

# Setting Up Your Dell PowerVault Network Attached Storage Solution



## 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

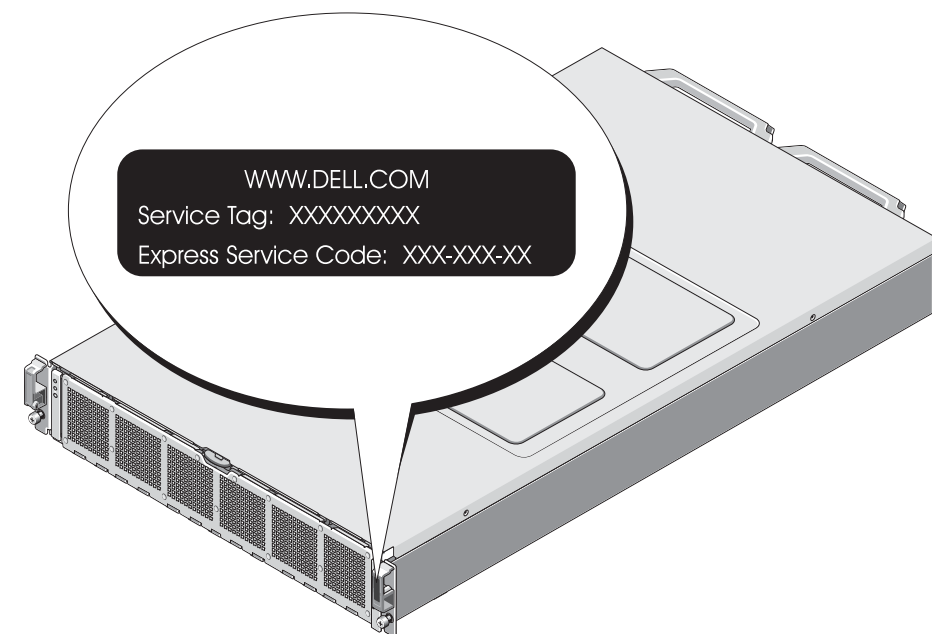
- Before using your system, read the Dell Software License Agreement that came with the system.
- If you do not accept the terms of agreement, call the customer assistance telephone number. For customers in the United States, call 800-WWW-DELL (800-999-3355). For customers outside the United States,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

### Verifying Package Contents

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

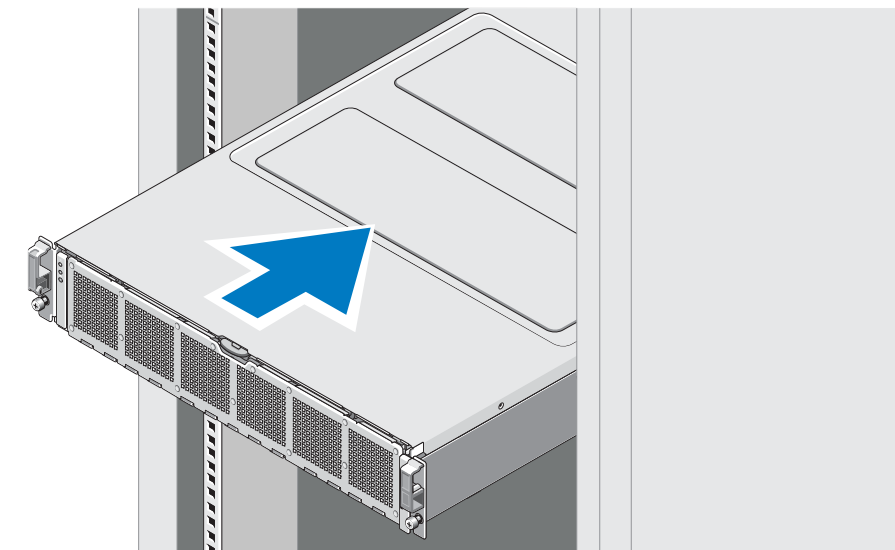
### Locating Your System Service Tag

- Your system is identified by a unique Express Service Code and Service Tag number. The Express Service Code and Service Tag are located on the rack mounting support bracket.
- This information is used by Dell to route support calls to the appropriate personnel.



### Installing the Solution in a Rack

- Your solution requires a properly grounded electrical outlet, a compatible rack, and a rack installation kit. For information about installing the rails for the PowerVault NX3600/NX3610 solution, see the *Rack Installation Instructions* that shipped with your rack kit.
- Rack the NX3600/NX3610 solution near the PowerVault MD Series array. Ensure that the NAS iSCSI ports are on the same subnet as the MD Series array iSCSI ports.



### Installation Guidelines

- Depending on your configuration, use 14 Category 5E or Category 6 Ethernet cables with RJ-45 connectors. Connect eight cables to the PowerVault NX3600/NX3610 solution and six cables to the MD storage array.
- It is recommended that you use a minimum of four network switches as shown in step 2.

**NOTE:** The MD32x0i storage array has four iSCSI data ports on each controller. Do not use ports 2 and 3 on the controllers for FluidFS. These ports can be used for block-level access from other hosts.

### Required Settings on the SAN Switch

- Jumbo Frames enabled (9216 MTU)
- Port Fast enabled
- Flow Control enabled

**NOTE:** Dell PowerConnect switches must be configured to 9216 MTU or greater to accept frames of size 9000 MTU. Non-Dell switches may require a different MTU configuration for similar frame sizes. For more information on MTU configuration for non-Dell switches, see the related switch documentation.

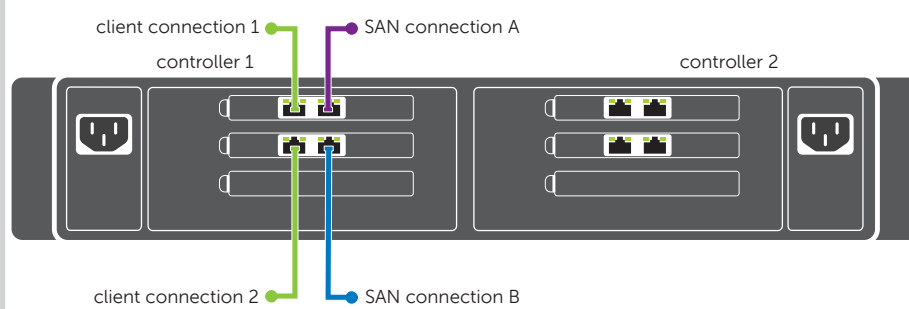
**NOTE:** Jumbo Frames and flow control settings are mandatory for all ports used solely by the PowerVault NX3600/NX3610 solution and file access.

## 2 Cabling Your Solution

### Planning

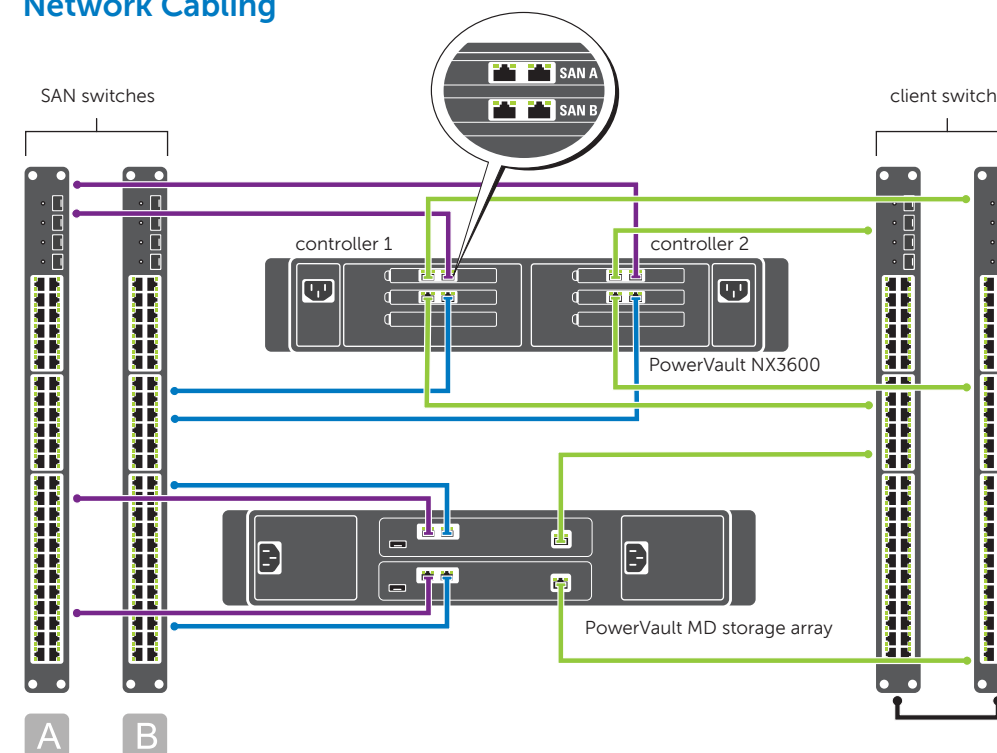
Proper planning is essential to successfully deploy the PowerVault NX3600/NX3610 NAS solution. This placemat describes a deployment scenario where two redundant iSCSI switches are used. If your SAN is configured in a different configuration, see the Deployment Guide for additional cabling options. It is recommended that you complete the IP chart in step 4 prior to deploying the solution. If you are using a Dell PowerConnect switch, it is also recommended that you set your SAN switch MTU size to 9216 or greater and enable spanning tree portfast and flow control.

### Cabling Worksheet



PowerVault NX3600/NX3610	Controller 1	Controller 2
Client connection 1	To client switch	To client switch
Client connection 2	To client switch	To client switch
SAN connection A	To SAN switch (A)	To SAN switch (A)
SAN connection B	To SAN switch (B)	To SAN switch (B)

### Network Cabling



**NOTE:** The MD32x0i storage array has four iSCSI data ports on each controller. Do not configure ports 2 and 3 on the same subnets as the FluidFS NAS system. They can be connected to the same switch for other clients, but must be configured on different subnets.

## 3 Turning On Your Solution

- Turn on the PowerVault MD storage array(s) and network switches.
- Verify if the network switches are configured with the required settings.
- Turn on the NX3600/NX3610 solution.

### Preparing the Management Station

- Connect the management station to the client switch.
- Verify that IPv6 is enabled.
- Verify that Java Runtime Environment (JRE) is installed on the management station.
- Install the NAS Initial Deployment Utility (IDU) software.
- Download SSH client for CLI access.

# Setting Up Your Dell PowerVault Network Attached Storage Solution (continued)



## 4 | Preparing Your Environment for Setting Up the PowerVault NX3600/NX3610 Solution

The setup worksheet 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 FluidFS NAS Setup Worksheet					
Number of NAS Appliances	<input type="checkbox"/> 1 <input type="checkbox"/> 2*	Number of MD Series Arrays	<input type="checkbox"/> 1 <input type="checkbox"/> 2*	Type of Network	<input type="checkbox"/> Routed <input type="checkbox"/> Flat
NAS Cluster Name:	Subnet Mask:	Gateway:			

Primary Client Network		iSCSI SAN Network	
Management VIP:		SAN A	SAN B
NAS Appliance 0		Controller 0	
Controller 0 IP		Controller 1	
Controller 1 IP			
NAS Appliance 1*			
*Controller 2 IP		*Controller 2	
*Controller 3 IP		*Controller 3	

Environment Setup			
DNS Server IP		SNMP Read Community	NIS Domain
DNS Suffix		SNMP Trap Recipient	NIS Server
NTP Server IP		NetBIOS Name	LDAP Server
SMTP Server IP		Active Directory Domain	LDAP Distinguished Name
SMTP From E-mail Address			

Switch Requirements Checklist		
	Client Network	SAN/Internal Network
Jumbo Frames Enabled 9216 MTU	<input type="checkbox"/> Recommended	<input type="checkbox"/> Required
Port Fast Enabled	<input type="checkbox"/> Required	<input type="checkbox"/> Required
Flow Control Enabled	<input type="checkbox"/> Recommended	<input type="checkbox"/> Required

Client VIPs		MD Series iSCSI Address	
Flat Network needs only one VIP			
Routed Networks need four VIPs per appliance			
1 appliance = 4; * 2 appliances = 8			
Client VIP # 1		*Array #1	Management
Client VIP # 2		Controller 0-0	SAN A
Client VIP # 3		Controller 0-1	SAN B
Client VIP # 4		Controller 1-0	SAN A
*Client VIP # 5		Controller 1-1	SAN B
*Client VIP # 6			
*Client VIP # 7		*Array #2	Management
*Client VIP # 8		Controller 0-0	SAN A
		Controller 0-1	SAN B
		Controller 1-0	SAN A
		Controller 1-1	SAN B

Interconnect Private Network

Select a private Class C subnet

10.255.254.x

172.31.254.x

192.168.254.x

-----x

\*Applicable only to NX3610.

### 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.

**Interconnect Private Network**—A Class C subnet that is not used in your environment.

**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 NX3600/NX3610 solution.

**NAS management VIP**—IP address that the management stations use to access the PowerVault NX3600/NX3610 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.

## 5 | Deploying Your NAS Solution

### Launching the Initial Deployment Utility



**NOTE:** Download and install the NAS IDU from [support.dell.com](http://support.dell.com).

The NAS IDU guides you through the network configuration and enables you to set up and access the PowerVault NX3600/NX3610 solution from the management station.

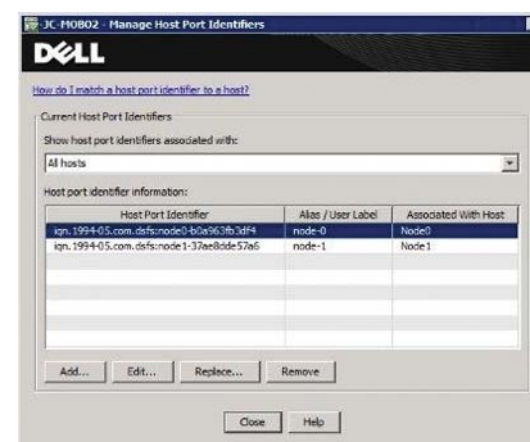
**NOTE:** The following steps must be performed by trained personnel. For more information on deploying your NAS solution, see the *Dell FluidFS NX3600/3610 NAS Solutions Deployment Guide* at [support.dell.com/manuals](http://support.dell.com/manuals).

1. From the management station, launch the **NAS IDU** and follow the instructions on the screen. After the configuration is complete, the **Configurations Results** screen is displayed.

### Completing the Setup

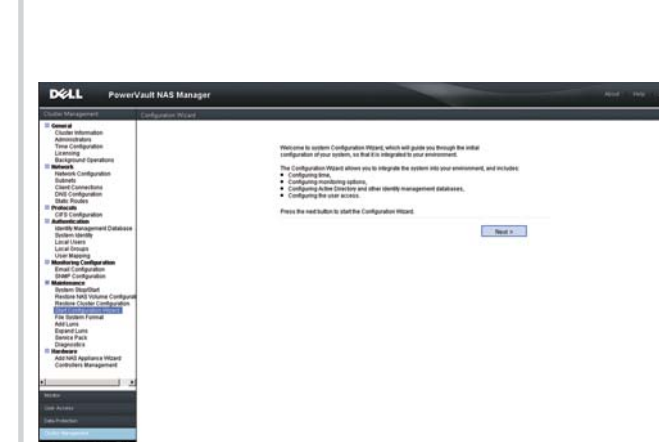


2. Copy the IQN numbers from the **Configuration Results** screen. **NOTE:** Do not close the **Configuration Results** screen.
3. Launch the **Modular Disk Storage Manager (MDSM)** client.
4. Create a disk group pair. **NOTE:** It is recommended that you create a disk group for each virtual disk. However, you can create multiple virtual disks in a disk group.
5. Create virtual disk pairs. These virtual disks must be created in pairs and must be of the same size.



6. Create hosts and host groups.
7. Map the virtual disks to the host group.
8. Repeat step 4 through step 6 for controller 1.
9. Close the MDSM client.
10. In the **Configuration Results** screen in the NAS IDU, click **Finish**. The NAS Manager web interface is launched and the **PowerVault Configuration Wizard** is displayed. **NOTE:** If the web interface does not automatically launch, select **Cluster Management** → **Maintenance** → **Start Configuration Wizard**.

## 6 | Configuring Your NAS Solution



The PowerVault NAS Manager web interface provides information about the controllers and guides you through the steps necessary to configure the network for your clustered NAS solution.

**NOTE:** If the **Start Configuration Wizard** does not open automatically, locate it under **Cluster Management** → **Maintenance** → **Start Configuration Wizard**.

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

To access the PowerVault NAS Manager web interface at a later time, type the following URL in your web browser: **https://<NAS Management VIP>**. The NAS Management VIP is the VIP of the management station.

### 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 using the **Start Configuration Wizard**:

- 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

After completing the **Start Configuration Wizard**, configure additional Client VIPs in the NAS Manager web interface at **Cluster Management** → **Network** → **Subnets** → **Primary**.

## 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 <a href="http://support.dell.com/manuals">support.dell.com/manuals</a> .
Deployment Guide	The Deployment Guide provides information about the deployment of the hardware and software for the solution. This document is available at <a href="http://support.dell.com/manuals">support.dell.com/manuals</a> .
Owner's Manual	The 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 <a href="http://support.dell.com/manuals">support.dell.com/manuals</a> .
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 <a href="http://support.dell.com/manuals">support.dell.com/manuals</a> .
Administrator's Guide	The Administrator's Guide provides information about configuring, managing, and troubleshooting the software and the solution. This document is available at <a href="http://support.dell.com/manuals">support.dell.com/manuals</a> .
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 NAS Manager web interface.

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Printed in the U.S.A.



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2012 - 04