

MEDIA MIGRATION

**DELL POWERVAULT DL 2000
POWERED BY SYMANTEC**



Media Migration

EXECUTIVE SUMMARY

During the operation of the Dell™ PowerVault™ DL2000 Backup to Disk Appliance Powered by Symantec Backup Exec™, it may become necessary to migrate or copy backup data from one appliance to another. Depending on the appliance configuration, this data may reside on disk, tape, or both. This guide provides instructions for migrating the data from one appliance to another for the following items:

- Disk Group(s)
- Tape Media
- Tape Library/Libraries
- Data Set(s)
- Disk Group(s) not associated with a PowerVault DL Backup to Disk Appliance

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MIGRATING AN ENTIRE DISK GROUP

An entire Disk Group (the physical drives making up the virtual disks on the PowerVault DL Backup to Disk Appliance) must be migrated together from one PowerVault DL Backup to Disk Appliance to another. Migrating single drives or partial drives in a Disk Group will result in data loss for the entire Disk Group.

Perform the following steps to migrate a Disk Group from one appliance to another:

1. Determine the Disk Group for migration.



Note: Although Disk Groups in a standard configuration state (as defined in the *Dell PowerVault™ DL Backup to Disk Appliance Powered by Symantec Backup Exec Quick Start Guide*) are typically contained in Slots 1-7 or Slots 8-14 on each PowerVault MD1000 Storage Enclosure, there are cases where the slot locations may be different or have changed. Using the following procedure ensures the correct drives are migrated in all cases.

- a. From **Symantec's Backup Exec Management Console**, select the **Devices** tab and then determine the “Hardware name” of the resource of the **Storage Array** to be migrated.

In the example found in Figure 1, “VIRTDISK 8” in “ARRAY 1” is going to be migrated, and its associated hardware name is “VDS_CREATED_001”.

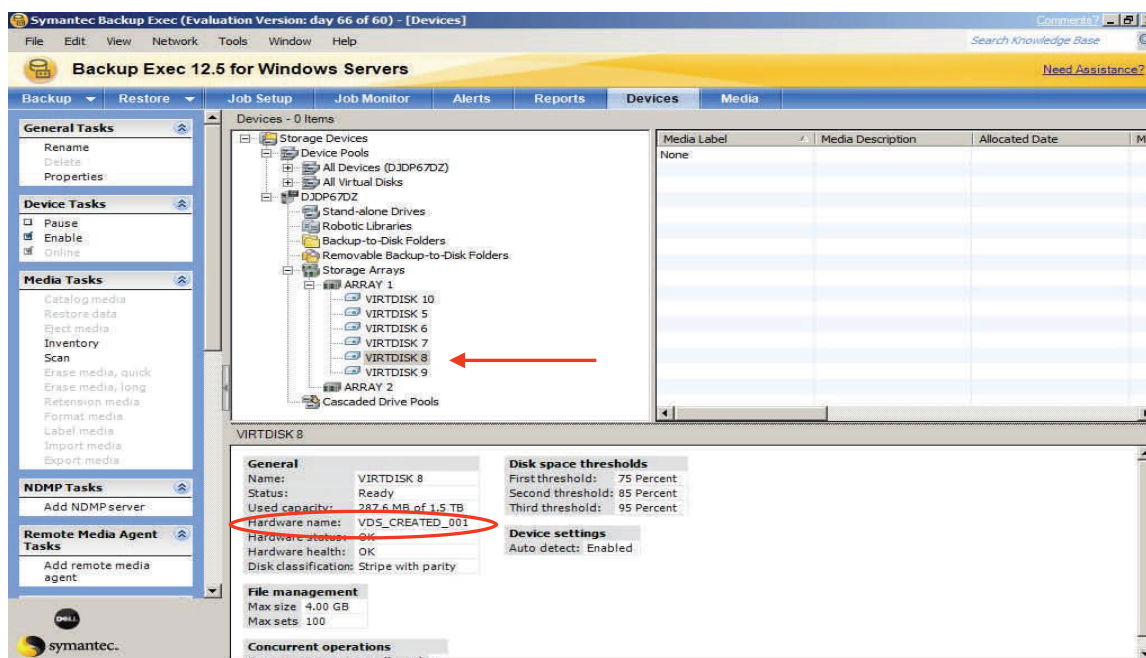


Figure 1: Example selection of a storage resource to be migrated

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- b. From the DL Backup to Disk Appliance Console, launch Dell's OpenManage Server Administrator (OMSA). Select **Virtual Disks** from the appropriate PERC 6/e Adapter as seen in Figure 2 and locate the hardware name of the resource to be migrated as determined in step 1.a.

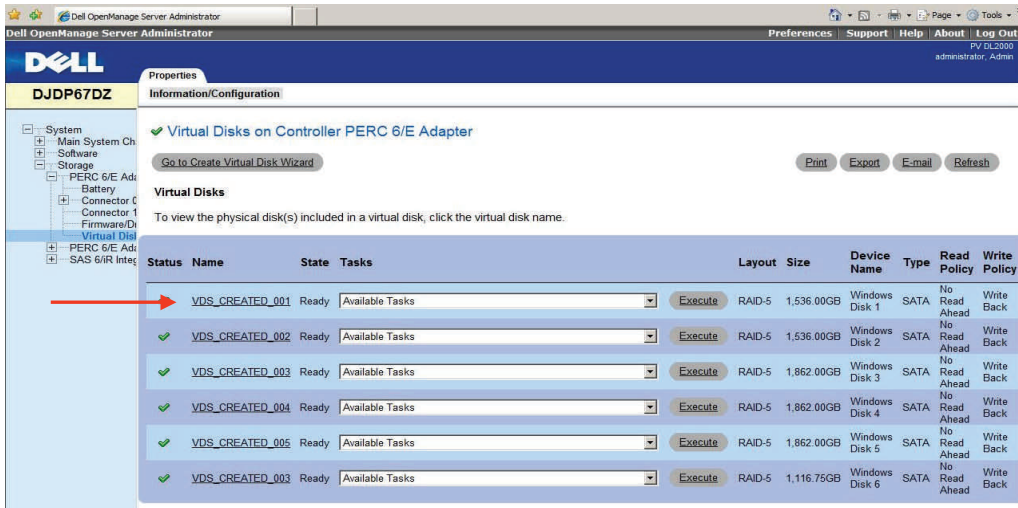


Figure 2: OMSA view of storage resource to be migrated

- c. Determine and make note of which physical disks the Disk Group is comprised of by either 1) using the **Blink** task (see Figure 3) and then manually viewing the physical drives (now blinking) associated with the resource on the MD1000 Storage Enclosure; or 2) by viewing the details of the virtual disk as shown in Figure 4.

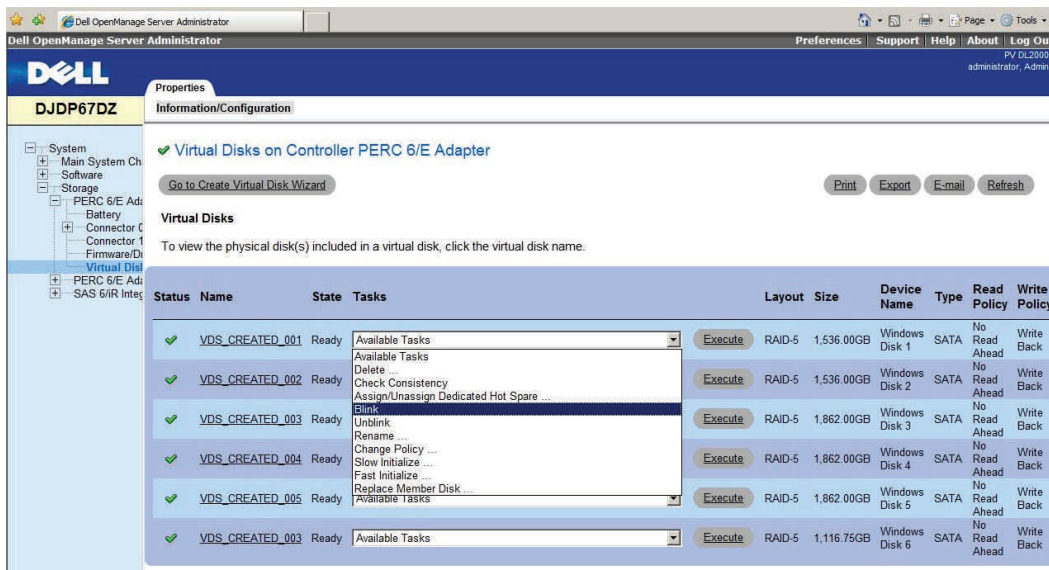
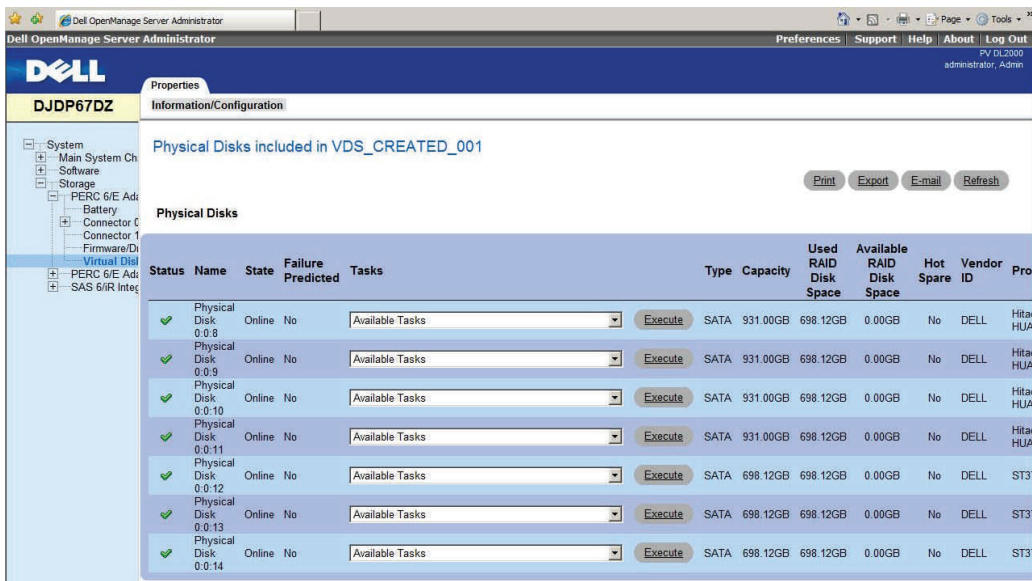


Figure 3: Selection of the **Blink** task in OMSA

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The screenshot shows the Dell OpenManage Server Administrator interface. The main window displays the 'Properties' page for a resource named 'DJD67DZ'. Under the 'Information/Configuration' tab, it shows 'Physical Disks included in VDS_CREATED_001'. A table lists the physical disks with columns for Status, Name, State, Failure Predicted, Tasks, Type, Capacity, Used RAID Disk Space, Available RAID Disk Space, Hot Spare, Vendor, and Product. All disks are in an 'Online' state with 'No' failure predicted. Each row includes a green checkmark icon, a dropdown menu for 'Available Tasks', and an 'Execute' button.

Status	Name	State	Failure Predicted	Tasks	Type	Capacity	Used RAID Disk Space	Available RAID Disk Space	Hot Spare	Vendor	Product
✓	Physical Disk 0.0.8	Online	No	Available Tasks	SATA	931.00GB	698.12GB	0.00GB	No	DELL	Hitac HUA
✓	Physical Disk 0.0.9	Online	No	Available Tasks	SATA	931.00GB	698.12GB	0.00GB	No	DELL	Hitac HUA
✓	Physical Disk 0.0.10	Online	No	Available Tasks	SATA	931.00GB	698.12GB	0.00GB	No	DELL	Hitac HUA
✓	Physical Disk 0.0.11	Online	No	Available Tasks	SATA	931.00GB	698.12GB	0.00GB	No	DELL	Hitac HUA
✓	Physical Disk 0.0.12	Online	No	Available Tasks	SATA	698.12GB	698.12GB	0.00GB	No	DELL	ST37
✓	Physical Disk 0.0.13	Online	No	Available Tasks	SATA	698.12GB	698.12GB	0.00GB	No	DELL	ST37
✓	Physical Disk 0.0.14	Online	No	Available Tasks	SATA	698.12GB	698.12GB	0.00GB	No	DELL	ST37

Figure 4: Physical disks associated with the resource to be migrated

2. Power down the PowerVault DL Backup to Disk Appliance, including the server and all attached MD1000 Storage Enclosures.
3. Remove the physical disks for the Disk Group to be migrated as determined in Step 1.c.
4. On the target PowerVault DL Backup to Disk appliance, set the **Disk Configuration Policy** to **Manual** via the **Appliance Management Console**.
5. Install the physical disks of the migrated Disk Group in to the MD1000 Storage Enclosure connected to the target PowerVault DL Backup to Disk Appliance.



Note: If the goal is to keep the Disk Configuration State as **Standard**, the migrated Disk Group must occupy Slots 1-7 or Slots 8-14 in the new MD1000 Storage Enclosure. The optional hot spare should be installed in Slot 0.

6. From the target PowerVault DL Backup to Disk Appliance Console, launch Dell's OpenManage Server Administrator (OMSA) tool. Import the migrated Disk Group(s) using OMSA. Refer to the *Dell OpenManage Server Administrator (OMSA) User Guide* for specific steps.



Note: Use the OMSA procedure for importing foreign configurations.

7. On the target PowerVault DL Backup to Disk appliance, reset the Disk Configuration Policy to one of the **Automatic** settings via the Appliance Management Console.
8. Launch Symantec Backup Exec once the Disk Group has been imported. Backup Exec will automatically discover and detect the imported Disk Group (listed as an **Array** in the **Devices** tab), including its virtual disks. The contents of the migrated Disk Group / array must be inventoried and cataloged before they are available for use.
9. Select the **Devices** tab from within the Backup Exec management console. Right-click the imported virtual disk and select **Inventory** from the pop-up menu. Repeat this step for each imported virtual disk. Once all virtual disks have been inventoried, their contents must be cataloged.

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CATALOGING THE MIGRATED DISK GROUP

The virtual disks contained in the migrated Disk Group must be cataloged in Backup Exec once the virtual disks have been imported and inventoried on the new PowerVault DL Backup to Disk Appliance. Cataloging the virtual disks allows Backup Exec to read and store the information contained in the virtual disks which includes:

- Media number/label/name (something to identify that media from all others)
- Date and time of the backup
- Type of backup
- What directories/files were backed up

From the **Backup Exec Management Console**, perform the following steps to catalog the imported virtual disks:

1. From the **Devices** tab, select the first virtual disk that was imported. Refer to Figure 1 for an example location.
2. Select all of the media on the right.
3. Right-click all of the media and select **Catalog Media** from the pop-up menu. Specify the following (if necessary) on the **Catalog Job Properties** dialogue:
 - Under **Device**, specify a password if the media is password protected
 - Under **General**, specify a job name and priority
 - Under **Schedule**, select **Run Now** to start the Inventory Operation
4. Continue to specify the settings for each media in the catalog operation. Backup Exec will catalog the media and it will be available for use.

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MIGRATING TAPE MEDIA

It may be necessary to migrate backup sets stored on tape media from one PowerVault DL Backup to Disk Appliance to another. In order to migrate tape media from one appliance to another, the tape media must be exported from the tape library attached to the original appliance.

Exporting Tape Media

An export job must be created to export tape media so that the Backup Exec database is updated. The Backup Exec export media job fully supports robotic libraries with portals. When this job is run on one or more robotic library slots, the exported media is placed in the portals. If you select more media than there are portals, the robotic library will fill as many slots as possible, and then you are prompted to remove the media from the portal. This process continues until all of the selected media has been removed from the robotic library.

1. Open the **Symantec Backup Exec Management Console**.
2. Click **Devices** on the navigation bar.
3. Select the robotic library containing the tape media.
4. Click **Slots**.
5. On the **Results** pane, select the slots you want to export tape media from.
6. Under **Media Tasks** in the **Task** pane, select **Export media**.
7. Complete the appropriate options as follows:
 - Job Name
 - Job Priority
8. Select **Run Now** to have the import media operation run.

Importing Tape Media

On the PowerVault DL Backup to Disk Appliance that you wish to import the tape media into, you must create an import media job to insert media into your robotic library so that the Backup Exec database is updated. The Backup Exec import media job fully supports robotic libraries with portals. When this job is run, the slots you selected are checked for media. If media is found, it is exported to the portals. After all the media has been exported, you are prompted to insert new media into the portal so it can be imported. This process continues until all of the requested media has been imported into the robotic library.

Before you create an import media job, note the following:

- If the media does not have a bar code, when you create the import job, you must select the option Auto-inventory after import is completed.
- If your robotic library uses a media magazine, make sure no jobs are currently running and that all media are ejected from the drive and are back in the magazine slots before swapping the magazine.

You can select any number of slots to import.

You can monitor this job on the Job Monitor.

To import media to a robotic library:

1. On the navigation bar, click **Devices**.
2. Select the robotic library.
3. Click **Slots**.
4. On the **Results** pane, select the slots you want to import media to.
5. Under **Media Tasks** in the **Task** pane, select **Import media**.
6. Complete the appropriate options as follows:
 - Job Name
 - Job Priority
7. Backup Exec must inventory the media after it has been placed in the library. In order for Backup Exec to automatically create an inventory job to run after the import job completes, under **Settings**, click **Options**, and then select **Auto-inventory after import is completed**.
8. Select **Run Now** to have the import media operation run.

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CATALOGING MIGRATED TAPE MEDIA

The tape media must be cataloged once the tape media has been imported and inventoried on the new PowerVault DL Backup to Disk Appliance. Cataloging the tape media allows Backup Exec to read and store the information contained in the tape media catalog which includes:

- Tape number/label/name (something to identify that tape from all others, which is typically the barcode for tape media)
- Date and time of the backup
- Type of backup
- What directories/files were backed up

Perform the following steps to catalog the imported tape media:

1. Click the tape drive/robotic library.
2. Select the slots containing the tape media that was just imported.
3. Right-click the tapes/slots and select **Catalog**.

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MIGRATING A TAPE LIBRARY

Perform the following steps to move a tape library from one PowerVault DL Backup to Disk Appliance to another PowerVault DL Backup to Disk Appliance.



Note: The correct number of Backup Exec Library Expansion Option licenses must be installed on the new appliance to support your PowerVault Tape Library.

1. Power down the PowerVault DL Backup to Disk Appliance including the server and attached tape library.
2. Perform the necessary steps to disconnect the PowerVault Tape Library from the original appliance and connect the PowerVault Tape Library to the new appliance. Refer to your PowerVault Tape Library documentation for more information on cabling your PowerVault Tape Library.
3. Power on the new PowerVault DL Backup to Disk Appliance and complete the appliance log in process.
4. Launch Backup Exec 12.5 and install the correct number of Library Expansion Option licenses to support the PowerVault Tape Library.
5. On the navigation bar, click **Devices**.
6. Select the robotic library.
7. Click **Inventory**. The tape library will inventory each cartridge within the library. This process could take several minutes depending on the number of cartridges in the library.

Cataloging Media from a Migrated Tape Library

The tape media must be cataloged once the PowerVault Tape library has completed the inventory process. Cataloging the tape media allows Backup Exec to read and store the information contained in the tape media catalog which includes:

- Tape number/label/name (something to identify that tape from all others)
- Date and time of the backup
- Type of backup
- What directories/files were backed up

Perform the following steps to catalog the tape media in the library:

1. Click the tape drive/robotic library.
2. Select the slots containing the tape media that was just imported.
3. Right-click the tapes/slots and select **Catalog**.

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COPYING DATA SETS

Copying Data Sets

Specific media sets can be copied from one PowerVault DL Backup to Disk Appliance to another. Copying sets involves the duplicate operation to copy media sets from one appliance to another. Perform the following steps to copy media sets from one appliance to another:

1. On the source appliance, create a backup-to-disk folder where the data will reside on the target appliance.
 - a. Select **Tools**→**Wizards** →**Backup-to-Disk**.
 - b. Click **Next** to continue the wizard.
 - c. Select **Create a new backup to disk folder**.
 - d. Select **Backup-to-disk folder**.
 - e. Name the backup-to-disk folder.
 - f. Select a path to store the backup-to-disk folder. This path should be located on the appliance where the media sets are being copied.
 - g. Set the size for the backup-to-disk files.
 - h. Set the maximum file size.
 - i. Set the number of backup sets per file.
 - j. Set the maximum number of concurrent jobs.
 - k. Set the low disk space thresholds.
 - l. Complete the wizard.
2. On the **Job Setup** tab, select **New Job to Duplicate Backup Sets**.
3. Select **Duplicate Existing Backup Sets**.
4. Select the backup sets that are to be copied to the new appliance.
5. Select the backup-to-disk folder on the new appliance (specified in step 1) as the destination for the duplicate operation from the **Device and Media** tab.
6. Complete other settings for the wizard and select **Run Now** to run the duplicate operation.
7. Once the duplicate operation has completed, go to the new appliance.
8. On the new appliance, create a backup-to-disk folder following step 1. Specify the path for the backup-to-disk folders as the local path on the appliance set in Step 1. Complete the wizard.
9. Select the **Devices** tab from Backup Exec. Right-click the backup-to-disk folder created in the previous step and select **Inventory** from the pop-up menu. Once the backup-to-disk folder has been inventoried, the contents must be cataloged.

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CATALOGING COPIED DATA SETS

The media in the backup-to-disk folder must be cataloged once the backup-to-disk folder has been inventoried on the new PowerVault DL Backup to Disk Appliance. Cataloging the backup-to-disk folder allows Backup Exec to read and store the information contained in the folders which includes:

- Media number/label/name (something to identify that media from all others)
- Date and time of the backup
- Type of backup
- What directories/files were backed up

Perform the following steps to catalog the imported virtual disks:

1. From the **Devices** tab, select the backup-to-disk folder that was imported.
2. Select all of the media on the right.
3. Right-click all of the media and select **Catalog Media** from the pop-up menu. Specify the following (if necessary) on the **Catalog Job Properties** dialogue:
 - Under **Device**, specify a password if the media is password protected
 - Under **General**, specify a job name and priority
 - Under **Schedule**, select **Run Now** to start the Inventory Operation
4. Continue to specify the settings for each media in the catalog operation. Backup Exec will catalog the media and it will be available for use.

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MIGRATING AN UNASSOCIATED DISK GROUP

Disk Group(s) from other systems (e.g., another Dell PowerEdge Server with attached storage enclosures) may be migrated to a PowerVault DL Backup to Disk Appliance.

Perform the following steps to migrate a Disk Group from one system to a targeted PowerVault DL Backup to Disk Appliance:

1. Determine the Disk Group for migration.
2. Power down the system that owns the Disk Group, including the server and all attached MD1000 Storage Enclosures.
3. Remove the physical disks for the Disk Group to be migrated .
4. On the target PowerVault DL Backup to Disk appliance, set the **Disk Configuration Policy** to **Manual** via the **Appliance Management Console**.
5. Install the physical disks of the migrated Disk Group in to the MD1000 Storage Enclosure connected to the target PowerVault DL Backup to Disk Appliance.



Note: If the goal is to keep the Disk Configuration State as **Standard**, the migrated Disk Group must occupy Slots 1-7 or Slots 8-14 in the new MD1000 Storage Enclosure. The optional hot spare should be installed in Slot 0.

6. From the target PowerVault DL Backup to Disk Appliance Console, launch Dell's OpenManage Server Administrator (OMSA) tool. Import the migrated Disk Group(s) using OMSA. Refer to the *Dell OpenManage Server Administrator (OMSA) User Guide* for specific steps.



Note: Use the OMSA procedure for importing foreign configurations. If importing the foreign configurations fails, issue the **Clear** command for the migrated Disk Group.

7. Using OMSA, perform a **Fast Initialization** on each of the imported virtual disks and then delete any imported virtual disks.
8. On the target PowerVault DL Backup to Disk appliance, reset the **Disk Configuration Policy** to one of the **Automatic** settings via the **Appliance Management Console**. Backup Exec will then configure the imported Disk Group(s) as one or more virtual disks and make them available for use by the PowerVault DL Backup to Disk appliance.

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SUMMARY

The need to migrate or copy backup data from one Dell PowerVault DL Backup-to-Disk Appliance to another is handled via straightforward processes and procedures. Depending on the appliance configuration, this data may reside on disk, tape, or both. The procedures contained herein provide a direct methodology to accomplish the aforementioned tasks.

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