

1 | Racking Your Solution

WARNING: Before you set up and operate your Dell PowerVault system, review the safety instructions that shipped with your system.

Read the Dell Software License Agreement

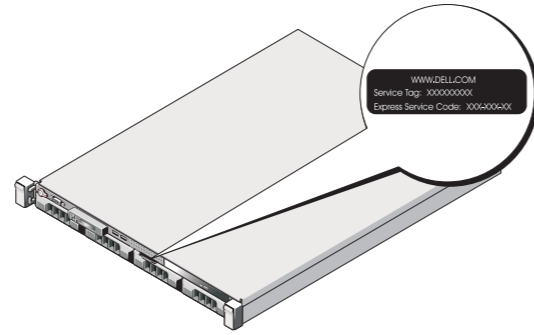
- Before using your system, please read the Dell Software License Agreement that came with the system.
- If you do not accept the terms of the agreement, please call the customer assistance telephone number. For customers in the United States, call 800-WWW-DELL (800-999-3355). For customers outside the United States, visit support.dell.com and select your country or region from the top of the page.

Verifying Package Contents

Verify that all components listed on your packing slip are available. Save all documentation and accessories.

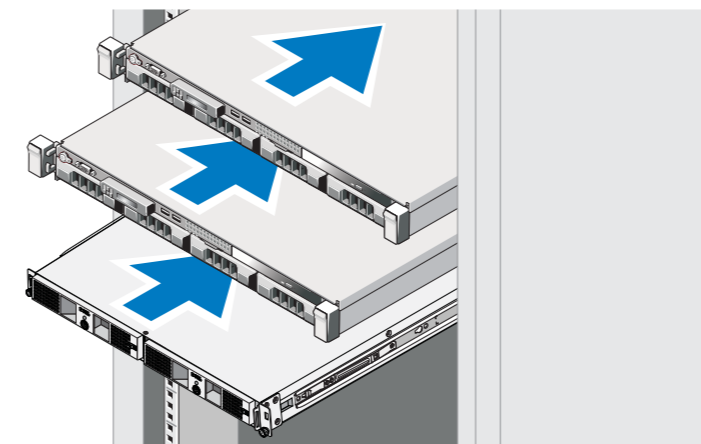
Locating Your System Service Tag

- Your system is identified by a unique Express Service Code and Service Tag number. The Express Service Code and Service Tag are found on the front of the system by pulling out the information tag.
- This information is used by Dell to route support calls to the appropriate personnel.



Installing the Solution in a Rack

- The solution requires a properly grounded electrical outlet, a compatible rack, and a rack installation kit.
- For information about installing the rails for the PowerVault NX3500 system, see the *Rack Installation Instructions* that shipped with your rail kit.
- For information about installing rails for the backup power supply, see the *Dell PowerVault NX3500 Getting Started Guide*.



Installation Guidelines

- The PowerVault NX3500 hardware configuration consists of two PowerVault NX3500 controller units and one backup power supply (BPS) unit. The BPS is required even if you have an uninterruptible power supply system in your environment. Install the three hardware components adjacent to one another in the same rack.
- Depending on your configuration, use 18 or 22 Category 5E or Category 6 Ethernet cables with RJ45 connectors. Connect 14 cables to the PowerVault NX3500 controllers and four or eight cables to the MD storage array.
- It is recommended that you use a minimum of four network switches as shown in step 2.

Connecting the Battery in the Backup Power Supply

CAUTION: Always verify the voltage rating of the backup power supply. Connecting a 230 VAC into a 120 V back up power supply damages the backup power supply.

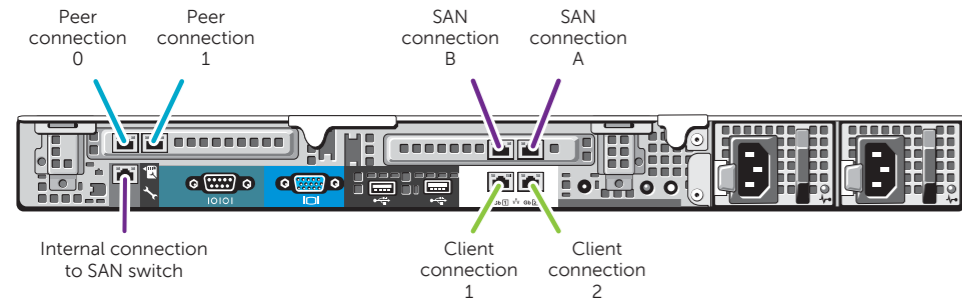
- Remove the power module front cover.
- Remove the battery from the power module.
- Rotate the battery 180 degrees.
- Reinstall the battery in the power module.
- Repeat step 2 to step 4 of this procedure for the second battery.
- Attach the power module front cover.

2 | Cabling Your Solution

Planning

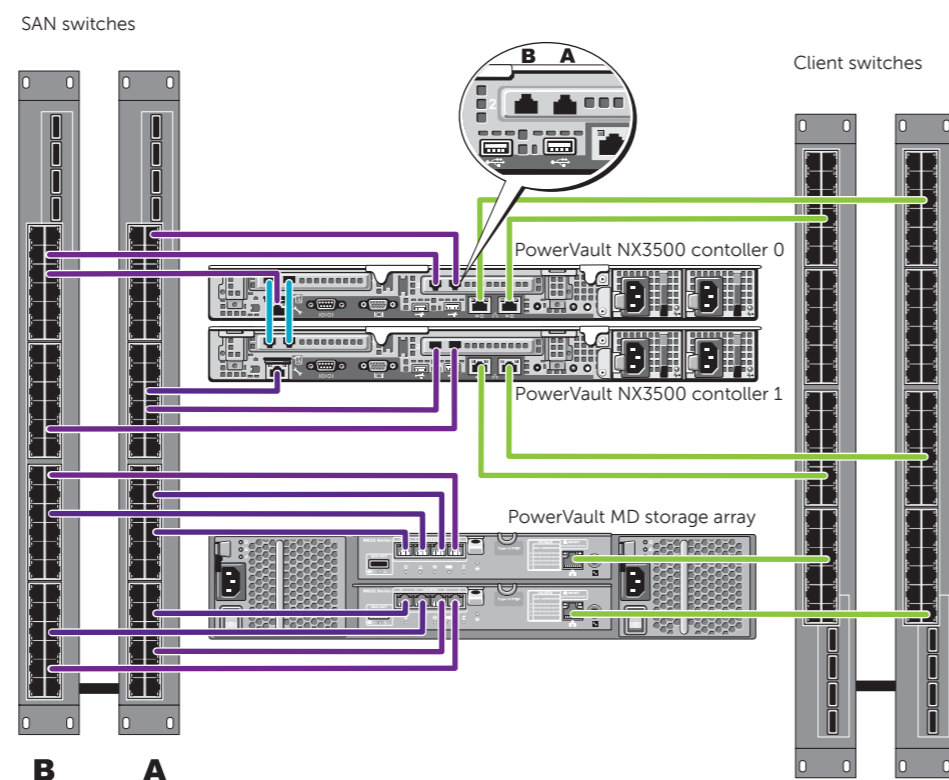
Proper planning is essential to successfully deploy the PowerVault NX3500 solution. This placemat contains one scenario using two redundant iSCSI switches. If your SAN is configured in a different configuration, see the *Administrator's Guide* for additional cabling options. It is recommended that you complete the IP chart in step 4 prior to deploying the solution. The IP chart is also available in the *Administrator's Guide*. It is also recommended that you set your switch MTU size to 9000 or greater and enable Spanning Tree Portfast and flow control.

Cabling Worksheet



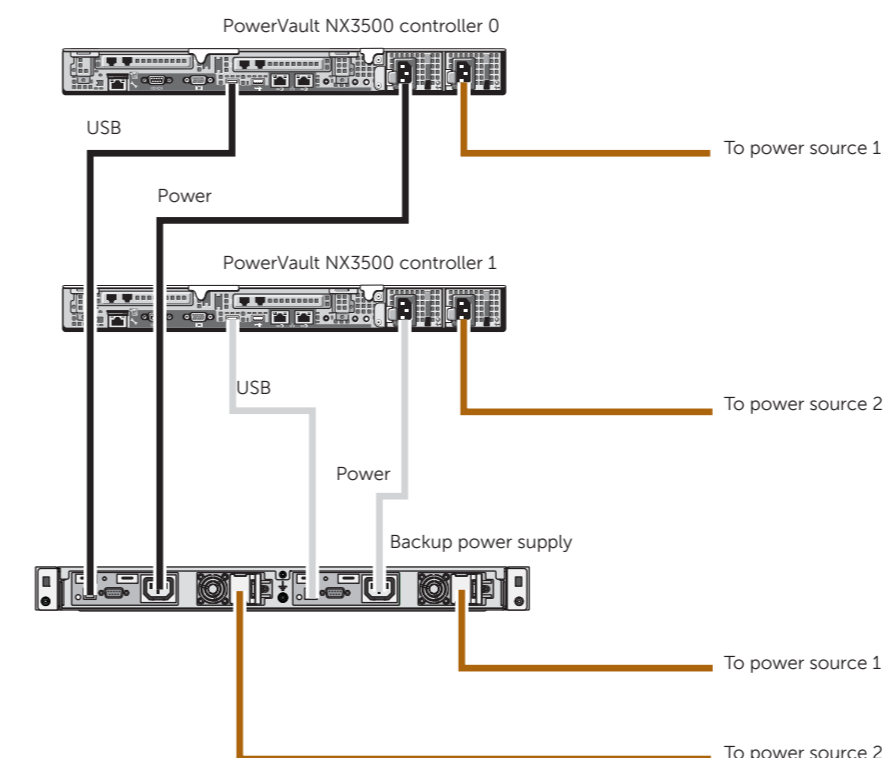
PowerVault NX3500	Controller 0	Controller 1
Client connection 1	To client switch	To client switch
Client connection 2	To client switch	To client switch
Peer connection 0	Back to back (peer connection 0 to peer connection 0)	Back to back (peer connection 0 to peer connection 0)
Peer connection 1	Back to back (peer connection 1 to peer connection 1)	Back to back (peer connection 1 to peer connection 1)
SAN connection A	To SAN switch (A)	To SAN switch (B)
SAN connection B	To SAN switch (B)	To SAN switch (A)
Internal connection	To SAN switch (B)	To SAN switch (A)
PowerVault MD Storage Array		Connection
Port 0	To SAN switch (A)	
Port 1	To SAN switch (B)	

Network Cabling



- Client connections
- Internal network and SAN connections
- Peer connections

Power Cabling



- PowerVault NX3500 controller 0
- PowerVault NX3500 controller 1
- To the grid

3 | Turning On Your Solution

Verify that your network environment and modular disk storage arrays are turned on. Turn on the components in the following order:

- Dell backup power supply
- Dell PowerVault NX3500 controllers



4 | Preparing Your Environment for the PowerVault NX3500 Solution

IP Chart

The IP chart helps you plan your configuration. Recording the IP addresses of your solution in a single location enables you to configure your setup faster and more efficiently.

PowerVault NAS Configuration Utility Configuration		NAS Appliance Setup Worksheet			
Info Requested	Value	IP Function	IPs Allocated	Sample IPs	Physical Connections
Storage Array Identification		Subnet 1 - Primary Network			
MD Discovery IP	Client Access VIP	. . . . .	10.10.1.100	Client
MTU		NAS Management VIP	. . . . .	10.10.1.200	Client
NX3500 Controller Discovery		Subnet 2 - Internal/Private Network Group 1			
Controller 0 MAC Address		Controller 0 IP	. . . . .	10.10.1.201	Client
Controller 1 MAC Address		Controller 1 P	. . . . .	10.10.1.202	Client
		Subnet Mask	. . . . .	255.255.255.0	Client
		Gateway	. . . . .	10.10.1.1	Client
NAS Appliance Identification		Subnet 2 - Internal/Private Network Group 1			
NAS Cluster Name		Internal IP a0	. . . . .	172.168.1.1	Internal/Peer
		Internal IP a1	. . . . .	172.168.1.2	Internal/Peer
		Internal IP a2	. . . . .	172.168.1.3	Internal/Peer
		Internal IP a3	. . . . .	172.168.1.4	Internal/Peer
		Subnet Mask	. . . . .	255.255.255.0	Internal/Peer
PowerVault NAS Configuration Utility Results					
NAS Controller 0 IQN					
NAS Controller 1 IQN					
Use the IQNs recorded from the PowerVault NAS Configuration Utility to complete your mappings configuration on the MD3x00i backend storage.					

Environment Setup Checklist		NAS Cluster IP Allocation			
Management Station		IP Function	IPs Allocated	Sample IPs	Physical Connections
<ul style="list-style-type: none"> Verify IPv6 enabled Install PowerVault NAS Configuration Utility 		Subnet 3 - Internal/Private Network Group 2			
Switch Topology Determine desired switch topology from one of the following configurations: <ul style="list-style-type: none"> All-in-one All-in-one high availability Optimal Optimal high availability 		Subnet 4 - SAN Network Group 1			
		Internal IP b0	. . . . .	172.168.2.1	Internal/Peer
		Internal IP b1	. . . . .	172.168.2.2	Internal/Peer
		Internal IP b2	. . . . .	172.168.2.3	Internal/Peer
		Internal IP b3	. . . . .	172.168.2.4	Internal/Peer
		Subnet Mask	. . . . .	255.255.255.0	Internal/Peer
		Subnet 5 - SAN Network Group 2			
		SANa IP 0	. . . . .	192.168.10.20	SAN (to switch A)
		SANa IP 1	. . . . .	192.168.10.21	SAN (to switch A)
		Subnet Mask	. . . . .	255.255.255.0	
		Subnet 5 - SAN Network Group 2			
		SANb IP 0	. . . . .	192.168.11.20	SAN (to switch B)
		SANb IP 1	. . . . .	192.168.11.21	SAN (to switch B)
		Subnet Mask	. . . . .	255.255.255.0	

PowerVault MD Configuration				
IP Function	IPs Allocated	Sample IPs	Physical Connections	
Controller 0 Port 0 IP	192.168.10.100	SAN (to switch A)	
Controller 0 Port 1 IP	192.168.11.100	SAN (to switch B)	
Controller 0 Port 2 IP	192.168.12.100		
Controller 0 Port 3 IP	192.168.13.100		
Controller 1 Port 0 IP	192.168.10.101	SAN (to switch A)	
Controller 1 Port 1 IP	192.168.11.101	SAN (to switch B)	
Controller 1 Port 2 IP	192.168.12.101		
Controller 1 Port 3 IP	192.168.13.101		

Terms Used In the IP Chart

- Controller**—A server appliance installed with the Dell scalable file system software. An essential component of a PowerVault NAS clustered solution.
- Internal IP**—IP address used for internal operations between the NAS controllers and the storage subsystem.
- SAN network/iSCSI network**—The network that carries the block level (iSCSI) traffic and to which the storage subsystem is connected. It is recommended that this network be separated from the client network.
- NAS cluster name**—The name that is used to identify the PowerVault NX3500 solution.
- NAS management VIP**—IP addresses that the management stations use to access the PowerVault NX3500 controllers.
- Client access VIP**—IP address that clients use to access CIFS shares and NFS exports hosted by a PowerVault NAS solution. The PowerVault NAS solution supports multiple client access VIPs.
- MD discovery IP**—The MD discovery IP is an MD storage array (iSCSI) IP address from either the SAN A or SAN B network.

Preparing the Management Station

- Connect the management station to the client switch.
- Verify that IPv6 is enabled.
- Verify that Java (JRE) is installed on the management station.
- Install the **PowerVault Configuration Utility** software.
- Download SSH client for CLI access.

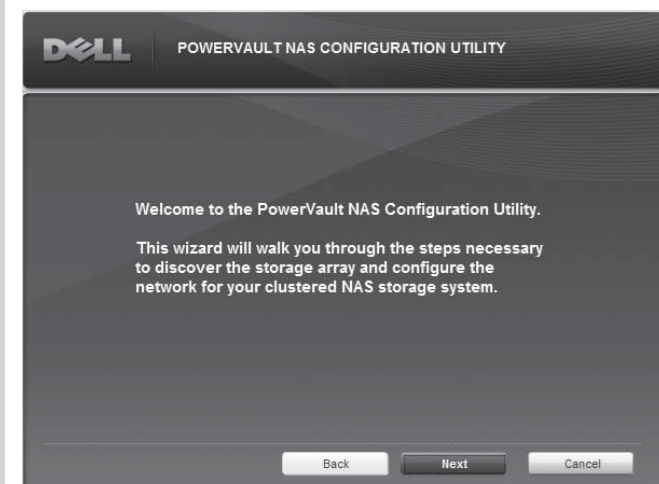
Preparing the Modular Disk Storage Arrays

- Create a disk group for each virtual disk.
- Create a virtual disk in each disk group. Virtual disks must be created and assigned to the host group in pairs. A minimum of 2 virtual disks is required and a maximum of sixteen is supported. Each pair of virtual disks must be of the same size. For more information, see the *Administrator's Guide*.
- Create a host group. For example, name host group *PV-NX3500*.
- Map the virtual disks to the host group.

NOTE: Additional configuration is required after completing the steps in the **PowerVault Configuration Utility**. For more information, see step 5.

5 | Configuration Utility and Modular Disk Storage Manager Client

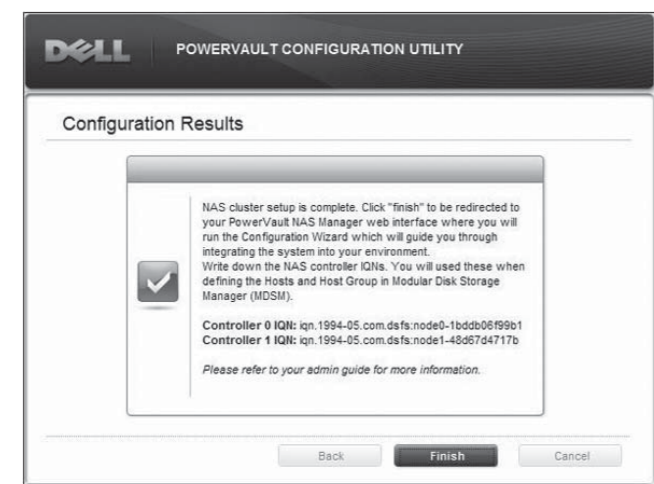
Launching the Configuration Wizard



From the management station, launch the **PowerVault Configuration Utility** and follow the instructions on the screen.

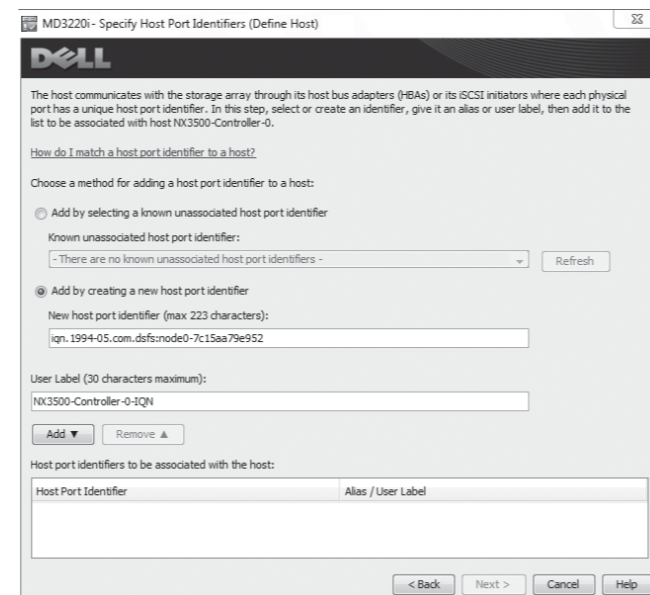
The **PowerVault Configuration Utility** guides you through the network configuration and enables you to set up and access the PowerVault NX3500 controllers on the management station.

Completing Your Setup



- Copy the IQN numbers from the **Configurations Results** screen without closing the screen.
- Launch the **Modular Disk Storage Manager Client** and click the **Mappings** tab.
- In the **Mappings** screen, right-click the host group and select **Define** → **Host**. Enter a host name and click **Next**.

For example, **PV-NX3500-Controller-0**



- On the second screen, type the IQN for the controller and provide a user label. The user label must not be the same as the host name. It is recommended that you use the host name appended with **-IQN**.

For example, **PV-NX3500-Controller-0-IQN**

- Repeat step 3 and step 4 for controller 1.
- Close the **Modular Disk Storage Manager Client**.
- In the **Configuration Results** screen, click **Finish**.

6 | System Configuration



The PowerVault NX3500 web interface provides information about the controller and guides you through the steps necessary to configure the network for your clustered NAS solution. The web interface automatically launches after you complete the **PowerVault Configuration Wizard**.

NOTE: If your web browser does not display the PowerVault NX3500 web interface, check the security settings of the web browser, accept the security certificate, and ensure that JavaScript is enabled.

To access the PowerVault NX3500 web interface at a later time, type the following URL in your web browser **https://<NAS Management VIP>**.

Default User Name and Password

The default user name for the solution is **admin**
The default password for the solution is **Stor@ge!**

To complete the system configuration, complete the following steps in the PowerVault NX3500 web interface:

- Configuring DNS
- Configuring time
- Configuring e-mail
- Configuring SNMP
- Setting up file system
- Changing the administrator password
- Configuring system identity
- Configuring identity management
- Configuring cross protocol
- Creating NAS volumes
- Creating CIFS shares
- Creating NFS exports

7 | Documentation

Title	Description
Getting Started Guide	The Getting Started Guide provides an overview of system features, setting up your solution, and technical specifications. This document is shipped with your system and is also available at support.dell.com/manuals .
Hardware Owner's Manual	The Hardware Owner's Manual provides information about solution features and describes how to troubleshoot the system and install or replace system components. This document is available at support.dell.com/manuals .
Rack Installation Instructions	The rack documentation included with your rack solution describes how to install your system into a rack. This document is shipped with your rack solution and is also available at support.dell.com/manuals .
Administrator's Guide	The Administrator's Guide provides information about configuring, managing, and troubleshooting the software and the solution. This document is available at support.dell.com/manuals .
Online Help	The Online Help provides information about configuring and managing the software. The online help is integrated with the system and can be accessed from the PowerVault NX3500 web interface.

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