subsystem Device Driver | A/A | Fibre Channel | | Yes | Yes | Yes |
| System Storage N series [5] | A/A-A | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| System Storage N series [5] | A/P-C | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| System Storage XIV series [6] [7] | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |

1. IMPORTANT: These arrays require additional configuration steps in order to work properly with Symantec Storage Foundation for Windows. Before attempting to use any of these arrays with Symantec Storage Foundation for Windows DMP software, please contact the array hardware manufacturer for additional configuration instructions and updates. Several special settings must be enabled on these arrays to allow compatibility with DMP, including Auto Volume Transfer (AVT), also referred to as Auto Logical Drive Transfer (ADT). Specific firmware levels from the manufacturer for these arrays may also be required.

2. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

3. Supports FlashSystem 840/900 models.

4. Requires firmware version 6.1.600.46 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

5. Requires ONTAP version 7.0.2 or higher to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

6. Excludes A9000 & A9000R models.

7. To obtain Clustering support with IBM XIV, a minimum Firmware level of 10.0.1.c is required.

Imation

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|-------------------------|------|---------------|-------------------|---------|------|---------|
| Nexsan E-Series Systems | A/A | Fibre Channel | | Yes | Yes | Yes |

Infinidat

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|--------------------|------|---------------|--------------------------------------|---------|------|---------|
| InfiniBox F-Series | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |

Intel

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---------------|------|-----------|--------------------|---------|------|---------|
| DC P3700 | A/A | PCIe | Advanced Reporting | Yes | Yes | Yes |
| SSD 910 | A/A | PCIe | | Yes | Yes | Yes |

NetApp

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|----------------------------------|-------|----------------------|-------------------|---------|------|---------|
| AFF Series [1] | A/A-A | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS2000/FAS900/FAS200 series [2] | A/A-A | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS2000/FAS900/FAS200 series | A/P-C | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS3000/V3000 series [2] | A/A-A | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS3000/V3000 series | A/P-C | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS6000/V6000 series [2] | A/A-A | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS6000/V6000 series | A/P-C | Fibre Channel, iSCSI | NDU | Yes | Yes | Yes |
| FAS8000/FAS9000 Series [2] | A/A-A | Fibre Channel, iSCSI | | Yes | Yes | Yes |
| FAS8000/FAS9000 Series | A/P-C | Fibre Channel, iSCSI | | Yes | Yes | Yes |

1. A minimum version of ONTAP 8.3 is required to support this array.
2. Storage Foundation 6.1 supports configurations that run Clustered Data ONTAP (cDOT) version 8.2.1 or greater with a limitation of TWO Controller Nodes only.

Nexenta

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---------------|-------|---------------|-------------------|---------|------|---------|
| NexentaStor | A/A-A | Fibre Channel | | Yes | Yes | Yes |

Nexsan

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---------------|------|---------------|-------------------|---------|------|---------|
| Beast Systems | A/A | Fibre Channel | | Yes | Yes | Yes |

NimbleStorage

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|-----------------|-------|-----------|--------------------------------------|---------|------|---------|
| CS/AF-Series | A/P-C | | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| CS/AF/HF-Series | A/P-C | | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |

Oracle

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|--|-------|---------------------------|--------------------|---------|------|---------|
| Axiom series [1] | A/A-A | Fibre Channel | NDU | Yes | Yes | Yes |
| FS1-2 | A/A-A | Fibre Channel | Advanced Reporting | Yes | Yes | Yes |
| Storage 6580/6780 series | A/P-C | Fibre Channel | NDU | Yes | Yes | Yes |
| StorageTek 2500 series | A/P-C | Fibre Channel, iSCSI, SAS | | Yes | Yes | Yes |
| StorageTek 6140 array | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9900 series | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9900 series with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9985/9990 series | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9985/9990 series with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9985V system | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9985V system with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 9990V system | A/A | Fibre Channel | | Yes | Yes | Yes |

Oracle

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|--|-------|----------------------|-------------------------|---------|------|---------|
| StorageTek 9990V system with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |
| Sun Storage 6180 array | A/P-C | Fibre Channel | NDU | Yes | Yes | Yes |
| ZFS Storage Appliance series [2] | A/A-A | Fibre Channel, iSCSI | Advanced Reporting, NDU | Yes | Yes | Yes |

1. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.
2. Excludes ZFS Storage ZS4-4.

Pure Storage

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|-------------------|------|---------------|--------------------------------------|---------|------|---------|
| FlashArray series | A/A | Fibre Channel | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |

SanDisk

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---------------------------|------|-----------|--------------------------------------|---------|------|---------|
| ioDrive | A/A | PCIe | | Yes | Yes | Yes |
| ioDrive2 | A/A | PCIe | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| ioMemory PX600 series [1] | A/A | PCIe | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |
| ioMemory SX300 series [1] | A/A | PCIe | Advanced Reporting, Thin Reclamation | Yes | Yes | Yes |

1. Patch is required, see <<https://sort.veritas.com/patch/detail/11065>> for details.

StorageTek

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|-----------------------------|-------|---------------|-------------------|---------|------|---------|
| FlexLine 200/300 series [1] | A/P-C | Fibre Channel | | Yes | Yes | Yes |

1. Support for the StorageTek Flexline 300 series Storage Systems includes the FLX380 array only.

Sun

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|---|-------|---------------|-------------------|---------|------|---------|
| StorageTek 6130 [1] | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| StorageTek 6540 | A/P-C | Fibre Channel | | Yes | Yes | Yes |
| StorEdge 9910/9960 [2] | A/A | Fibre Channel | | Yes | Yes | Yes |
| StorEdge 9910/9960 with HDLM (Hitachi Dynamic Link Manager) | A/A | Fibre Channel | | Yes | Yes | Yes |

1. The Sun StorEdge 6130 array requires additional configuration steps in order to work properly with Symantec Storage Foundation for Windows. Before attempting to use the Sun StorEdge 6130 array with Symantec Storage Foundation for Windows DMP software, please contact the array hardware manufacturer for additional configuration instructions and updates. Several special settings must be enabled on these arrays to allow compatibility with DMP. Specific firmware levels from the manufacturer for these arrays may also be required.

2. Please check with Storage Array Manufacturer's Hardware Compatibility Support Matrices for required firmware to support Active/Active DSM mode in a cluster (VCS/MSCS/WSFC) with this array.

Violin Memory

| Device/Family | Mode | Interface | Advanced Features | 2008 R2 | 2012 | 2012 R2 |
|-----------------------------|-------|---------------|-------------------|---------|------|---------|
| Violin 3000/6000 series | A/A | Fibre Channel | NDU | Yes | Yes | Yes |
| Violin 3000/6000 series [1] | A/A-A | Fibre Channel | NDU | Yes | Yes | Yes |

1. A minimum array firmware version G5.5.1 is required to support ALUA mode.

Device Family Membership

3PAR

| Device Family | Members |
|------------------|--|
| E-Class, S-Class | E200 Storage System, S200 Storage System, S400 Storage System, S800 Storage System |

Dell EMC

| Device Family | Members |
|--------------------------|---|
| Celerra series | Celerra NS120, Celerra NS40, Celerra NS700 |
| CLARiiON AX series | Celerra NX4, CLARiiON AX100, CLARiiON AX4 |
| CLARiiON CX3 series | CLARiiON CX3 Model 10, CLARiiON CX3 Model 20, CLARiiON CX3 Model 40, CLARiiON CX3 Model 80 |
| CLARiiON CX4 series | CLARiiON CX4 Model 120, CLARiiON CX4 Model 240, CLARiiON CX4 Model 480, CLARiiON CX4 Model 960 |
| EqualLogic PS5000 series | EqualLogic PS5000E, EqualLogic PS5000X, EqualLogic PS5000XV, EqualLogic PS5500E |
| EqualLogic PS6000 series | EqualLogic PS6000E, EqualLogic PS6000S, EqualLogic PS6000X, EqualLogic PS6000XV, EqualLogic PS6000XVS, EqualLogic PS6010E, EqualLogic PS6010S, EqualLogic PS6010X, EqualLogic PS6010XV, EqualLogic PS6010XVS, EqualLogic PS6100E, EqualLogic PS6100X, EqualLogic PS6100XV, EqualLogic PS6100XV3.5", EqualLogic PS6500E, EqualLogic PS6500X, EqualLogic PS6500XV, EqualLogic PS6510E, EqualLogic PS6510X, EqualLogic PS6600, EqualLogic PX6100S, EqualLogic PX6100XS |
| PowerMax series | PowerMax 2000, PowerMax 8000 |
| PowerVault MD32xx Series | PowerVault MD3200, PowerVault MD3200i, PowerVault MD3220, PowerVault MD3220i |
| PowerVault MD36xx Series | PowerVault MD3600f, PowerVault MD3600i |
| PowerVault MD38xx Series | PowerVault MD3800f |
| SC Series | SC4000, SC4020, SC5020, SC7020, SC8000, SC9000, SCv2000, SCv3000 |

Dell EMC

| Device Family | Members |
|------------------------------------|---|
| 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 |
| Unity series | Unity 300, Unity 300F, Unity 350F, Unity 400, Unity 400F, Unity 450F, Unity 500, Unity 500F, Unity 550F, Unity 600, Unity 600F, Unity 650F, Unity VSA |
| VMAX3/VMAX All Flash Family series | VMAX 250F, VMAX 250FX, 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 |
| EVA4100/6100/8100 | EVA4100, EVA6100, EVA8100 |
| EVA4400/6400/8400 series | EVA4400, EVA6400, EVA8400 |
| MSA2000fc series | MSA2012fc, MSA2212fc |
| P2000 G3 MSA series | P2000 G3 FC, P2000 G3 FC/iSCSI, P2000 G3 iSCSI, P2000 G3 SAS |
| P6000 EVA series | P6300, P6350, P6500, P6550 |
| XP10000/12000 | XP10000, XP12000 |
| XP20000/24000 | XP20000, XP24000 |

Hitachi

| Device Family | Members |
|----------------------|--|
| AMS/WMS series | AMS1000, AMS200, AMS500, WMS100 |
| HUS 100 series | HUS110, HUS130, HUS150 |
| SMS/AMS2000 series | AMS2100, AMS2300, AMS2500, SMS100 |
| Thunder 9500V series | 9500 (DF600), 9500V, 9570V, 9580V, AMS1000, AMS200, AMS500, WMS100 |
| USP/NSC series | NSC55, USP100, USP1100, USP600 |
| USPV/USPVM | USP V, USP VM |
| VSP G series | VSP F1500, VSP G1000, VSP G1500 |

Hitachi

| Device Family | Members |
|----------------------|--|
| 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 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 |
| 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 DS3000 series | DS3200, DS3300, DS3400 |
| System Storage DS3500 series | DCS3700, DS3512, DS3524 |
| System Storage DS5000 series | DS5100, DS5300 |
| System Storage DS6000 series | DS6000 (1750-511), DS6800 |

IBM

| Device Family | Members |
|------------------------------|---|
| 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 |

Imation

| Device Family | Members |
|-------------------------|------------------------------------|
| Nexsan E-Series Systems | Nexsan E18, Nexsan E48, Nexsan E60 |

Infinidat

| Device Family | Members |
|--------------------|---|
| InfiniBox F-Series | InfiniBox F2000, InfiniBox F4000, InfiniBox F6000 |

NetApp

| Device Family | Members |
|------------------------------|--|
| AFF Series | AFF 8020, AFF 8040, AFF 8060, AFF 8080EX, AFF A200, AFF A220, AFF A300, AFF A320, AFF A700, AFF A700s, AFF A800, AFF C190 |
| FAS2000/FAS900/FAS200 series | FAS2020, FAS2040, FAS2050, FAS2220, FAS2240-2, FAS2240-4, FAS250, FAS2520, FAS2552, FAS2554, FAS2620, FAS2650, FAS270, FAS2720, FAS2750, 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 |

NetApp

| Device Family | Members |
|------------------------|--|
| 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, FAS9000 |

Nexsan

| Device Family | Members |
|---------------|---------------------------------|
| Beast Systems | SASBeast, SATABeast, SATABeast2 |

NimbleStorage

| Device Family | Members |
|-----------------|--|
| CS/AF-Series | AF3000, AF5000, AF60, AF7000, AF80, AF9000, CS235, CS300, CS500, CS700 |
| CS/AF/HF-Series | AF3000, AF5000, AF60, AF7000, AF80, AF9000, CS235, CS300, CS500, CS700, HF20, HF40, HF60 |

Oracle

| Device Family | Members |
|--------------------------|---|
| Axiom series | Axiom 300, Axiom 500, Axiom 600 |
| Storage 6580/6780 series | Sun Storage 6580 array, Sun Storage 6780 array |
| StorageTek 2500 series | StorageTek 2510 array, StorageTek 2530 array, StorageTek 2540 array, Sun Storage 2530-M2 array, Sun Storage 2540-M2 array |
| StorageTek 9900 series | StorageTek 9970 array, StorageTek 9980 array |

Oracle

| Device Family | Members |
|------------------------------|---|
| StorageTek 9985/9990 series | StorageTek 9985 system, StorageTek 9990 system |
| ZFS Storage Appliance series | ZFS Storage 7110, ZFS Storage 7120, ZFS Storage 7210, ZFS Storage 7310, ZFS Storage 7320, ZFS Storage 7410, ZFS Storage 7420, ZFS Storage ZS3-2, ZFS Storage ZS3-4, ZFS Storage ZS4-4, ZFS Storage ZS5-2, ZFS Storage ZS5-4 |

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 |

SanDisk

| Device Family | Members |
|-----------------------|--|
| ioMemory PX600 series | ioMemory PX600-1000, ioMemory PX600-1300, ioMemory PX600-2600, ioMemory PX600-5200 |
| ioMemory SX300 series | ioMemory SX300-1300, ioMemory SX300-1600, ioMemory SX300-3200, ioMemory SX300-6400 |

StorageTek

| Device Family | Members |
|-------------------------|----------------------------------|
| FlexLine 200/300 series | FlexLine FLX280, FlexLine FLX380 |

Sun

| Device Family | Members |
|--------------------|------------------------------|
| StorEdge 9910/9960 | StorEdge 9910, StorEdge 9960 |

Violin Memory

| Device Family | Members |
|-------------------------|--|
| Violin 3000/6000 series | 3120, 3202, 3205, 3210, 3220, 6212, 6232, 6264, 6606, 6616 |

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 Microsoft Windows Server Catalog and storage array manufacturers listed here. Storage Foundation includes support for Fibre Channel over Ethernet (FCoE) Converged Network Adapters (CNAs), and iSCSI HBAs. For the required HBA BIOS/firmware and driver versions, see the Microsoft Windows Server Catalog and storage array manufacturers' hardware compatibility support matrices.

The information presented here is only to add exceptions for HBA models that have issues and are therefore not supported by the Storage Foundation products listed. For supported iSCSI initiator versions, see the table below.

iSCSI Support

| OS | HBA model | iSCSI software initiator version |
|-------------------|--|----------------------------------|
| Microsoft Windows | Microsoft iSCSI Software Initiator [1] | 2.08 or above |

1. The Microsoft iSCSI Software Initiator is supported on any Ethernet NIC card that is supported by the Microsoft iSCSI Software Initiator. In general, the Microsoft iSCSI initiator version listed on the HCL has been tested and qualified at the time of the SFW HA release. However, Symantec will support customers utilizing a newer version. Check with Microsoft on the most current and supported release of the iSCSI initiator. When adding a new target to Microsoft's iSCSI Software Initiator, Symantec recommends selecting the adapter and port of the NIC configured for iSCSI connection instead of selecting the default adapter. There is no Symantec DMP support for the Microsoft iSCSI Software Initiator unless an MPIO DSM is available for the specific array.

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.