DELL™ PowerVault™ DL Backup-to-Disk Appliance

Powered by CommVault™ Simpana™

Configuring the Dell™ PowerVault™ MD3000i Array as a Backup Target

A Dell Technical White Paper

by

Dell Engineering

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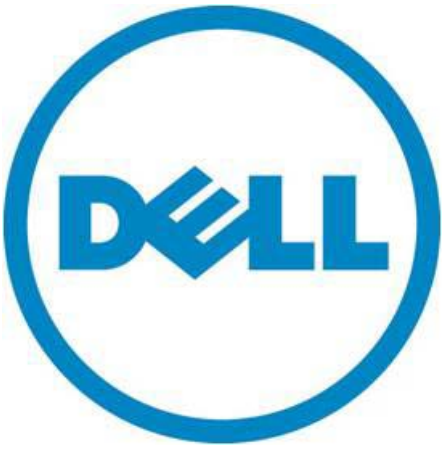

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Executive Summary

IT managers are concerned that traditional backup methods aren't keeping up with the needs of the business. Existing backup and recovery operations often fail due to media management issues and human error associated with legacy tape backup methods. As data continues to explode within corporate environments, IT is having trouble meeting backup windows with standard tape-based solutions. Advancements in technology and price reductions have made it possible to use disk-to-disk based backup and recovery methods to improve the speed and reliability of backup and restore operations. The Dell™ PowerVault™ DL Backup to Disk Appliance – Powered by CommVault™ Simpana™ offers one of the industry's only fully integrated backup-to-disk solutions with software factory installed. Dell and CommVault have co-developed this offering to give you easier management capabilities of the backup-to-disk environment. It's an ideal way for any IT department to achieve faster, more reliable backups and restores.

In addition, Dell's storage product portfolio includes the PowerVault™ MD3000i Array which combines with the DL Backup to Disk Appliance to provide a complete backup solution. The PowerVault™ MD3000i delivers a self-managing storage array that provides enterprise class features using industry-standard Ethernet SAN connectivity and the iSCSI standard protocol. The result is an ideal consolidated storage solution.

Combining the DL Backup to Disk Appliance and the PowerVault™ MD3000i Array -- finally, an affordable backup to disk with consolidated storage solution that delivers a simple solution that provides an excellent return on investment.

Introduction

This document explains how to configure a Dell™ PowerVault™ MD3000i Array as a backup target for the DL Backup to Disk Appliance functioning as a CommVault™ Simpana™ Media Agent. (Refer to figure 1)

NOTE: *If one or more protected servers and the DL Backup to Disk Appliance share a PowerVault MD3000i Array, ensure the DL Backup to Disk Appliance backup target virtual disks reside on separate disk groups from those of the protected servers.*

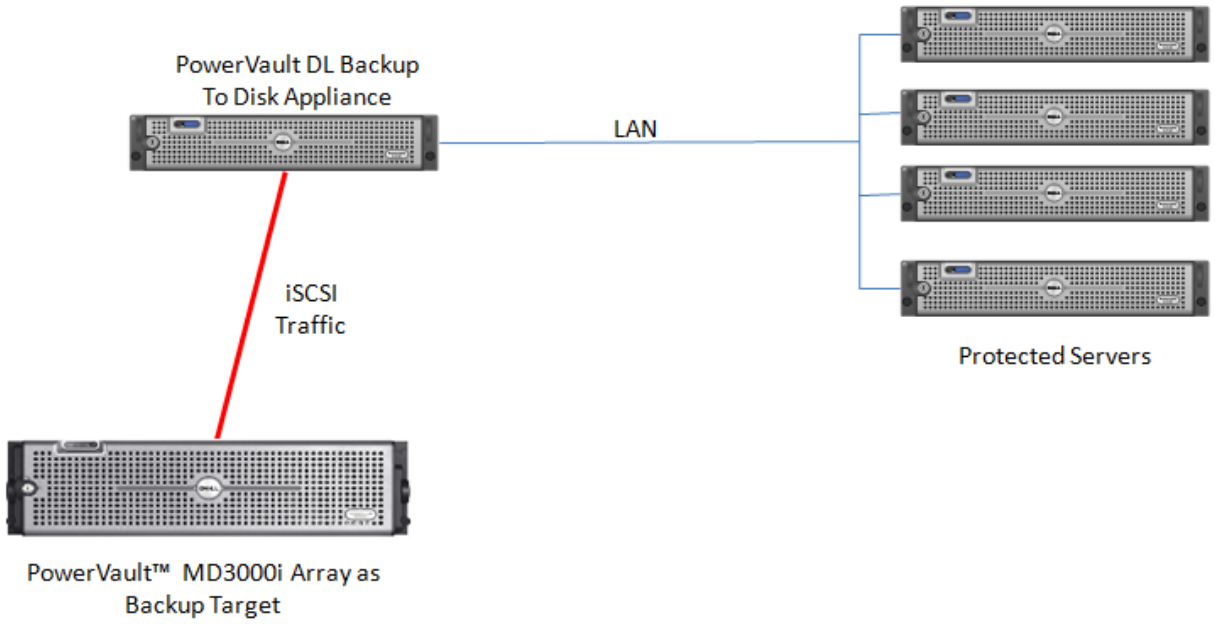

Figure 1: MD3000i as a backup Target

Prerequisites

This paper assumes that the DL Backup to Disk Appliance has been configured and the desired virtual disks on the PowerVault™ MD3000i Array are created and made available to the DL Backup to Disk Appliance by a SAN Administrator. It also assumes the PowerVault™ MD3000i Array Modular Disk Storage Manager (MDSM) has been installed on a system other than the DL Backup to Disk Appliance.

The following table lists the minimum software versions required to support a PowerVault™ MD3000i Array as a backup target. The PowerVault™ MD3000i Array resources are available on the Customer Support site at support.dell.com by selecting PowerVault™ MD3000i Array as your product model under Manuals and Drivers and Downloads.

Hardware Component	Software Component	Version
Dell™ PowerVault™ DL Backup to Disk Appliance	Microsoft® Windows® Server 2008 Standard x64 Edition	Service Pack 2 or higher
	CommVault™ Simpana™	8.0 SP3 or later
Dell™ PowerVault™ MD3000i Array	Array Firmware	07.35.31.60 or higher
	Modular Disk Storage Manager (MDSM)	03.35.G6.45 or higher
Broadcom 5709C NetXtreme II GigE	Firmware	5.0.12 or higher
	Driver	14.1.5 or higher

Warning: The storage provisioning and monitoring features of the DL Backup to Disk Appliance can fail when connecting a PowerVault™ MD3000i Array as a backup target if these prerequisites are not met.

Note: Installation of the Modular Disk Storage Hardware Provider (VDS/VSS) on the DL Backup to Disk Appliance it is not required when using the Dell™ PowerVault™ MD3000i Array as a backup target.

Warning: When configuring a Deduplication Storage Policy, the Deduplication Database (DDB) should not reside on the PowerVault™ MD3000i Array or on the internal OS drives. For performance reasons, the DDB should reside on dedicated direct attached (internal or external) storage other than the OS drives.

Technical Resources

The following table lists additional documentation available for reference.

Vendor	Document or Resource Title	Location
CommVault	CommVault Simpana 8.0.0 Books Online	documentation.commvault.com/dell/
Dell	MPIO to PowerVault™ MD3000i Array with MICROSOFT iSCSI INITIATOR	http://www.delltechcenter.com/page/MPIO+to+PowerVault+MD3000i+with+Microsoft+iSCSI+Initiator
Dell	Dell PowerVault DL Backup to Disk Appliance Powered by CommVault™ Simpana™ User Guide	support.dell.com/manuals
Dell	Dell™ PowerVault™ Modular Disk Storage Manager User's Guide	support.dell.com/manuals

Note: The iSCSI Initiator is preinstalled on Microsoft 2008 Server.

Configuration and Settings

This process assumes that the Dell PowerVault MD3000i array is setup and configured and the PowerVault DL Backup to Disk Appliance will be added to an existing installation.

To configure the PowerVault MD3000i array as a backup target for the DL Backup to Disk Appliance:

- Install the Dell PowerVault MD3000i Storage Software on the Backup to Disk Appliance.
- Expose the PowerVault MD3000i virtual disks to the DL Backup to Disk Appliance.
- Configure the PowerVault DL Backup to Disk Appliance access to the iSCSI array.

Installing the Dell PowerVault MD3000i Storage Software on the DL Backup to Disk Appliance

1. Insert the MD3000i resource CD.
2. Start the installation of the Dell PowerVault MD3000i Storage Software by selecting **Install MD3000i Storage Software.** (Refer to figure 2)
3. Select the language for installation and click **Ok** to continue.
4. Select **Next** to continue.
5. Accept the terms of the license agreement and click **Next** to continue.
6. Verify the installation path and select **Next** to continue.
7. Select **Host** as the installation type and select **Next** to continue.
8. The Pre-Installation Summary screen appears, showing the installation destination, the required disk space, and the available disk space. Select **Install** to continue.
9. When the installation completes, select **Done** to continue.
10. Restart the system.

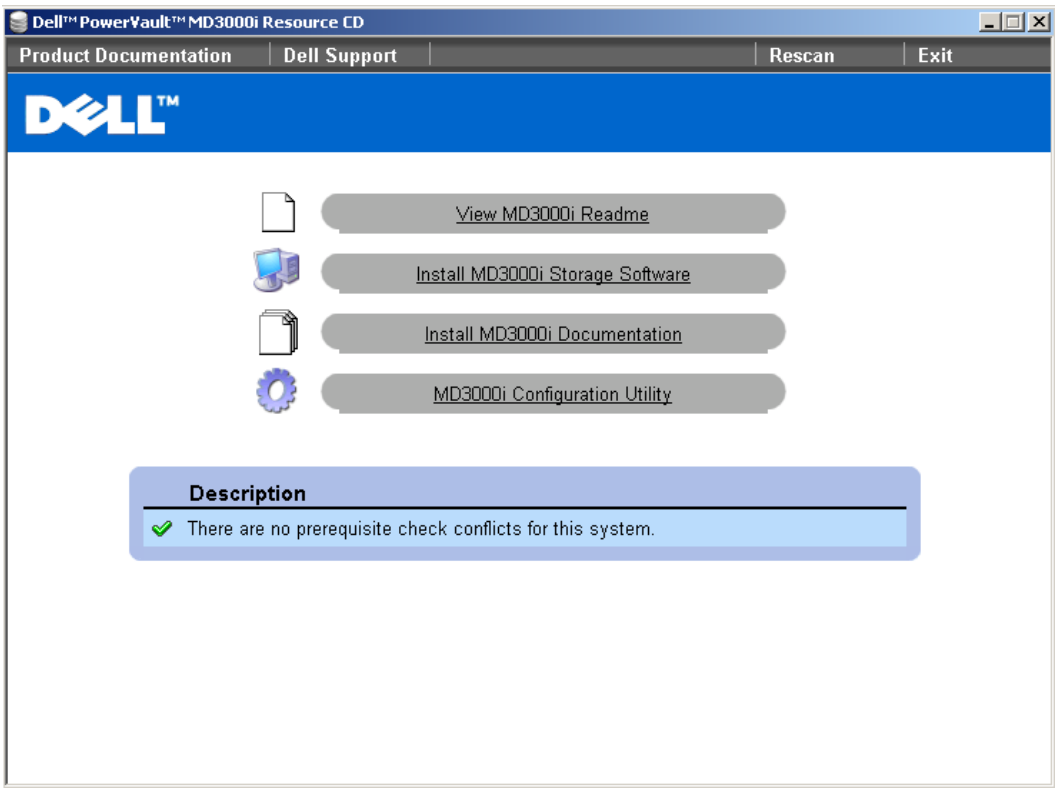

Figure 2: MD3000i Resource CD menu

Exposing the PowerVault™ MD3000i virtual disks to the DL Backup to Disk Appliance

This section explains the steps required to enable iSCSI access to the PowerVault™ MD3000i virtual disks from the DL Backup to Disk appliance. These steps may require assistance from your SAN Administrator.

1. Launch the MDSM on the system being used as the management station.
2. Click on the **Configure** tab, and then select **Configure Host Access (Manual).**
3. At **Enter host name,** enter the hostname of the DL Backup to Disk Appliance. Select the DL Backup to Disk Appliance's hostname again in step 9
4. In **the Select host type drop-down menu sele**ct "Windows Server 2003/ Server 2008 Non-Clustered" as the host type (operating system). Click **Next** to continue.
5. If **the iSCSI Initiator of the** DL Backup to Disk Appliance shows up in the list of **known iSCSI initiators,** make sure it is highlighted and click **Add.** Click **Next** to continue. Otherwise, click **New** and enter the **iSCSI Initiator name**. The iSCSI Initiator name can be found on the **General tab** of the **iSCSI Initiator properties** window on the DL Backup to Disk Appliance. (Refer to figure 3).

Figure 3: iSCSI Initiator Name

6. For the **Specify Host Group** step, choose, **NO: This Host will NOT share access to the same virtual disks with other hosts**
7. Click **Finish** to complete the Host setup.
8. Click on the **Configure** tab and select **Create Host-to-Virtual Disk Mappings**.
9. Select the newly created Host from the list of available hosts and click **Next**
10. Select all Virtual Disk(s) to be mapped to the DL Backup to Disk Appliance Host and click **Finish**.

Configuring the PowerVault™ DL Backup to Disk Appliance Array Access

1. Click on **Start** -> **Administrative Tools** -> **iSCSI Initiator.** The iSCSI Initiator properties dialogue box appears. (Refer to figure 4)
2. Click on the **Discovery** tab. Click **Add Portal** and enter the IP address of the MD3000i

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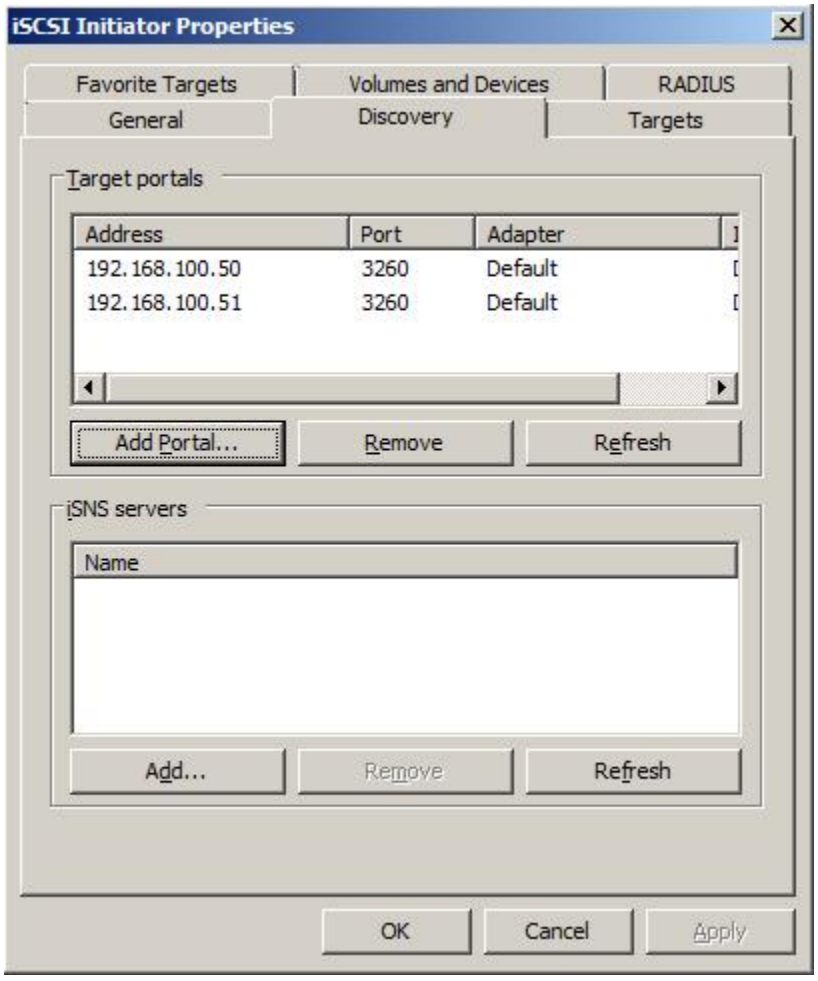

Figure 4: MD3000i iSCSI Initiator Target portals

3. Click on **Targets** tab and click **Refresh.** This will populate the iSCSI targets available to the DL Backup to Disk Appliance. Contact your MD3000i SAN administrator if no targets are available.
4. Click on the desired target then click **"Log On"**, and select "**Automatically restore this connection when the computer starts**" and "**Enable Multi Path**". (Refer to Figure 5)

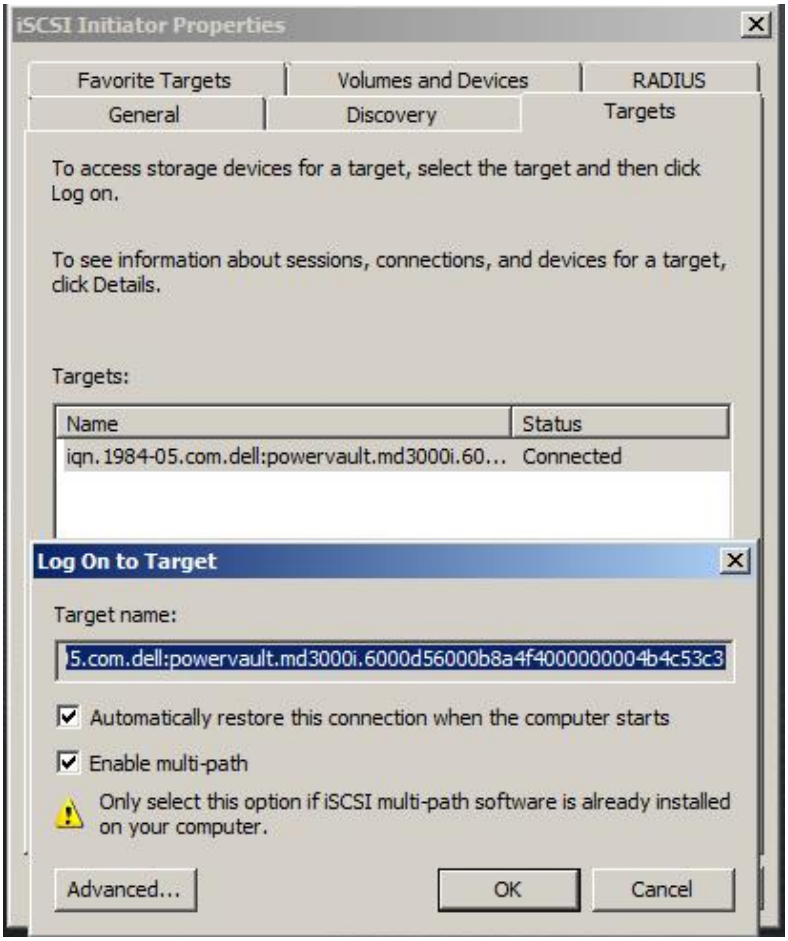

Figure 5: Logging on to the MD3000i Targets

5. If the virtual disk requires CHAP credentials, click **Advanced** in the Log On to Target dialog box. Set the CHAP logon information check box and specify the CHAP user name and secret. (Refer to figure 6) (For more information on how to setup/configure MPIO, please refer to the "**MPIO to PowerVault™ MD3000i Array with MICROSOFT iSCSI INITIATOR**" under technical resources section)

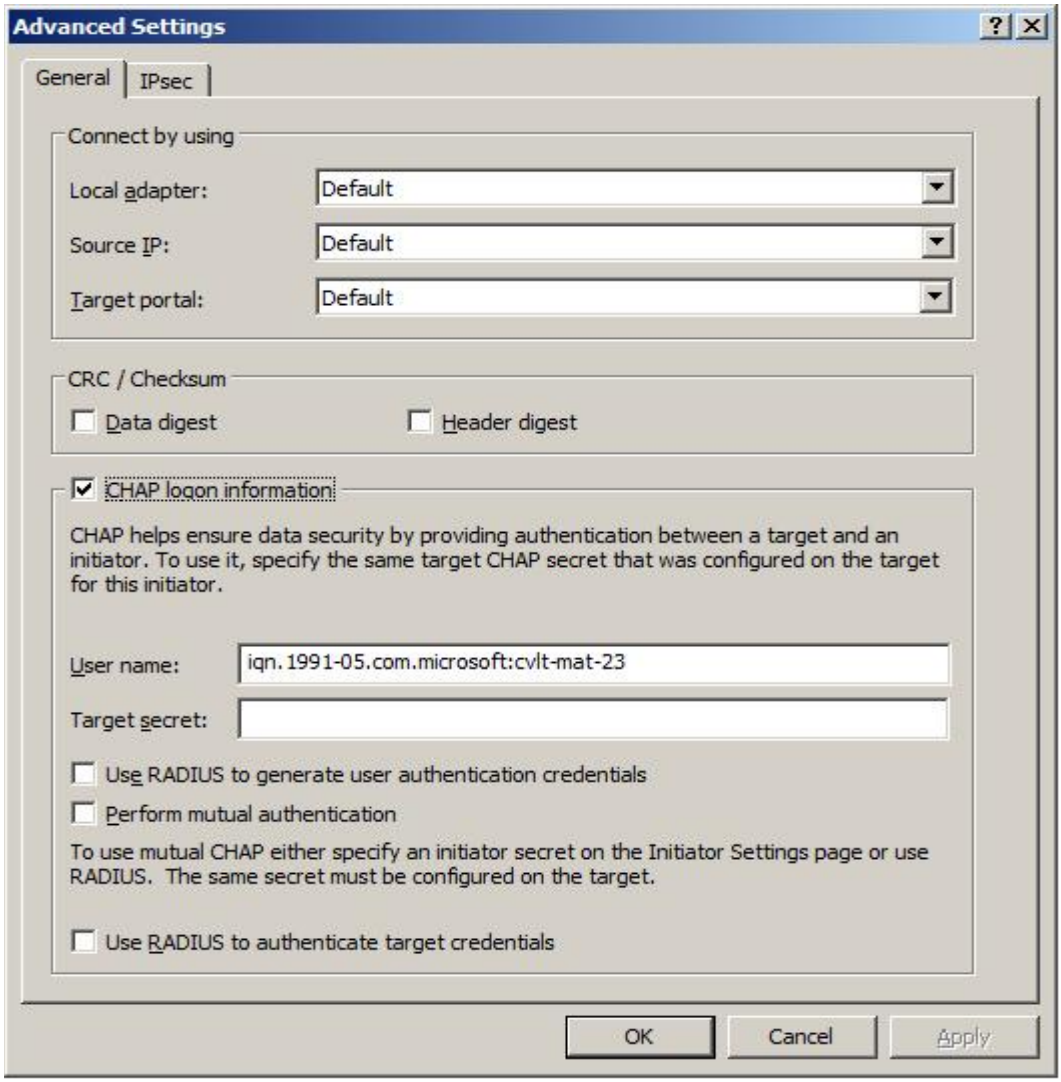

Figure 6: CHAP logon information

6. Click **Start -> Administrative Tools** -> **Server Manager** -> **Storage** -> **Disk Management**. The virtual disk is listed as an available disk. Initialize the disk as a **GPT**. (GPT disks use the GUID partition table and allows for volume sizes of greater than the 2TB limitation of MBR disks)
7. Create a **Simple Volume** on the disk.
8. Assign a drive letter to the volume.
9. Quick Format the volume.
10. Repeat steps 4 through 9 for each additional MD3000i target that will be used as a DL backup to Disk Appliance backup target.
11. Return to the **iSCSI initiator**. Click on the **Volumes & Devices** tab.
12. Click on the **AutoConfigure** button**.** This will add all the Drive Letters/ Mount points for the MD3000i virtual disks to the list of 'Volumes & Devices' This is to ensure that after a reboot, the MD3000i virtual disks will be available to CommVault Simpana.

13. The virtual disks will now be available for creating Simpana Magnetic Libraries. (For more information on how to configure Libraries & drives, please refer to the "**Library and Drive Configuration - How To**" section in the CommVault Books Online documentation)
14. Backup-to-Disk & Deduplication Storage Policies can then be configured for these Magnetic Libraries (For more information on how to configure Storage Policies, please refer to the "**Storage Policies**" section in the CommVault Books Online documentation)

Conclusions

The need to recover data will continue to be a focus of IT departments. Files are lost, viruses take down infrastructures, disk drives fail and natural disasters happen. Data may be lost or damaged for good as a result. In order to be prepared, Dell provides a simple and complete storage solution with the PowerVault DL Backup to Disk Appliance – Powered by CommVault™ Simpana™ and the PowerVault™ MD3000i Array.