



Dell™ PowerVault™ NX1950 Systems Support Matrix

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Notes and Notices

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer.
 -  **NOTICE:** A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.
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This document provides information about the supported software and hardware versions for the Dell™ PowerVault™ NX1950 storage solution.

 **NOTE:** For latest driver and firmware releases, see the Downloads section on the Dell Support website at support.dell.com.

Network Connectivity

[Table 1-1](#) lists the supported operating systems and the compatible Ethernet controllers for iSCSI connectivity.

iSCSI Restrictions for Integrated and EMC|Gateway Solution

- 1 You can connect a maximum of 16 hosts to a PowerVault NX1950 storage solution using Microsoft® iSCSI Software Initiator.
- 1 When you use two or more PowerVault NX1950 storage systems in a cluster configuration, you must connect a host running the Microsoft iSCSI Software Initiator to the iSCSI target on the cluster resource.
- 1 When you use a PowerVault NX1950 storage system in a single-node configuration, you can connect a host running the Microsoft iSCSI Software Initiator to the iSCSI target on the PowerVault NX1950 storage system using redundant storage paths.
- 1 Clustering of one or more clients that are connected to a PowerVault NX1950 storage system using iSCSI initiators, also known as host-clustering, is not supported with the PowerVault NX1950 storage solution.
- 1 iSCSI sessions from a VMware Server (ESX or Guest OS) are not supported with NX1950 in cluster configuration.


 **NOTE:** You can download the iSCSI 3.1 Active/Active Target (**R171684.exe**) from the Dell Support website at support.dell.com.

Table 1-1. Supported Host Bus Adapters

iSCSI Software Initiator Version and Supported Configurations	Host Bus Adapter	Operating System
Microsoft iSCSI Software Initiator 2.05	Non-iSCSI boot: Generic NIC 10/100/1000	Microsoft® Windows® 2000 Server Standard and Enterprise Edition Service Pack 4 or later Microsoft Windows Server® 2003 with SP1 x86 Standard and Enterprise Editions, Windows Server 2003 with SP1 x64 Standard and Enterprise Editions, Windows Server 2003 with SP2, and Windows Server 2003 R2
	iSCSI boot: NOTE: iSCSI boot is not supported for Dell EqualLogic storage solution. Broadcom® NetXtreme™ Family of Adapters, NetXtreme II Family of Adapters <ul style="list-style-type: none"> 1 Driver Family Version, v.11.0/T4.1, A00 or later 1 Firmware, v.3.0.9 (NetXtreme) 1 Firmware, v.4.0.3 (NetXtreme II) Intel® NIC PRO/1000 Family of Adapters <ul style="list-style-type: none"> 1 Driver Family Version, v.10.0 or later 1 Intel network adapter firmware v.2.0.8 	Windows Server 2003 with SP1 x86 Standard and Enterprise Editions, Windows Server 2003 with SP1 x64 Standard and Enterprise Editions, Windows Server 2003 with SP2, and Windows Server 2003 R2 NOTE: For details about supported BFI host and minimum required BIOS version, see Table 1-2 .
Microsoft iSCSI Software Initiator 2.06	Non-iSCSI boot: Generic NIC 10/100/1000	Microsoft® Windows® 2000 Server Standard and Enterprise Edition Service Pack 4 or later Windows Server 2003 with SP1 x86 Standard and Enterprise Editions, Windows Server 2003 with SP1 x64 Standard and Enterprise Editions, Windows Server 2003 with SP2, and Windows Server 2003 R2
	iSCSI boot: NOTE: iSCSI boot is not supported for Dell EqualLogic storage solution.	Windows Server 2003 with SP1 x86 Standard and Enterprise Editions, Windows Server 2003 with SP1 x64 Standard and Enterprise Editions, Windows Server 2003 with SP2, and Windows Server 2003 R2

	<p>Broadcom® NetXtreme™ Family of Adapters, NetXtreme II Family of Adapters</p> <ul style="list-style-type: none"> 1 Driver Family Version, v.11.0/T4.1, A00 or later 1 Firmware, v.3.0.9 (NetXtreme) 1 Firmware, v.4.0.3 (NetXtreme II) <p>Intel® NIC PRO/1000 Family of Adapters</p> <ul style="list-style-type: none"> 1 Driver Family Version, v.10.0 or later 1 Intel network adapter firmware v.2.0.8 	<p>NOTE: For details about supported BFI host and minimum required BIOS version, see Table 1-2.</p>
Microsoft Windows Server® 2008 Built-In Initiator	<p>Non-iSCSI boot</p> <p>Generic NIC 10/100/1000</p>	Microsoft Windows Server® 2008 x86 Web, DataCenter, Standard, and Enterprise Editions and Windows Server 2008 x64 Web, DataCenter, Standard, and Enterprise Editions
	<p>iSCSI boot</p> <p>NOTE: iSCSI boot is not supported for Dell EqualLogic storage solution.</p> <p>Broadcom® NetXtreme™ Family of Adapters, NetXtreme II Family of Adapters</p> <ul style="list-style-type: none"> 1 Driver Family Version, v.11.0/T4.1, A00 or later 1 Firmware, v.3.0.9 (NetXtreme) 1 Firmware, v.4.0.3 (NetXtreme II) <p>Intel® NIC PRO/1000 Family of Adapters</p> <ul style="list-style-type: none"> 1 Driver Family Version, v.10.0 or later 1 Intel network adapter firmware v.2.1.15.2 	Microsoft Windows Server® 2008 x86 Standard and Enterprise Editions and Windows Server 2008 x64 Standard and Enterprise Editions
ESX iSCSI Initiator	Dell supports iSCSI Sessions from the Guest OS and ESX Layer to a Standalone NX1950.	VMware™ ESX Server™ 3.0.1 or later

 **NOTE:** For information about configuring Boot from iSCSI, see Dell PowerEdge Systems—Instructions to Perform iSCSI Boot for Dell PowerVault NX1950 Storage Solution on the Dell Support website at support.dell.com.

 **NOTE:** For information on PowerVault NX1950 storage system and VMware, see the Dell and VMware website at www.dell.com/vmware.


Table 1-2. Minimum Supported BIOS Version for PowerEdge Systems

PowerEdge System	Minimum Supported BIOS Version
1900	2.0.1
1950	2.0.1
2900	2.0.1
2950	2.0.1
2970	1.3.4
6950	1.3.5
1955	1.4.2

SMB (CIFS) and NFS Connectivity

Use a generic NIC 10/100/1000 for network file system (NFS) v2/v3 and Microsoft Server Message Block/Common Internet File System (SMB/CIFS) compliant client connectivity.

Supported Hardware and Software for PowerVault NX1950 Storage Solution

 **NOTE:** The PowerVault NX1950 storage solution is a network storage device that runs a specially configured version of Microsoft Windows Unified Data Storage Server 2003. Do not change the hardware or the software components unless they are listed in this document.

[Table 1-3](#) to [Table 1-10](#) provide information about the required versions for various hardware and software components. You must install the software components together as listed in the stack and not separately.

Table 1-3. Supported Driver Versions for Network Adapters


Network Adapter	Driver Version	Notes
Dual-embedded Broadcom NetXtreme II™ 5708 Gigabit Ethernet NIC with TOE	10.18.04 or later	<ul style="list-style-type: none"> 1 For NFS or SMB traffic, do not configure Broadcom and Intel NICs in the same NIC team 1 NIC teaming is not supported for iSCSI traffic
Broadcom NetXtreme II 5708 single-port Gigabit NIC with TOE	10.18.04 or later	
Intel PRO/1000 PT dual-port server adapter	9.5 or later	
Intel Gigabit VT Quad Port Server Adapter	10.0 or later	
Intel 10 Gigabit XFP SR Server Adapter	10.1 or later	<ul style="list-style-type: none"> 1 For NFS or SMB traffic, do not configure Broadcom and Intel NICs in the same NIC team 1 NIC teaming is not supported for iSCSI traffic 1 Boot from iSCSI is not supported 1 PXE boot is not supported

Table 1-4. Supported Firmware/Driver Versions for Backup Software

Backup Software	Firmware/ Driver Version	Notes
CommVault Galaxy® Express Server	50	64-bit version
Symantec™ Backup Exec SAN-based Server Protection Suite	11.0.7170.10	64-bit version
Symantec Backup Exec LAN Server and Workgroup Protection Suite	11.0.7170.10	64-bit version


Table 1-5. Microsoft Hotfixes for the Integrated and Gateway Solutions

Microsoft Hotfix	Knowledge Base Article Number	Location
StorPort hotfix	940467	support.microsoft.com
Kernel fix for AMD PowerNow!™	924441	support.microsoft.com
2TB GPT Hotfix	919117	support.microsoft.com
SIS Hotfix	932198	support.microsoft.com
Daylight savings Hotfix	928388	support.microsoft.com

 **NOTE:** It is recommended that you use Microsoft Automatic Updates to install the latest hotfixes for the system. The hotfixes listed in this table are pre-installed on the system and you must install these hotfixes when you reinstall the system software. These hotfixes are required when reinstalling the system.

Integrated Solution

[Table 1-6](#) through [Table 1-9](#) provide information about the pre-installed and supported software stack for the Integrated Solution.

 **NOTE:** If you are using the stack-B (older version) software components, it is recommended that you download the components listed stack A from the Dell Support website at support.dell.com and upgrade your system.


 **NOTE:** [Table 1-6](#) provides the software stack that is pre-installed on systems shipping from April 2008 onwards.

Table 1-6. Stack A — Pre-installed Storage Software Components for PowerVault NX1950 Using Windows Unified Data Storage Server 2003, Standard and Enterprise Edition

Component	Version Number	Location	Details
PowerVault MD3000 Storage Array	06.70.15.60	support.dell.com	Firmware also supports expansion (R183185.exe)
PowerVault MD1000 Storage Array	A03	support.dell.com	Expansion only (R152015.exe)
SAS 5/E HBA	Driver: 1.24.04.40 Firmware: 00.10.51.00.06.12.05.00	support.dell.com	For direct attached MD3000 Solution only
Modular Disk Storage Manager	02.71.G6.07	support.dell.com	Available on the <i>Dell PowerVault MD3000 Resource CD</i>
VDS/VSS provider	09.71.36.02	Available on the <i>Dell PowerVault MD3000 Resource CD</i>	SMProvider-WSx64-09.71.36.02
Dell Storage Initialization Wizard	1.4.0	support.dell.com	
Dell NX1950 Firewall Script Batch File	1.0.0	support.dell.com	Microsoft® Windows® Unified Data Storage

			<i>Server 2003, Standard Edition x64</i>
QLogic 2460 Single Channel 4-GB Optical Fiber Channel HBA	Firmware: v1.24 Driver: 9.1.4.15	support.qlogic.com	For direct-attached tape solutions only
QLogic 2462 Dual Channel 4-GB Optical Fiber Channel HBA	Firmware: v1.24 Driver: 9.1.4.15	support.qlogic.com	For direct-attached tape solutions only
NOTE: All software components in this table are pre-installed on your PowerVault NX1950 storage solution.			



 **NOTE:** [Table 1-7](#) provides the software stack that is pre-installed on systems that shipped from December 2007 to April 2008.

Table 1-7. Stack B — Storage Software Components for PowerVault NX1950 Using Windows Unified Data Storage Server 2003, Standard and Enterprise Edition

Component	Version	Location	Details
PowerVault MD3000 Storage Array	Firmware: 06.70.10.60	support.dell.com	firmware also supports expansion
PowerVault MD1000 Storage Array	A03	support.dell.com	Expansion only (R152015.exe)
SAS 5/E HBA	Driver: 1.24.04.00 Firmware: 00.10.51.00.06.12.05.00	support.dell.com	For direct-attached PowerVault MD3000 solution only
Modular Disk Storage Manager	02.70.G6.10	support.dell.com	Available on the <i>Dell PowerVault MD3000 Resource CD</i>
VDS/VSS provider	09.70.G6.02	Available on the <i>Dell PowerVault MD3000 Resource CD</i>	SMPProvider- WSx64-09.70.G6.02.exe
Dell Storage Initialization Wizard	1.1.0	support.dell.com	
Dell PowerVault NX1950 Firewall Script Batch File - Integrated for Windows Unified Data Storage Server 2003, Standard Edition	1.0.0	support.dell.com	Microsoft® Windows® Unified Data Storage Server 2003, Standard Edition x64
Dell NX1950 Firewall Script Batch File - Integrated for Windows Unified Data Storage Server 2003, Enterprise Edition	1.1.0	support.dell.com	Firewall for Enterprise edition
QLogic 2460 Single Channel 4-GB Optical Fiber Channel HBA	Firmware: v1.24 Driver: 9.1.4.15	support.qlogic.com	For direct-attached tape solutions only
QLogic 2462 Dual Channel 4-GB Optical Fiber Channel HBA	Firmware: v1.24 Driver: 9.1.4.15	support.qlogic.com	For direct-attached tape solutions only
NOTE: The software stack listed in this table is pre-installed on your storage solution.			

EMC | Gateway Solution

[Table 1-8](#) provides information on supported solution stack for Gateway solution.

 **NOTE:** If you are using the stack-B (older version) software components, it is recommended that you download the components listed in stack A from the Dell Support website at support.dell.com and upgrade your system.


 **NOTE:** [Table 1-8](#) provides information on supported stack software that is pre-installed on systems shipping from April 2008 onwards.

Table 1-8. Stack A — Pre-installed Storage Software Components for PowerVault NX1950 Using Windows Unified Data Storage Server 2003, Standard and Enterprise Edition

Component	Version	Location
Dell EMC Arrays	CX300, CX500, CX700, CX3-10c, CX3-20, CX3-20F, CX3-20c, CX3-40, CX3-40F, CX3-40c, and CX3-80 (EMC® FLARE® 26)	
	AX 4-5 (FLARE 23)	emc.com/dell-ax4-5support
	AX 150 (FLARE 20)	emc.com/dell-ax150support
QLogic 2460 Single Channel 4-GB Optical Fiber Channel HBA	9.1.4.15	support.qlogic.com
QLogic 2462 Single Channel 4-GB Optical Fiber Channel HBA	9.1.4.15	support.qlogic.com
EMC PowerPath™	5.1.1	powerlink.emc.com

Navisphere® Agent	6.26.0.2.20	powerlink.emc.com
Navisphere CLI	6.26.0.2.24	powerlink.emc.com
Navisphere Storage System Initialization Wizard	6.26.0.2.22	powerlink.emc.com
EMC Solutions Enabler (VDS)	6.4-849	powerlink.emc.com
EMC Solutions Enabler (VSS)	6.4-852	powerlink.emc.com
Dell NX1950 Firewall Script Batch File - Gateway for Windows Unified Data Storage Server 2003(WUDDS), Standard Edition	1.2.0	support.dell.com
Dell NX1950 Firewall Script BatchFile - Gateway for WUDDS, Enterprise Edition	1.2.0	support.dell.com
Dell Storage Initialization Wizard	1.4.0	support.dell.com
Microsoft WUDSS Update Secure Installer	1.0	support.dell.com

Table 1-9. Stack B – Pre-installed Storage Software Components for PowerVault NX1950 Using Windows Unified Data Storage Server 2003, Standard and Enterprise Edition

Component	Version	Location
Dell EMC Arrays	CX300, CX500, CX700, CX3-10c, CX3-20, CX3-20F, CX3-20c, CX3-40, CX3-40F, CX3-40c, and CX3-80 (EMC® FLARE® 19, 22, or 24)	powerlink.emc.com
	AX 150 (FLARE 20)	emc.com/dell-ax150support
QLogic 2460 Single Channel 4-GB Optical Fiber Channel HBA	Firmware: 1.24 Driver: 9.1.4.15	support.qlogic.com
QLogic 2462 Dual Channel 4-GB Optical Fiber Channel HBA	Firmware: 1.24 Driver: 9.1.4.15	support.qlogic.com
EMC PowerPath™	4.6.1	powerlink.emc.com
Navisphere® Agent	6.24.0.6.13	powerlink.emc.com
Navisphere CLI	6.24.0.6.13	powerlink.emc.com
EMC Solutions Enabler (VDS)	6.3.2.24	powerlink.emc.com
Dell NX1950 Firewall Script Batch File - Gateway for Windows Unified Data Storage Server 2003, Standard Edition	1.2.0.0	support.dell.com
Dell NX1950 Firewall Script Batch File - Gateway for Windows Unified Data Storage Server 2003, Enterprise Edition	1.2.0.0	support.dell.com
Dell Storage Initialization Wizard	1.2.0	support.dell.com
NOTE: The software stack listed in this table is pre-installed on your storage solution.		

Dell|EqualLogic Gateway Solution

[Table 1-10](#) provides information on supported solution stack for Gateway solution.

Table 1-10. Location of Software Components

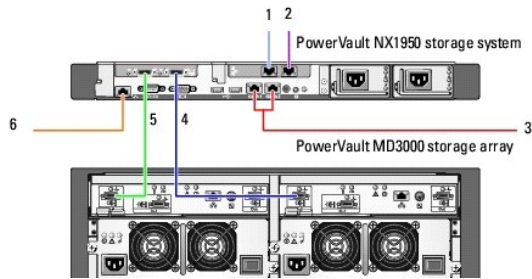
Component	Version	Location
Dell EqualLogic PS Series Array	3.2.4	support.dell.com/equallogic
Microsoft Initiator	2.04 or later	microsoft.com
Dell NX1950 Microsoft Management Console (MMC)	1.0	support.dell.com
EqualLogic Host Integration	3.0.3 or later	support.dell.com/equallogic
Dell NX1950 Firewall Script Batch File - EqualLogic for Windows Unified Data Storage Server 2003 Enterprise Edition	1.2.0	support.dell.com

Supported Configurations for PowerVault NX1950 Storage Solution

[Figure 1-1](#) and [Figure 1-2](#) illustrate the supported cabling configuration for PowerVault NX1950 Integrated Solution. For information about the supported configurations for PowerVault NX1950 storage solutions, see the *Dell PowerVault NX1950 Systems Installation Guide* shipped along with your system and the *Dell PowerVault NX1950 Cluster Systems Installation and Troubleshooting Guide* located on the Dell Support website at [support.dell.com](#).

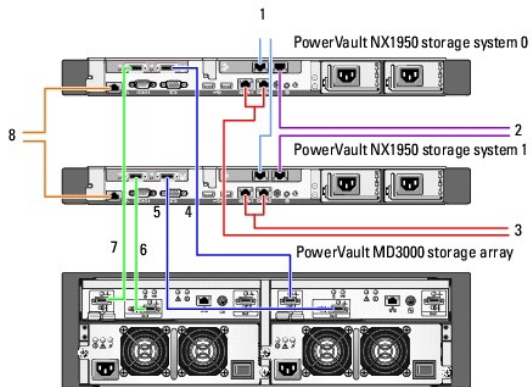
For additional information about the solution, see the PowerVault MD3000 storage array documentation and the PowerVault MD1000 storage array documentation.

Figure 1-1. Example of Cabling a PowerVault NX1950 Single-Node Configuration



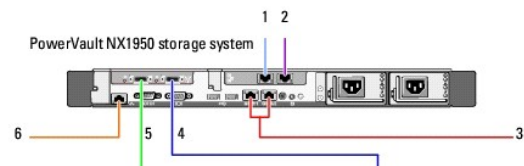
1	NIC port A to Gb Ethernet switch (optional)	4	Port 1 on SAS HBA to In-0 on controller 1
2	NIC port B to Gb Ethernet switch (optional)	5	Port 0 on SAS HBA to In-0 on controller 0
3	Gb1 and Gb2 to Gigabit Ethernet switch(es)	6	DRAC port to Ethernet switch for lights-out management (optional)

Figure 1-2. Example of Cabling a PowerVault NX1950 Cluster Configuration



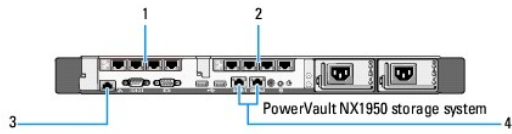
1	NIC port A to Gb Ethernet switch (optional) for MSCS heartbeat	5	Port 1 on PowerVault NX1950 storage system 1 SAS HBA to In-1 on controller 1
2	NIC port B to Gb Ethernet switch (optional)	6	Port 0 on PowerVault NX1950 storage system 1 SAS HBA to In-1 on controller 0
3	On-board Gb1 and Gb2 to Gb Ethernet switch(es)	7	Port 0 on PowerVault NX1950 storage system 0 SAS HBA to In-0 on controller 0
4	Port 1 on PowerVault NX1950 storage system 0 SAS HBA to In-0 on controller 1	8	DRAC port to Ethernet switch for lights-out management (optional)

Figure 1-3. Gateway Solution Configuration



1	NIC port A to Gb Ethernet switch (optional)	4	Port 2 on HBA to SAN
2	NIC port B to Gb Ethernet switch (optional)	5	Port 1 on HBA to SAN
3	Gb1 and Gb2 to Gigabit Ethernet switch(es)	6	DRAC port to Ethernet switch for lights-out management

Figure 1-4. Dell|EqualLogic Gateway Solution Configuration



1	Quad-port Gigabit NICs connected to iSCSI SAN or public Ethernet network	3	DRAC port to Ethernet switch for lights-out management (optional)
2	Quad-port Gigabit NICs connected to iSCSI SAN or public Ethernet network	4	Dual-port Gigabit NICs connected to iSCSI SAN or public Ethernet network

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