Setting Up Dell™ DR Series Deduplication Appliance as Backup Target on CommVault Simpana™ 10

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Revisions

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Executive summary

This paper provides information about how to set up the Dell DR Series Deduplication Appliance as a Backup device for CommVault Simpana 10. This paper is a quick reference guide and does not include all DR Series Deduplication Appliance deployment best practices.


**Note:** The DR Series Deduplication Appliance/CommVault Simpana build version and screenshots used for this paper may vary slightly, depending on the version of the DR Series Deduplication Appliance/Symantec NetBackup software version used.
1 Install and Configure the DR Series Deduplication Appliance

1. Rack and cable the DR Series Deduplication Appliance, and power it on.

2. Please refer to Dell DR Series System Administrator Guide, under sections of “iDRAC Connection”, “Logging in and Initializing the DR Series System”, and “Accessing IDRAC6/Idrac7 Using RACADM” for using iDRAC connection and initializing the appliance.

3. Log in to iDRAC using the default address 192.168.0.120, or the IP that is assigned to the iDRAC interface. Use user name and password of ‘root/calvin’.

4. Launch the virtual console.
5. After the virtual console is open, log in to the system as user administrator and the password St0r@ge! (The “0” in the password is the numeral zero).

6. Set the user-defined networking preferences.

7. View the summary of preferences and confirm that it is correct.
8. Log on to DR Series Deduplication Appliance administrator console, using the IP address you just provided for the DR Series Deduplication Appliance, with username **administrator** and password **St0r@ge!** (The “0” in the password is the numeral zero.).

![Login Screen](image)

**Note:** if you do not want to add DR Series Deduplication Appliance to Active Directory, please see the *DR Series Deduplication Appliance Owner’s Manual* for guest login instructions.

9. Join the DR into Active Directory domain.

- Select **Active Directory** from the menu panel on the left side of the management interface.
• Enter your Active Directory credentials.

10. Create and mount the container. Select Containers in the tree on the left side of the dashboard, and then click the Create at the top of the page.
11. Enter a **Container Name**, select the **Enable CIFS** or **Enable NFS** check box. Symantec NetBackup supports both CIFS and NFS protocols.

12. Select the preferred client access credentials.

**Note**: For improved security, Dell recommends adding IP addresses for the following (Not all environments will have all components): Backup console (CommVault Server, CommVault Media Agents)
13. Click **Create a New Container**. Confirm that the container is added.

14. Highlight the container and click **Edit**. Note down the container share/export path, which will be used later as the Disk Library for CommVault Simpana.
15. Click **Cancel** to exit.
2 Set up CommVault Simpana 10

2.1 Single System Environment (DR as CIFS Disk Library)

1. Open Simpana Administrative Console, expand Storage Resources, right-click on Libraries, select Add – > DiskLibrary...

2. In Add Disk Library window, enter the name for the Disk Library and the information of DR container, and Click OK.
3. Confirm that the library is created, its status is **Ready**.
2.2 Single System Environment (DR as NFS Disk Library)

1. Mount DR container NFS export onto Unix/Linux Media Agent.

2. Open Simpana Administrative Console, expand Storage Resources, right-click on Libraries, and Select Add -> DiskLibrary...
3. In **Add Disk Library** window, enter the name for **Disk Library** and mount path of DR container export, and Click **OK**.

4. Confirm that the library is created, its **Status** is **Ready**.
2.3 Replicated System Environment

**NOTE:** The replicated system environment includes minimum of 2 DR systems that are connected to 2 different Media Agents. CommVault manages data replication between the replication pair. For more details, please refer to CommVault books online:

http://documentation.commvault.com/commvault/release_10_0_0/books_online_1/english_us/prod_info/frl.htm

1. On **CommCell Console**, click **Storage** then **Library and Drive**.

2. Select all the MediaAgent(s) that will participate in replication, click **Add** to add to **Selected MediaAgents**, and then click **OK**.

**Note:** To configure any shared library, make sure you select all the MediaAgents that share that library.
3. Click **OK** to continue.

![Image of Information window]

4. Click **Shared Disk Device** tab.

![Image of Library and Drive Configuration]

5. Click **Start**, select **Disk Device** -> **Add Network Sharing Device...**
6. In **Add Sharing Folder** dialog box, enter source DR container share/export information and then click **OK**.

   ![Add Sharing Folder dialog box](image)

   - **Device Name**: SharingDevice#
   - **MediaAgent**: DavidD-RHEL6-01

   **Sharing Folder Properties**
   - **Local Path**
     - **Folder**: ...
   - **Network Path**
     - **Connect As**: 
     - **Password**: 
     - **Verify Password**: 
     - **Folder**: ...

   - **Preferred**
   - **Read Only**

   ![Select the name of MediaAgent accessing this mount path](image)

   ![Linux MediaAgent can only select local path](image)

   ![Windows MediaAgent can select both local and network path](image)

**Note:** This Device is replication source. Device information is based on which protocol the container is exposed to the MediaAgents.
7. The system displays the device information with the MediaAgent that can access the device in Library and Drive Configuration window.

8. Right-Click the device and then click Add Replica Sharing Folder.
9. In **Add Sharing Folder** dialog box, enter target DR container share/export information and then Click **OK**.

![Add Sharing Folder dialog box](image)

**Note**: This Device is the destination of replication. Device information is based on which protocol the container is exposed to the MediaAgents.
10. The system displays the device information with which MediaAgent can access the device in the **Library and Drive Configuration** window.

11. From **Libraries** tab, click **Start** menu, select **Add** -> **Replica Disk Library**.
12. In the Add Disk Library dialog box, enter **Alias** and check **Enable replication** checkbox.

**NOTE:**

**Enable Replication**

- For Disk Library Replication solution, select this option to use ContinuousDataReplicator to replicate data between the source (shared folder added in Step 7) and the destination (shared folder added in Step 10) mount paths. Leave this option unselected if you don’t want CommVault to manage replication between the two DRs.

- Selecting this option will automatically create a new replication set and a replication pair under ContinuousDataReplicator, when a mount path is added to this library. These replication sets and replication pairs can be monitored from the CommCell Console. It is highly recommended not to change the default settings of the replication sets, or delete the replication sets when the replication is in progress.

- If this option is selected, make sure to install the ContinuousDataReplicator package on the source and the destination computers before adding mount path to this library. Click **OK**.

- If this option is not selected, use DR native replication between two separate disk libraries. There may exist issues when CommVault tries to restore from the target DR disk library, because CommVault doesn’t have catalog information for that disk library.
13. In **Share Mount Path** dialog box, select the device configured in step 5-10, which has two sharing folders on both the replication source and replication target, and then click OK:

![Select the disk device that you wish to associate as the mount path](image)

14. Verify the disk Library is configured.

![Verify the disk Library is configured](image)
2.4 Use Continuous Data Replicator to replicate client data to a DR container

**NOTE:**
ContinuousDataReplicator (CDR) replicates data from a source computer to a destination computer, with both computers support same network transfer protocol.
In this configuration, CDR replicates between a client and a DR container. CDR package should be installed on both media agents associated with this configuration.
For more details, please refer to Commvault books online: http://documentation.commvault.com/commvault/release_10_0_0/books_online_1/english_us/prod_info/flr.htm

1. From **CommCell Console**, pick the client that a dataset needs to be replicated to DR. Right click **Continuous Data Replicator -> All Tasks -> Add Replication Set**
2. In **Create New Replication Set** window, Enter **Name** for the Replication Set, select **Destination Host** from dropdown list. That’s the client machine that has DR container mounted (CIFS or NFS). Click **OK**.

![](image1.png)

3. Right click on the **Replication Set**, go to All Tasks - > Manage Pairs

![](image2.png)
5. In **Common Base Folder**, enter the path pointing to DR container share/export, Click **Add** > select the Destination Path. Click **Close**.

6. Right click on the managed pairs under the replication set. Choose **Start/Start Full Resync**. Monitor the **State**.
2.5 Create backup job with DR Series Deduplication Appliance as the target

1. Expand the client to be backed up, right-click the target iDataAgent, select All Tasks -> Create New Backup Set

2. Enter **New Backup Set Name**

   ![Create New Backup Set dialog]

   - **Client Computer**: davidd-w2k8-01
   - **iDataAgent**: File System
   - **New Backup Set Name**: [Blank]
   - **Storage Policy**: Not Assigned
   - **Make this the default backup set**

   ![Create New Backup Set dialog]

   - **OK**
   - **Cancel**
   - **Help**
3. Set appropriate **Backup Schedule**

![Backup Schedule dialog box]

- This newly added item may not be covered by an existing backup schedule. Do you want to create a backup schedule for it?
- **Associate to schedule policy**
  - System Created (All Agent Types)
- **Schedule**
- **Do Not Schedule**

![Backup Schedule dialog box buttons]

4. Right-Click on the newly created Backup Set, select **All Tasks -> New Subclient**

![Backup and Restore dialog box]

- **All Tasks**
- **New Subclient**
5. Enter **Subclient name** on **General** tab.
6. Select **Storage Device** tab, click **Create Storage Policy**

![Image of Storage Device tab with Create Storage Policy highlighted]

7. In **Create Storage Policy Wizard**

- Select Policy Type: Data Protection and Archiving

![Image of Create Storage Policy Wizard with Data Protection and Archiving selected]

• Enter **Storage Policy Name**

![Image of Create Storage Policy Wizard]

- **Storage Policy Name**: New Storage Policy
- **Incremental Storage Policy**: [ ]
- **Provide the DataFabric Manager Server Information**: [ ]

![Next > Finish]

• Select the DR disk library created in **Section 2** as default library

![Image of Create Storage Policy Wizard]

- **Library**: [ ]

![Next > Finish]

• Select **MediaAgent**

![Image of Create Storage Policy Wizard]

- **MediaAgent**: [ ]

![Next > Finish]
- Enter **Number of Device Streams** and retention policy

  ![Create Storage Policy Wizard](image)

  Max is 32. If each client can write backup data close to 100MB/s, this number can be set as 5 for current DR firmversons.

- **Disable** deduplication for the primary copy

  ![Create Storage Policy Wizard](image)

- **Finish**
8. Disable **Software Compression** under **Storage Device -> Data Transfer Option**

9. Uncheck **Enable Deduplication** under **Storage Device -> Deduplication**
10. Under **Content** tab, select data for backup by clicking **Browse**.

11. Right-click the newly created subclient, and select **Backup**
12. **Make selection under Select Backup Type and Click OK.**

![Backup Options](image)

13. **Navigate to Job Controller to monitor job Status**

![Job Controller](image)
3  Set Up the DR Series Deduplication Appliance Cleaner

The cleaner will run during idle time. If your workflow does not have a sufficient amount of idle time on a daily basis then you should consider scheduling the cleaner which will force it to run during that scheduled time.

If necessary you can do the following procedure described in the screenshot to force the cleaner to run. Once all the backup jobs are setup the DR4x00 cleaner can be scheduled. The DR Series Deduplication Appliance cleaner should run at least 6 hours per week when backups are not taking place, generally after a backup job has completed.

Performing scheduled disk space reclama tion operations are recommended as a method for recovering disk space from system containers in which files were deleted as a result of deduplication.
4 Monitoring Deduplication, Compression and Performance

After backup jobs have completed, the DR Series Deduplication Appliance tracks capacity, storage savings and throughput on the DR Series Deduplication Appliance dashboard. This information is valuable in understanding the benefits the DR Series Deduplication Appliance.

**NOTE:** Deduplication ratios increase over time; it is not uncommon to see a 2-4x reduction (25-50% total savings) on the initial backup. As additional full backup jobs complete, the ratios will increase. Backup jobs with a 12-week retention will average a 15x ratio in most cases.