

Dell™ PowerVault™ NAS SCSI Cluster

Platform Guide

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.



CAUTION indicates a potential for property damage, personal injury, or death.

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This document provides information for installing and connecting peripheral hardware components to your Dell™ PowerVault™ network attached storage (NAS) small computer system interface (SCSI) cluster solution. The configuration information in this document is specific to the cluster configuration listed in Table 1-1.

 **NOTE:** Configurations not listed in this document are not certified or supported by Dell or Microsoft.

Table 1-1. PowerVault NAS System SCSI Cluster Configuration

| Systems | RAID Controllers | Storage Systems | Operating System |
|----------------------------|-------------------------|--|---|
| Two PowerVault NAS systems | PERC 3/DC PERC 4/DC | Up to four PowerVault 21xS or 22xS storage systems | Microsoft® Windows® Storage Server 2003, Enterprise Edition |

Supported Cluster Configurations

The PowerVault NAS SCSI cluster supports clustering using the Microsoft Cluster Service (MSCS) on the Windows Storage Server 2003, Enterprise Edition operating system that is installed on your PowerVault NAS system. The NAS SCSI cluster supports the following NAS systems installed as cluster nodes in homogeneous (identical) pairs:

- PowerVault 770N NAS systems
- PowerVault 775N NAS systems

For external storage, the NAS SCSI cluster supports the PowerVault 21xS and 22xS storage systems connected to one or more supported Dell PowerEdge™ Expandible RAID controller (PERC) cards.

Rules and Guidelines

When configuring your cluster, both cluster nodes must contain identical versions of the following:

- Operating systems and service packs
- Hardware drivers for the network adapters, RAID controllers, and any other peripheral hardware components

Obtaining More Information

See Table 1-2 for more information on supported configurations.

See the *Dell PowerVault NAS SCSI Cluster Systems Installation and Troubleshooting Guide* for a detailed list of related documentation.

Installing the Operating System

Windows Storage Server 2003, Enterprise Edition must be installed on your NAS system for cluster support. See the *Dell PowerVault NAS SCSI Cluster Systems Installation and Troubleshooting Guide* included with your system or see the Dell Support website located at support.dell.com.

Installing Peripheral Components in Your Cluster Node

PCI/PCI-X Slots

This section provides configuration information for adding network adapters and RAID controllers into your cluster nodes.

Installing the PERC Card

You must install the PERC card in a 64-bit PCI/PCI-X slot up to 133 MHz or a 32-bit, 33-MHz PCI slot. See Table 1-2 for information about your specific system.

If you are using multiple PERC cards, Dell recommends that you install them on separate PCI buses for load balancing.

Ensure that your system has the correct Windows driver. To verify your PERC driver, perform the following steps:

- 1 Click the **Start** button, select **Programs**, select **Administrative Tools**, and click **Computer Management**.
- 2 Select **System Tools**, select **Device Manager**, and click the + sign to expand SCSI and RAID controllers. One or more PERC cards are listed.
- 3 Right-click the appropriate PERC card, select **Properties**, select the **Driver** tab, and verify the driver version.

Updating the PERC Firmware

Ensure that your PERC firmware is updated to the latest version. See your PERC documentation for information about downloading the latest firmware. See the Dell Support website located support.dell.com for the latest firmware version.

Adding Peripherals to Your Cluster Nodes



CAUTION: Only trained service technicians are authorized to remove the system cover and access any of the components inside the system. See your *System Information Guide* for complete information about safety precautions, working inside the computer, and protecting against electrostatic discharge.



NOTE: To ensure that the SCSI or RAID controller attached to the boot drives initializes first, you might have to change the device controller priority order using the system BIOS utility or physically change the order of the RAID adapters. This process ensures that the Windows operating system numbers the boot drives in the proper sequence.

Table 1-2 provides the supported RAID controllers and network adapters for your cluster nodes.

Table 1-2. Supported RAID Controllers and Network Adapters

| PowerVault NAS System | Supported RAID Controllers | Network Adapters |
|------------------------------|---|---|
| 770N | PERC 3/DC | Intel® PRO/1000 XT |
| | PERC 4/DC | Intel PRO 1000F |
| | NOTE: Install the PERC cards in PCI-X expansion card slots 2–5. Dell recommends that you do not install the PERC cards in slots 6 and 7. | Intel PRO/100+ |
| | | Intel PRO/100 S |
| | | Intel 10/100/1000 Gigabit Ethernet Broadcom 10/100/1000 Gigabit Ethernet |
| 775N | PERC 3/DC | |
| | PERC 4/DC | |

Cluster Data Sheet

The following sheet can be attached to the back of each cluster node or rack and used by the system installer to record important information about the cluster hardware on each cluster component. If you need to call Dell for technical support, complete this sheet before you call and have it available for the technician to assist you with your problem.

The following information is required for the configuration matrix form:

- Cluster name, installer, date installed, and notes
- Cluster system information
- Storage array description for each storage array
- Service tag information for each cluster component
- PCI slot number for each cluster node, a description of each PCI slot, the adapters installed in each slot, and a usage description for each installed adapter

| Cluster Type | PowerVault NAS SCSI Cluster Solution |
|---|---|
| Cluster name | |
| Domain name | |
| Cluster IP address | |
| Cluster subnet mask (same as public network) | |

| Cluster Type | PowerVault NAS SCSI Cluster Solution |
|--------------------------|---|
| Cluster Service account | |
| Cluster Service password | |
| Installer | |
| Date Installed | |
| Applications | |
| Location | |
| Notes | |

| Node (Server Name) | Server Type | Cluster Name | Service Tag Number |
|---------------------------|--------------------|---------------------|---------------------------|
| Node 1 | | | |
| Node 2 | | | |

| Network Settings | TCP/IP Address | Subnet Mask | Private or Public? |
|--------------------------------------|-----------------------|--------------------|---------------------------|
| Node 1, network adapter 1 | | | |
| Node 1, network adapter 2 | | | |
| Additional node 1 network adapter(s) | | | |
| Node 2, network adapter 1 | | | |
| Node 2, network adapter 2 | | | |
| Additional node 2 network adapter(s) | | | |

| System | Storage 1 | Storage 2 | Storage 3 | Storage 4 | SCSI ID |
|--------------|-----------|-----------|-----------|-----------|---------|
| Node 1, PERC | | | | | |
| Node 2, PERC | | | | | |
| Node 1, PERC | | | | | |
| Node 2, PERC | | | | | |

| PowerVault Storage System | Description of Installed Items (Drive Letters, RAID Type, Applications/Data Installed) |
|---------------------------|---|
| Storage 1 | |
| Storage 2 | |
| Storage 3 | |
| Storage 4 | |

| Component | Storage 1 | Storage 2 | Storage 3 | Storage 4 |
|-------------|-----------|-----------|-----------|-----------|
| Service Tag | | | | |

| PCI Slot Number | Adapter Installed (PERC 3/DC card, network adapter, and so on) | Use (Public Network, Private Network, Shared Storage, Internal Drives) | PCI Slot Description |
|-----------------|---|--|----------------------|
| PCI slot 1 | | | |
| PCI slot 2 | | | |
| PCI slot 3 | | | |
| PCI slot 4 | | | |
| PCI slot 5 | | | |
| PCI slot 6 | | | |
| PCI slot 7 | | | |
| PCI slot 8 | | | |

| PCI Slot Number | Adapter Installed (PERC 3/DC card, network adapter, and so on) | Use (Public Network, Private Network, Shared Storage, Internal Drives) | PCI Slot Description |
|------------------------|---|---|-----------------------------|
| PCI slot 9 | | | |
| PCI slot 10 | | | |
| PCI slot 11 | | | |