

# **Configuring Deduplication for High Performance**

A Dell Technical  
White Paper

Dell PowerVault  
DL2000 Powered By  
CommVault



## Introduction

The Dell PowerVault™ DL2000 – Powered by CommVault® Simpana® 8 Advanced Deduplication Edition delivers end-to-end block-based deduplication to significantly reduce MediaAgent disk storage requirements. This technical note discusses how to configure deduplication for primary storage policy copies on the PowerVault DL2000 magnetic library to achieve high performance.

## General Guidelines

For best performance when enabling deduplication for new primary storage policy copies on the PowerVault DL2000:

- Specify magnetic library mount paths for the deduplication stores (databases); never place deduplication stores on the PowerVault DL2000 internal system drive (C:\).
- Set the block level deduplication factor to 64K for storage policies that backup file data and to 128K for storage policies that backup databases.
- Confirm that software compression and deduplication are enabled for all subclients associated with these storage policies; software compression and deduplication are enabled by default.
- Apply the Spill and Fill mount path allocation policy to the PowerVault DL2000 magnetic library.
- Confirm that the Deduplication Performance Pack is installed on the PowerVault DL2000.

Details on applying each of these configuring settings are provided below.



## Enabling deduplication and specifying a deduplication store

Create a new primary storage policy copy with deduplication enabled by using the Storage Policy Wizard:

1. From the CommCell Browser right-click the **Storage Policies** node and select **New Storage Policy** from the shortcut menu. The Storage Policy Wizard will launch and guide you through the process of creating a storage policy.
2. Select **Yes** for deduplication in the Storage Policy Wizard.
3. Browse to a magnetic library mount path under C:\DiskStorage\

Following these steps places the deduplication store in the PowerVault DL2000 magnetic library located on the external storage enclosures. Never place deduplication stores on the PowerVault DL2000 internal system drive (C:\).

## Setting the block level deduplication factor

To set the block level deduplication factor on a primary storage policy copy with deduplication enabled:

1. From the CommCell Browser right-click the desired storage policy and select **Properties** from the shortcut menu.
2. From the **Storage Policy Properties (Advanced)** tab select the



desired block size in the **Block Level Deduplication Factor** field. Select 64K for storage policies that backup file data and 128K for storage policies that backup databases.

3. Click **OK** to save the changes.

## Enabling subclient software compression and deduplication

To enable software compression for all subclients associated with a primary storage policy copy:

1. From the **Copy Properties** dialog box select the **Copy Properties (Deduplication - Advanced)** tab.
2. Select the **Enable Software Compression with Deduplication** field.
3. Click **OK** to save the changes.

To enable deduplication on a subclient associated with a primary storage policy copy:

1. From the CommCell Browser right-click the subclient for which you wish to enable deduplication and then click **Properties**.
2. Click the **Storage Device** tab and then click the **Deduplication** tab.
3. Select **On Client** for signature generation.
4. Click **OK** to save the changes.

Note: Software compression and deduplication are enabled by default for subclients associated with a primary storage policy copy that has deduplication enabled.



## Applying the Spill and Fill Mount Path Policy

To apply the Spill and Fill mount path allocation policy to the PowerVault DL2000 magnetic library:

1. From the CommCell Browser right-click the magnetic library for which you wish to establish the mount path allocation policy, and then click **Properties**.
2. Click the **Mount Paths** tab.
3. Click the **Spill and fill mount paths** options.
4. Click **OK** to save the information.

## Confirming the Deduplication Performance Pack is Installed

The Deduplication Performance Pack significantly enhances system throughput when using the deduplication feature of CommVault Simpana 8. This update package must be installed on the PowerVault DL2000 to achieve best performance.

To confirm that the Deduplication Performance Pack is installed on a system:

1. From the CommCell Browser right-click the MediaAgent for which you wish to confirm the update package, and then click **Properties**.
2. Click the **Version tab**.
3. Confirm that the **Version Information** box includes the



following updates:

- a. QoperationUpgrade(11370)
- b. OESLinuxGWDBSupport(11612)
- c. 11659
- d. qBackupWithAppID(12062)
- e. SIPerformanceEnhancementCS(12441)
- f. SIPerformanceEnhancementMA(12476)
- g. 12480

4. Click **OK** to exit out of the MediaAgent Properties

If the Deduplication Performance Pack is not installed on the system it can be obtained using the Automatic Update feature of CommVault Simpana 8. For further information on configuring and using Automatic Updates in your environment visit <http://documentation.commvault.com/dell> and click Simpana --> Features-Support Information --> Automatic Updates.

Note: Prior to May 25, 2009, the Deduplication Performance Pack can only be obtained from the Dell | CommVault Maintenance Advantage portal located at <http://dell-support.commvault.com>.

## Further Reading

This technical note focuses on configuring deduplication for primary storage policy copies to achieve high performance with the PowerVault DL2000 magnetic library. Best practices and additional configuration options for the deduplication feature of CommVault Simpana 8 can be found by visiting <http://documentation.commvault.com/dell> and clicking Simpana --> Features-Support Information --> Deduplication. You should review this additional information before deploying deduplication in your environment.

