

Setting Up the DR Series System as a Backup Target on CommVault

Technical White Paper

Quest Engineering June 2017

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Legend

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death
 CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.
 IMPORTANT, NOTE, TIP, MOBILE, or VIDEO: An information icon indicates supporting information.

Setting Up the DR Series System as a Backup Target on CommVault Updated – November 14, 2017

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Revisions

Date	Description
January 2014	Initial release
March 2014	Updated for missed DR replication step.
April 2015	Added VTL Content for v3.2 Release
July 2015	Added content for configuring an iSCSI target on Linux
October 2016	Updated content for the DR Series system release 4.0 as well as information about the following: VTL sizing, Rapid CIFS/NFS, Fibre Channel VTL, VTL replication, and LAN Free backup configuration
June 2017	Rebranded document to Quest Software

Executive Summary

This document provides information about how to set up the DR Series system to run Virtual Synthetic Backup on CommVault 11. This document is a quick reference guide and does not include all DR Series system deployment best practices.

For additional information, see the DR Series system documentation and other data management application best practices whitepapers for your specific DR Series system at:

http://support.quest.com/DR-Series

NOTE: The DR Series system and CommVault screenshots used in this document may vary slightly, depending on the DR Series system firmware version and CommVault version you are using

Installing and configuring the DR Series system for use with CommVault

CommVault software prerequisites

This guide applies to versions of CommVault version 11 and later. The screenshots used in this document may vary slightly, depending on the version of the software you are using.

For CommVault version 10, there are patch requirements to add support for NDMP VTL. Refer to the CommVault documentation for more information or contact support for details.

Installing and configuring the DR Series

system

- 1 Rack and cable the DR Series System, and power it on.
- 2 In the *DR Series System Administrator Guide*, refer to the sections, "iDRAC Connection", "Logging in and Initializing the DR Series System", and "Accessing iDRAC6/iDRAC7/iDRAC8 Using RACADM" for more information about using the iDRAC connection and initializing the DR Series system.
- 3 Log on to iDRAC using the default address **192.168.0.120**, or the IP address that is assigned to the iDRAC interface. Use the user name and password: "**root/calvin**".

Deel	Integrated Dell Remote Access Controller 8	Enterprise		
Login IDRAC Type the Usernam	I Dell DR4300 eand Password and click Submit.		?	
Username: root Domain: This iDRAC	Password:			
-		Cance	al Submit	

4 Launch the virtual console.

System Dell DR4300 root, Admin	Properties Attached Media Summary Details System	vFlash Service Module Job Queue Inventory			
Creatiew Logs - Power Thermal - Virbuit Censele - Arens - Setup - Trouble shooting - Licenses - Infruision - Infruision - Infruision - Handware - Host OS	System Summary Server Health Bateries Fons Induation Power Supplies Removable Flash Med Temperatures Voltages	13	Virtual Console Preview Seting Refee: Lunnt		2
	Server Information Power State System Model System Revision System Host Name Operating System Version Service Tag Express Service Code Bio/S Version Firmware Version P Addression	ON Dell DR4300 I dr4300-20. systest ocarina local Cerro06 release 6 6 (Final) Kernel 2.6.32 3H20F82 7.56407/102 1.3.6 2.15.10.10 10.250.224.66	Cuick Launch Tasks Power ON / OFF Power Cycle Dystem (cild boog Dystem ID LED ON/OFF Vew Logs Updatu and Relitack Reset IDRAC		

5 After the virtual console is open, log on to the system as user **administrator** with the password **St0r@ge!** (The "0" in the password is the **numeral zero**).

Ocarina release 1 (EAR-1.00.00)	Build: 32850
Kernel 2.6.18-164.el5 on an x86_	64
localhost login: administrator Password: StOr@ge!	*

6 Set the user-defined networking preferences.



7 View the summary of preferences and confirm that the information is correct.

Set Static IP A	ddress	k
IP Address	: 10.10.86.108	
Network Mask	: 255.255.255.128	
Default Gateway	: 10.10.86.126	
DNS Suffi×	: idmdemo.local	
Primary DNS Server	: 10.10.86.101	
Secondary DNS Server	: 143.166.216.237	
Host Name	: DR4000-5	
Are the above settings correct	(yes/no) ? _	

8 Log on to DR Series system administrator console with the IP address you just provided for the DR Series system. Use the username **administrator** and password **St0r@ge!** (The "**0**" in the password is the numeral zero.).

⊖ dr4300-26 systest.ocarin: × ← ⇒ C ▲ Not secure: bttps://10.250.235.18	iress	θ ×
	Quest	
	DR4300 dr4300-26.systest.ocarina.local	
	Username administrator Password	
	St0r@ge!	
	© 2017 Quest Software Inc. All Rights Reserved.	

9 Join the DR Series system into the Active Directory domain.

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NOTE: If you do not want to add DR Series system to Active Directory, see the DR Series System Owner's Manual for guest logon instructions.

a In the left navigation area of the DR Series system GUI, click **System Configuration > Active Directory**.



b Click the **Join** hyperlink.

Quest DR430	system	Introductiva Social VI	administrator stest ocarina local	• 0	I
GlobalView		* Active Directory			
Dashboard		Inset the Lens Parent setting is a set transmission of the set transmission			
Containers					
Replications		•			
System Configuration		•			
Support	٠				
09/26/2017 10:08:36 US/Pacific-New					

c Enter your Active Directory credentials and click Join.

Ouest DR4300	D 6.syster	est ocarina local	administrator 🛛 🖬 o 🚦
Global/Vew Dashboard Containers	***	Active Directory % Join	
Replications System Configuration Support	•	Domain Name (PODN) / Repared Username Reported	
09/26/2617 09:46:45 US/Pacific-New		Password Required Org Unit Use Canoel Contemport	

13

Configuring CIFS and NFS containers for CommVault

The topics in this section describe how to configure the CIFS and NFS DR Series containers for use with CommVault.

Creating containers in the DR Series system

For this procedure, you will need to create and mount the container.

1 In the left navigation area of the DR Series system GUI, click **Containers**, and, on the **Action Menu** in the upper right corner of the page, click **Add Container**.

Quest 0R4300) Lsystes	t.ocarina.local					administrator 🜌 o
GlobalView		Demo/Cont	tainers				Add Container
Dashboard							Ge Log Out
Containers	•	Container *	Marker Type ¢	Access Protocol \$	Connection Status \$	Replication #	Actions
Replications		backup	Auto	NFS,CIFS	Available, Available	Not Configured	8 W 8
System Configuration		sample	CommVault	NFS,CIFS	Available, Available	Not Configured	2 III é
Support	•	2 Item(s) found					
09/26/2017 14.10.44 US/Pacific-New							

2 Enter a Container Name, and, for Access Protocol, select NAS (NFS, CIFS), and click Next.

Quest DR4300	systes	Locarina.local					administrator 🖬 a systest.ccarina.local
GlebalView	•	Demo/Cont	tainers				
Containers	•	+ Add Cont	tainer				
eplications yatem Configuration	*	Access Protocol	NAS (NES, CIES)	• Solect NF	S/CIFS		
iupport	•	Container Name	Ø samplej	Name Co	ntainer		
09/26/2017 10:31:42 US/Pacific-New		< President N	ext > El Estation X Cancel				
		Container *	Marker Type 0	Access Protocol ©	Connection Status 0	Replication 0	Actions
		backup	Auto	NFS,CIFS	Available, Available	Not Configured	0 (iii) (ii)
		1 filem(s) found.					

3 Select the check mark for NFS or CIFS as appropriate, (setting the Marker Type set as CommVault) and click Next.



- 4 Enter backup container information for NFS or CIFS, as appropriate, and then click Next.
 - NFS Options:

+ Add Container	
NFS Options	Read Write Access O Read Only Access
Map Root To	Root
Client Access	• Open (allow all clients) O Create Client Access List
Client FQDN or IP Address	FQDN or IP Address
Allow Clients	
< Previous Next > Previous	inish X Cancel

CIFS Options:

i

Add Container	
CIFS Client Access	• Open (allow all clients) O Create Client Access List
Client FQDN or IP Address	FQDN or IP Address
Allow Clients	inish X Cancel

NOTE: For improved security, Quest recommends adding IP addresses for the Backup console (CommVault Server, CommVault Media Agents). (Not all environments will have all components)

5 Confirm the settings and click **Save**. Confirm that the container is added.

 Add Container 	
Storage Access Protocol	
Access Protocol	NAS (NFS, CIFS)
Container Name	sample
Configure NAS Access & Marker	
NAS Access Protocol	NFS, CIFS
Marker Type	CommVault
Configure NFS Client Access	
NFS Options	Read Write Access
Map Root To	Root
Client Access	Open (allow all clients)
Configure CIFS Client Access	
Client Access	Open (allow all clients)
Previous Next > Save	X Cancel

Adding target container(s) to CommVault

Follow these steps to add the target container(s) to CommVault.

1 Open the Commcell Console, expand Storage Resources, right-click Libraries, and select Add -> DiskLibrary...

davidd-w2k0-01 : CommVault® Simpan Hone Tools Storage Configura	a8) Kon Reports Vew	Support			-	
CommCell Job Controller Viewer	t Scheduler Control Panel Configure	t's Getting Web Started Console Featured			commvault SIMP,ANA	
CommCell Browser 9	Getting Started 🛪	🛗 Libraries 🗙 🚺 Job Co	ntroller 🗙 🎽 🗮 Event Viewer 🗙	Schedules ×	4	Þ 10
avidd-w2k9-01	🔏 davidd-w2k8-01 > 🐔	Storage Resources > 📑 Librari	es >		Q	08
Gent Computer Groups Eactop Clents	Name	Status	Manufacturer	Model	Description	18
Construction C	Cost Lbrary Cood Strong Lbrary Tage Lbrary Cood Strong Lbrary Tage Lbrary Cost the Summary					1
1 object(s)				davidd-w2k8-01 10 SP1b+ a	idmin	

2 In the Add Disk Library dialog box, enter a name for the Disk Library and information about the DR Series system container, and click OK.

davridd-w2k8-01 : CommVault & Smipanale Home Tools Storage Configuration	Reports View Support	
CommCell Job Event Centroller Viewer Viewer	Configure Control What's Getting Console Configure Control Featured Console	SIMPANA.
CommCell Browser P	🦯 🛶 Getting Started 🗴 📓 Libraries 🛪 🚺 Job Controller 🗴 🎽	Event Viewer × 🔀 Schedules ×
devidd-w2i8-01	💑 davidd-w2k8-01 > 📢 Storage Resources > 🌉 Libraries >	* D #
Gent Computer Groups Gent Computer Groups Gent Computer Groups Gent Computer Groups Gent Computers	None Add Disk Library PP Name: pewiltrary MediaApril: [davids-w26-01	Name the library
	C Local Path	
Construction C	Connect As: distinct afor Password:	Enter credentials of DR container Default: administrator/St0r@ge!
in Service Reports H ⊂ Content Oriector B ⊕ Cost Analysis B − S workflows		
CommCell Browser	Enter DR container sh	are path
Agents		
2	Content D Summary	
		devidd+w30e-01 10 SP1b+ admin

3 Confirm that the library is created, and that the status is **Ready**.

tome Tools Storage Configurati	on Reports View Su	pport				-10
ommCell Job Event Alert Controller Viewer Viewer	Scheduler Control Pariel Configure	Getting Started Featured			commvault SIMPAN	٩,
CommCell Browser P	Getting Started 🗙	Libraries 🗴 🚺 Job Control	er 🗙 🏓 Event Viewer 🗙 📆 S	chedules ×		4 0 1
davidd-w280-01	🔏 davidd-w2k8-01 > 截 Si	torage Resources > 📑 Libraries >				9 🗆 d
Client Computer Groups	Name	9 alus	Manufacturer	Model	Description	b
Media Agents H-22 davidd-w2k0-01	10 and 10	Banda Banda	nut n	2 2		2
🛞 🚑 davidd-w2k8-02						
Client Computers						
E davidd-w2k8-02						
🛞 🛄 Continuous Data Replicator						
R Ple System						
Storage Resources						
Pedupication Engines Ubrates In rewibrary IP P						
MediaAgents						
MediaAgents Orphaned Media Second Seco						
E E E E E E						
The Media Agents Contended Mode Solves Solves Content Director Content Director Content Nettor Workflows						
Content Dector						
Careful Andelangeres Carlande Media Problems Problems Content Director Cost Analysis Viriellions	1					
Cont Analysis Cont Analysis Cont Analysis Cont Analysis Cont Analysis Contract Director Contract Director Contract Director Contract Director Contract Director Contract Director						
Connect Dector Connect	Content D Summary					2

Setting up a single system environment

(DR Series system as NFS disk library)

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



2 Open the CommCell Console, expand Storage Resources, right-click Libraries, and select Add > DiskLibrary...

davidd w2k0-01 : CommVault® Simpan Iome Tools Storage Configural	ion Reports View Su	pport				
Dray and Media Hardvare Drive Management Maintenance Storage	Array Management Configuratio	n			SIMPAN	A.
CommCell Browser P	Getting Started X	Libraries ×				4.6.1
david6-w2k8-01	👌 davidd-w2k8-01 > 🐔 S	torage Resources > 📑 Libraries >				9 D 6
Clerk Consultrs Shouthy Shout	I den Cen Cen Cen Cen Cen Con Con Con Con Con Con Con Co	Resdy Resdy Resdy Resdy Resdy	Desk Desk Desk Desk Desk	J Dek Dek Dek Dek Dek		2
CommCell Browser Agents 	Content 🗋 Summary					

3 In the Add Disk Library window, enter the name for the Disk Library and the mount path of the DR Series system container export, and click OK.

davidd wizk8-01 : CommVitalt & Simpa Home Tools Storage Configur	ation Reports View S	.eport			_D.
Library and Drive Management Maintenanc Storage	Array e Management Shared Catal Configuration	og			SIMPANA.
CommCell Browser	Getting Started x	Libraries ×			4 9 1
Control of Computer Groups Gene Computers Gene Computers Control Computers Control Computers Control Computers Control Control	Name	Status Roody Rody R	Marufacturer Ock Doc Name the lib	Model Disk Disk Disk Test rany	Description 3
ComnCell Browser	Contert			Cartan para an Daesar	2

4 Confirm that the library is created, and the **Status** is **Ready**.

davidd-w2k8-01 : CommVault® Simpa Home Tools Storage Configur	ation Reports View 5	upport			- O ×
Library and Drive Management Maintenance Storage	Array Management Configurat	leg an			SIMPANA,
CommCell Browser	Getting Started 🗙	Ubraries ×			4 5 00
Avidd-w2k8-01	🚴 davidd-w2k8-01 > 🐔	Rorage Resources > 📑 Libraries >			¢□∂
CommCel brower	Name	Status Ready Ready Ready Ready Ready	Monufacturer Dosk Dosk Dosk Dosk Dosk Dosk	Nodel Dok Dok Dok Dok Dok	Description ×
Agents	Content Summary				-
	Automatical and a second second second			davidd-w2k8-01 10 SP1b+	admin

Setting up a replicated environment

The replicated system environment includes a minimum of two DR Series systems that are connected to two different Media Agents. For more information, refer to the CommVault documentation at:

http://documentation.commvault.com/hds/v10/article?p=features/remote_office/remote_office_how_to.htm

Follow these steps to set up replication.

1 In the CommCell Console, on the Storage tab, click Library and Drive.



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

Available MediaAgents:		Selected MediaAgents:	
DavidD-RHEL6-01 davidd-rhel6-02 davidd-w2k8-01	Add >>		
	<< Remove	3	
	Add All >>		
	<< Remove /	all	
]	OV Capcel	Help	

- NOTE: To configure a shared library, make sure you select all of the MediaAgents that share that library.
- 3 In the Information dialog box, click **OK** to continue.



4 Click the Shared Disk Device tab.

i

Library and Drive Configuration (CommServe Host: davidd-w2k8-01)	×
Selected MediaAgents	
DavidD-RHEL6-01	
avidd-rhel6-02	
🔚 Libraries 🔚 Data Palhs 🛛 🖙 Shared Disk Device	
Bisk Devices	
E-C Device_2	
E Device_4	
Device_5	
	I
so Start	

a Click Start, and select Disk Device > Add Network Sharing Device...

elected MediaAgents —				
DavidD-RHEL6-01				
adavidd-rhel6-02				
🛓 Libraries 🛛 🚐 Data P	Paths 🖙	Shared Disk Device		
bisk Devices				
Device_2				
Device 6				
Device_6				
Device_6				
Device_6 Device_7				
- Device_6 - Device_7				
Device_6 Device_7 Select MediaAgents				
Select MediaAgents Volume Explorer				
Select MediaAgents Volume Explorer Add	•			
Select MediaAgents Volume Explorer Add NDMP Centera	·· • •			
Select MediaAgents Volume Explorer Add NDMP Centera Disk Device	·· · · · · · · · · · · · · · · · · · ·	Add Network Sh	aring Device	
Select MediaAgents Volume Explorer Add NDMP Centera Disk Device Help	•	Add Network Sh	aring Device ge Device	

5 In the Add Sharing Folder dialog box, enter the source DR Series system container share/export information and then click OK.

Add Sharing Folder 🛛 🗙	
Device Name: SharingDevice#	
MediaAgent: DavidD-RHEL6-01	Select the name of MediaAgent accessing this mount path
Sharing Folder Properties	
Local Path	
Folder:	
C Network Path	Linux MediaAgent can only select local path
Connect As:	
Password:	
Verify Password:	
Folder:	Windows MediaAgent can select both local and network path
J• Preierreu	
🥅 Read Only	
OK Cancel Help	

i

NOTE: This Device is the replication source. Device information is based on the protocol that the container exposed to the MediaAgents.

The system displays the device information with the MediaAgent that can access the device in Library and **Drive Configuration** window.

Clibrary and Drive Configuration (CommServe Host: davidd-w2k8-01)	×
- Selected MediaAgents	
E DavidD-RHEL6-01	
🔚 davidd-rhel6-02	
[*	
🔚 Libraries 🔚 Data Paths 🛛 🥽 Shared Disk Device	
Sources	_
Device_4	
Folder(DavidD-RHEL6-01)(/DR)(Configured)	
⊕ @ Device_6	
E-C Device_7	
o Start	

6 Right-click the device, and then click Add Replica Sharing Folder.

elected MediaA	gents	
avidD-RHE	L6-01	
🔓 davidd-rhel6	-02	
5		
Libraries 🛛 🖾	Data Paths 🛛 💭 Data Paths	
Disk Devices		
(==) Device_2 (==) Device_4		
- Device_1		
🚍 Fc	Add Primary Sharing Folder	
- Device	Add Replica Sharing Folder	
	Configure	
	Deconfigure	
	Deconfigure for All Selected MediaAgents	
	Delete	
	Set Network Access Info for All Windows MediaAgents	
	Properties	

7 In the **Add Sharing Folder** dialog box, enter the target DR Series system container share/export information and then click **OK**.

Add Sharing Folder	
Device Name: Device_5	
MediaAgent: davidd-rhel6-02	Select the name of MediaAgent accessing this mount path
Sharing Folder Properties	
Local Path	
Folder:	
C Network Path	Linux MediaAgent can only select local path
Connect As:	
Password:	
Verify Password:	Windows MediaAgent can select both local and network
Folder:	
T Preferred	•
Read Only	
OK Cancel Help	

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

Library and Drive Configuration (CommServe Host: davidd-w2k8-01)
-Selected MediaAgents
R DavidD-RHEL6-01
avidd-rhel6-02
- E Libraries Data Paths 🗣 Shared Disk Device
Bisk Devices
Device_2
Folder(DavidD-RHEL6-01)(/DR)(Configured)
Folder(davidd-rhel6-02)(/DR2)(Configured)
Fo Start

9 On the Libraries tab, click the Start menu, and select Add > Replica Disk Library.

CommServe Host: davidd-w2k8-01)	×
ared Disk Device	
	- I
Disk Library	<u> </u>
Replica Disk Library	
Cloud Storage Library	
Disk Library with Automated Mount Path Detection	
PnP Disk Library	
IP Library	
Cell-Shared Library	
	CommServe Host: davidd-w2k8-01) ared Disk Ubrary Disk Library Cloud Storage Library Disk Library with Automated Mount Path Detection PnP Disk Library IP Library Cell-Shared Library

10 In the Add Disk Library dialog box, enter the Alias, clear the Enable replication checkbox, and click OK.

Add Disk Library X	
Library Name: DiskLibrary#	
Alias:	Name of the disk library
Unique ID: Unassigned	
Automatically create storage policy for new data paths	
OK Cancel Help	

11 In the **Share Mount Path** dialog box, select the device configured previously, which has two sharing folders on both the replication source and replication target, and then click **OK**.

Shared Mount Path(Replicated_Disk_Library)	
Disk Device: Replicated Library	
Add new device Base Folder: Replicated Library	Select the disk device that you want to associate as the mount
MediaAgent: mediaagent01	
Sharing Folder Properties	
🔵 Local Path	
Folder:	
Network Path	
Connect As:	
Password:	
Verify Password:	
Folder:	
OK Cancel Help	

12 Verify the disk library is configured.

Library and Drive Configuration (CommServe Host: prodcs)	x
Selected MediaAgents	
emediaagent01	
🕞 Libraries 💷 Data Paths 📾 Shared Disk Device	
Libraries Britania (Configured) Common (Configured) Common (Configured) Local Library (Folder 1)	
Start 1 object(s)	

Configuring Rapid CIFS and Rapid NFS for CommVault

For Windows

Windows prerequisites

- The Media Agent OS must be the 64-bit version of Windows 2008 R2 or Windows 2012/R2.
- The DR container share must be mapped on the Media Agent.
- **NOTE:** For the accelerator to work properly, the backup traffic must go directly to the DR Series system. For CommVault, you should install RDCIFS on the media agents.

Installing Rapid CIFS on a CommVault Windows media agent

Follow these steps to install Rapid CIFS.

NOTE: Rapid CIFS should only be installed on a media agent. Any traffic between Client and Media Agent will not be accelerated.

- 1 Download the MSI to the Media Agent by doing the following:
 - a Go to support.quest.com/DR-Series and select your product (such as, DR4100, DR6300, etc).
 - b On the support page for your product, click Software Downloads.

- c For the RDCIFS plugin for your DR Series system OS version, click the Download icon to download the installer package (.msi file).
- 2 Run the MSI and follow the instructions in the installation wizard as shown in the screenshots below. Click **Finish** when installation is complete.

谩	Quest Rapid CIFS Filter Driver Setup
	Welcome to the Quest Rapid CIFS Filter Driver Setup Wizard
	The Setup Wizard will install Quest Rapid CIFS Filter Driver on your computer. Click Next to continue or Cancel to exit the Setup Wizard.
	Back Next Cancel

谩	Quest Rapid CIFS Filter Driver Setup	– – X
Ready to	install Quest Rapid CIFS Filter Driver	Quest
Click Insta installatior	ill to begin the installation. Click Back to review or change any n settings. Click Cancel to exit the wizard.	of your
	Back	Cancel

🖗 Quest Rapid CIFS Filter Driver Setup
Completed the Quest Rapid CIFS Filter Driver Setup Wizard
Click the Finish button to exit the Setup Wizard.
Back Finish Cancel

3 Verify that the "rdcifsfd" driver is loaded by using the command fitmc.



NOTE: For more information, such as about troubleshooting and logging, refer to the *DR Series Rapid CIFS & Rapid NFS Guide*.

For Linux

Linux prerequisites

- The Media Agent OS must be the 64-bit version of CentOS or SUSE.
- The FUSE module should already be installed, as follows. On NFS Media Agent, run the command below and verify the command output:

```
# rpm -qa | grep fuse
fuse-2.8.3-4.el6.x86_64
gvfs-fuse-1.4.3-15.el6.x86_64
fuse-libs-2.8.3-4.el6.x86_64
```

- The plug-in must be installed on the designated Linux-based media agent in the following directory, /usr/openv/lib/.
- **NOTE:** For the accelerator to work properly, the backup traffic must go over NFS directly to the DR Series system and not pass through a media agent. If that is the case, you should install RDNFS on the media agent.

Installing Rapid NFS on a CommVault Linux media agent

Follow these steps to install Rapid NFS.

- 1 Download the installation package to the Media Agent using the following steps:
 - a Go to support.quest.com/DR-Series and select your product (such as DR4300, DR6300, etc).
 - b On the support page for your product, click Software Downloads.
 - c For the RDNFS plugin for your DR Series system OS version, click the Download icon to download the installer package (.bin.gz file).
 - d Use WinSCP or a similar utility to copy the package to the NFS Media Agent. The plug-in must be installed on the NFS Media Agent in the following directory, /usr/openv/lib/.
- 2 On the NFS Media Agent, assuming that the current working directory has the installation package named QuestRapidNFS-4.0.3036.0-centos5.7-x86_64.bin.gz, run the following commands in order:

gunzip ./ QuestRapidNFS-4.0.3036.0-centos5.7-x86_64.bin.gz

chmod a+x ./QuestRapidNFS-4.0.3036.0-centos5.7-x86_64.bin

3 Do the following:

a Run the installer:

```
./QuestRapidNFS-4.0.3036.0-centos5.7-x86_64.bin -install
```

[root@CVDemoCentOS RapidNFS]	# ./QuestRapidNFS-4.0.3036.0-x86 64-RHEL.bin -in	nstall
Starting, please wait		
RDNFS file systems are not m	nounted, proceeding with installation	
2 processors with 4 cores ea	ach running at average 2600 MHz	
Total computing power 20800	MHz	
Preparing	****	+ # #
QuestRapidNFS	****	+ # #
oca-libs		+ # #
Installation successful!		
Log for this operation is /v	var/log/rdnfs_installer.log	
Cleaning up, please wait		

b Create a directory on Media Agent:

mkdir /mnt/backup

c Mount the DR Series system NFS container on the Media Agent with the CommVault marker:

mount -t rdnfs dr4300-26:/containers/backup /mnt/backup -o marker=cv .

root@CVDemoCentOS RapidWFS]# mount -t rdnfs dr4300-26:/containers/backup /mnt/backup -o marker=cv root@CVDemoCentOS RapidWFS]# mount |grep backup Ir4300-26:/containers/backup on /mnt/backup.2292 type nfs (rw,addr=10.250.235.18) rdnfs:/mnt/.backup.2292 on /mnt/backup type fuse (rw,nosuid,nodev,allow_other)

NOTE: For more information, such as about troubleshooting and logging, see the *DR Series Rapid CIFS & Rapid NFS Guide*.

Configuring VTL for CommVault

Creating and configuring iSCSI VTL container(s) for CommVault

Creating the iSCSI VTL container for CommVault

You need to create and export the iSCSI container in the DR Series system GUI.

1 In the DR Series system GUI, select **Containers** in the left navigation area, and then, on the **Action Menu** in the upper right corner of the page, click **Add Container**.



2 Enter a container name, select the Virtual Tape Library (VTL) Access Protocol option, and then click Next.



Setting Up the DR Series System as a Backup Target on CommVault -Configuring VTL for CommVault

- 3 Do the following:
 - a Make sure that the STK L700 Robot Model is selected.
 - b Select the iSCSI VTL Access Protocol.
 - c Specify the DMA Access Control by providing the storage node / media node IP Address, IQN or FQDN.
 - d Select the CommVault Marker Type.
 - e Click Next.

Robot Model	O Quest DR_L700 STK L700
Tape Size	800GB (Max Num of Tapes is 2000)
VTL Access Protocol	O FC O NDMP OISCSIO No Access
IQN, FQDN or IP Address	IQN, FQDN or IP Address
Marker Type	CommVault 💌
Previous Next >	Finish X Cancel

NOTE: Refer to the section, "Managing VTL space usage," later in this document to determine the correct Tape Size to use.

4 Click Save to finalize VTL creation.

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Add Container	
Storage Access Protocol	
Access Protocol	Virtual Tape Library (VTL)
Container Name	VTL1
Configure Virtual Tape Library	
Robot Model	STK L700
Tape Size	800GB
VTL Access Protocol	iSCSI
IQN, FQDN or IP Address	iqn.1991-05.com.microsoft:r630-28.systest.ocarina.local
Marker Type	CommVault
Previous Next > Save	¥ Cancel

Configuring the iSCSI target - Windows

- 1 You configure the **iSCSI Initiator Software** for Windows by providing the IP or FQDN of the DR Series system in the **Quick Connect > Target** field.
- 2 Click **Quick Connection** to open the Quick Connect dialog box, which indicates that a connection is made but is set as inactive.

Quick Connect To discover and log on to a target using a basic connection, type DNS name of the target and then click Quick Connect.	the IP address or	Quest	
Target: dr4300-26	Quick Connect	Cluest	
Discovered targets	Defreeh		
Name St	atus	DR4300	
Ign. 1984-05.com.guest: .3901901.r630-28-iscsi-vtl. 10 Co Ign. 1984-05.com.guest: .3901901.vtl1.20 Inc	active	dr4300-26.systest.ocarina.local	
		Ouick Connect X	T
	Tary	yets that are available for connection at the IP address or DNS name that you vided are listed below. If multiple targets are available, you need to connect	
To connect using advanced options, select a target and then dick Connect. To completely disconnect a target, select the target and	Connect Disconnect Disconnect	ets that are available for connection at the IP address or DNS name that you vided are listed below. If multiple targets are available, you need to connect ach target individually. nections made here will be added to the list of Favorite Targets and an attempt estore them will be made every time this computer restarts.	
To connect using advanced options, select a target and then dick Connect. To completely disconnect a target, select the target and then dick Disconnect.	Connect Disconnect Dis	ets that are available for connection at the IP address or DNS name that you vided are listed below. If multiple targets are available, you need to connect ach target individually. nections made here will be added to the list of Favorite Targets and an attempt estore them will be made every time this computer restarts.	
To connect using advanced options, select a target and then dick Connect. To completely disconnect a target, select the target and then dick Disconnect. For target properties, including configuration of sessions, elect the target and click Properties.	Connect Disconnect Disconnect Nig	the shat are available for connection at the IP address or DNS name that you ided are listed below. If multiple targets are available, you need to connect ach target individually. nections made here will be added to the list of Favorite Targets and an attempt estore them will be made every time this computer restarts. covered targets ame Status 1.984405.com.quest.3901901.r630-28-jcsi-v1.10 Connected 1.984405.com.quest.3901901.r630-28-jcsi-v1.10 Connected 1.984405.com.quest.3901901.r630-28-jcsi-v1.10 Connected 1.984405.com.quest.3901901.r630-28-jcsi-v1.10 Connected 1.984405.com.quest.3901901.v01.10	
To connect using advanced options, select a target and then click Connect. To completely disconnect a target, select the target and then click Disconnect. For target properties, including configuration of sessions, select the target and click Properties. For configuration of devices associated with a target, select the target and then click Devices.	Connect Disonnect Disonnec	A state are available for connection at the IP address or DNS name that you inded are listed below. If multiple targets are available, you need to connect ach target individually. Inections made here will be added to the list of Favorite Targets and an attempt estore them will be made every time this computer restarts. Excered targets The state s	
To connect using advanced options, select a target and then click Connect. To completely disconnect a target, select the target and then click Disconnect. For target properties, including configuration of sessions, select the target and click Properties. For configuration of devices associated with a target, select the target and then click Devices.	Connect Disonnect Disonnect Disonnect Disonnect Disonnect Disonnect Properties	pets that are available for connection at the IP address or DNS name that you vided are listed below. If multiple targets are available, you need to connect ach target individually. nections made here will be added to the list of Favorite Targets and an attempt estore them will be made every time this computer restarts. covered targets me Status 1.1984-05.com.quest:.3901901.r630-28-tscsi-vtl.10 Connected 1.1984-05.com.quest:.3901901.vtl1.20 Inactive gress report	

- 3 Close the dialog box, and then select the newly discovered target. This target will have an **Inactive Status**, as it requires authentication parameters for iSCSI login.
 - a Select the Target from the list.
 - b Click the **Connect** button.
 - c In the Connect to Target dialog box, click Advanced.

iSCS	I Initiator Propertie	S	x	
rgets Discovery Favorite Targ	ets Volumes and Devices	RADIUS Configuration		
To discover and log on to a target	using a basic connection, dick Quick Connect.	type the IP address or		Quest
Discovered targets				Cidesc
Name iqn. 1984-05.com.quest:. 390 190	1.r630-28-iscsi-vtl. 10	Refresh Status Connected		DR4300
dgn. 1984-05.com.quest:.390190	1.vt1.20	Inactive 1		dr4300-26.systest.ocarina.local
				Target name: iqn. 1984-05.com.quest: 3901901.vtl1.20
To connect using advanced option dick Connect. To completely disconnect a target, then dick Disconnect	s, select a target and the	2 Connect Disconnect	D	Add this connection to the list of Favorite Targets. This will make the system automatically attempt to restore the connection every time this computer restarts. Enable multi-path
For target properties, including co select the target and click Properti	nfiguration of sessions, ies.	Properties]	Advanced 3 OK Cancel
For configuration of devices assoc the target and then click Devices.	iated with a target, select	Devices]	© 2017 Quest Software Inc. All Rights Reserved.
			-	

4 Select to Enable CHAP log on, enter the Name and Target Secret / Password, and then click OK. (Refer to Appendix A for more information about iSCSI accounts and credentials.)

lvanced Settings	3
General IPsec	
Connect using	
Local adapter:	Default
Initiator <u>I</u> P:	Default
Target portal IP:	Default
CRC / Checksum	
🔲 Data digest	Header digest
specified.	dr9-interop-a7
Target <u>s</u> ecret:	••••••
Perform mutual a To use mutual CHAP, RADIUS. Use RADIUS to ge Use RADIUS to a	uthentication either specify an initiator secret on the Configuration page or use enerate user authentication credentials uthenticate target credentials

The iSCSI target should now show as connected, and device discovery can now proceed.

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5 Open the Server Manager Snap-in and verify that the newly connected devices appear in the Device Manager. Verify that the Library and IBM Ultrium-TD4 Devices are visible.

NOTE: Refer to the article at: http://catalog.update.microsoft.com/v7/site/home.aspx for more information and assistance in acquiring Microsoft Device Drivers, for example, StorageTek Library Drivers.



6 If devices are not visible, right-click the computer hostname, and click Scan for hardware changes.


Configuring the iSCSI target – Linux

Before you begin the following steps, ensure that the iSCSI initiator is installed (iscsi-initiator-utils). For example:

yum install iscsi-initiator-utils; /etc/init.d/iscsi start

To configure the iSCSI target for Linux, follow these steps.

- 1 Add the CHAP Authentication details for the DR Series system on the Linux Initiator as follows:
 - a Edit /etc/iscsi/iscsid.conf and uncomment the following line:

node.session.auth.authmethod = CHAP

b Modify the following lines:

To set a CHAP username and password for initiator

authentication by the target(s), uncomment the following lines:

node.session.auth.username = iscsi_user

node.session.auth.password = St0r@ge!iscsi

2 Set the Discovery Target Node(s) by using this command:

iscsiadm -m discovery -t st -p <IP or IQN of DR>

For example:

iscsiadm -m discovery -t st -p 10.8.230.108

3 Enable logon to the DR Series system iSCSI VTL target(s) by using the following command:

iscsiadm -m node --portal <IP or IQN of DR:PORT> --login

For example:

iscsiadm -m node --portal "10.8.230.108:3260" --login

4 Display the open session(s) with DR VTL(s) by using the following command:

iscsiadm -m session

For example:

iscsiadm -m session = tcp: [8] 10.8.230.108:3260,1 iqn.1984-05.com.quest:.3071067.interoprhel52n1.30

5 Review dmesg or /var/log/messages for details about the tape devices created upon adding the DR Series system iSCSI VTL.

Configuring CommVault to use the newly created iSCSI VTL

- 1 Open the CommCell Console and, on the Storage tab, click Expert Storage Configuration.
- 2 Move the relevant Available MediaAgent to the Selected MediaAgents list box, and click OK.

🕄 cwf-cv-01 - v11 C	ommcell Co	nsole				
Home Tools	Storage	Configuration	Reports	View	Support	
	00		1	8-J.		
Expert Storage	Media	Hardwa	- are	Array		
Configuration	Managem	ent Mainten	ance Ma	nagement	t	
	🛞 Ежр	oert Storage Con	figuration (CommServ	rve Host: cwf-cv-01)	٩
CommCell Browser	Selec	ted MediaAgents -				1
Cwf-cv-01						
🗄 🖶 Client Compute	er Grou					
E Client Compute	ers 🗌 👩	Select MediaAn	ents		X	
E Storage Resou	rces 📊	Sciect reading	CIICS			-
E Policies	- Av	ailable MediaAgent	s:		Selected MediaAgents:	
E Contract		- cuf cu 01				
Hand Workflows	or cv	vf-cv-01				
🗄 👼 Firewall Topolo	gies 🚬				Add >>	
				_	<< Remove	
				_	<< Remove All	
			_			
				OK	Cancel Help	
		art I				-
				_		

3 In the Information dialog box, click **OK** to continue.

Infor	mation 🗾
1	Please configure storage devices on the new MediaAgents. - For SCSI devices, select detect/configure devices - For other devices select the Add menu OK

4 On the Start menu, click **Detect/Configure Devices...**

Selected MediaAgents	
L 2k8r2intvm03	
🔓 Libraries 📔 🚍 Data Paths 🛛 买 Shared Disk Device 📄	
Liuranes	
Select MediaAgents	
Select MediaAgents Detect/Configure Devices 2	
Select MediaAgents Detect/Configure Devices	
Select MediaAgents Detect/Configure Devices	
Select MediaAgents Detect/Configure Devices Add NDMP	
Select MediaAgents Detect/Configure Devices Add NDMP Centera Disk Device	
Select MediaAgents Detect/Configure Devices Add NDMP Centera Disk Device Help	

5 Make sure that the options, SCSI Devices and Automatically Create DDS Drivepools, are selected, and then click OK.

Selected MediaAgents	🕐 Library and Drive Configuration (CommServe Host: 2k8r2intvm03)
Detect Library Libraries Device Type Other Type Device Type	- Selected MediaAgents
Detect Library Image: Constraint of the second	🛃 2k8r2int vm03
Libraries Device Type Libraries ESSI Devices Detect on Selected MediaAgents in Parallel Automatically Create DDS Drivepools Automatically Create DDS Drivepools MediaAgent : 2k8r2intvm03 Exhaustive Detection(Only for Libraries without Drive ID Support) OK Cancel	Detect Library
Exhaustive Detection(Only for Libraries without Drive ID Support)	Libraries Device Type Libraries Devices MediaAgent: 2k8r2intvm03 Devices Contraction Devices Devices Devices Devices De
	Exhaustive Detection(Only for Libraries without Drive ID Support)

A progress bar appears. It may take a few moments to detect the iSCSI VTL.

Processing	×
0%	
Elapsed Time: 00:00:04	
View Log Abort Help	

6 Click OK and then click Close.



7 Click OK.

Informa	tion 🗵
0	Right-click a particular device to continue its configuration.

8 Right-click the library you just added, and click Configure.

ir Zintvm03 aries Data Paths G Shared Disk Device ries Trk L700 (Configured) Configure 2
aries Data Paths 🗣 Shared Disk Device aries STK L700 1(Configured) 1 STK L700 (Not configured) Configure 2
sries STK L700 1(Configured) STK L700(Not configured) Configure
STK L700(Not configured) Configure 2
Deconfigure
Add MasterDrivePool
Add PnP Disk Drives
Discover Media
Validate
Reset Library
Delete
Advanced Options
Properties

9 Select the Library and All Drives radio button and click OK.



10 Click Yes to confirm.



11 Select the appropriate media type, and then click **Yes**.

Discover Media Options				
Should the media be autor	natically discover	red?		
Select Default Media Type	ULTRIUM V4		-	
	No	Help		

12 Right-click the new library, and then click **Advanced Options...> Exhaustive Detection**.

Selected MediaAgents 2k8r2intvm03 Lbraries Data Paths Start STK Ltraries Configure Deconfigure Add MasterDrivePool Add MasterDrivePool Add MasterDrivePool Add PhP Disk Drives Discover Media Validate Reset Library Delete Advanced Options Properties	Library and	Drive Configuration (Comm	5erve Host: 2k8r2intvm03)	×
	Selected Media	Agents		
Libraries Ubraries Ubraries Configured) STK L700 1(Configured) Deconfigure De	ᡖ 2k8r2intvm	03		
Libraries Ubraries	J			
	🔚 Libraries 🛛	💷 Data Paths 🛛 🥽 Shared Disk	k Device	
B STKL Configure Deconfigure Add MasterDrivePool Add PhP Disk Drives Discover Media Validate Reset Library Delete Advanced Options Properties Exhaustive Detection	Libraries	0 1(Configured)		
Deconfigure Add MasterDrivePool Add PnP Disk Drives Discover Media Validate Reset Library Delete Advanced Options Properties Exhaustive Detection Properties	E STK L	Configure		
Add MasterDrivePool Add PnP Disk Drives Discover Media Validate Reset Library Delete Advanced Options Exhaustive Detection Properties		Deconfigure		
Add PnP Disk Drives Discover Media Validate Reset Library Delete Advanced Options Exhaustive Detection Properties		Add MasterDrivePool		
Discover Media Validate Reset Library Delete Advanced Options Exhaustive Detection Properties		Add PnP Disk Drives		
Validate Reset Library Delete Advanced Options Exhaustive Detection Properties		Discover Media		
Reset Library Delete Advanced Options Exhaustive Detection Properties		Validate		
Advanced Options Exhaustive Detection Properties		Reset Library		
Advanced Options Exhaustive Detection Properties		Delete		- 1
Properties		Advanced Options	Exhaustive Detection	
Start		Properties		
2 Start			-	
·····································				
A near n	start			_

13 Click Yes to confirm.

🕐 Confi	rm Exhaustive Detection
<u> </u>	Exhaustive detection will unload all drives on all the selected MediaAgents. This may interfere with currently running backups/restores. Are you sure you want to run Exhaustive Detection?
	No No

14 Click Close

		. –		
🖉 Log				×
Unloaded the Unmounting th -> Drive [IBM Mounting a m -> Detected th Unloading the Unloaded the Unmounting th -> Drive [IBM Finished deter ****** End Ex	media from drive slot (ne media from drive slo ULT3580-TD4_9(IBM L dium to drive slot (10) he media in Drive [IBM media from drive slot (10) he media from drive slot ne media from drive slot ULT3580-TD4_10(IBM Liton on Library [STK L] haustive Detection ****	9) in Library [STK t (9) in Library [S JLT3580-TD4, Sei JLT3580-TD4, Sei JLT3580-TD4, Sei JLT3580-TD4 11 (10) in Library [STK L: ULT3580-TD4 11 (10) in Library [S t (10) in Library [S t (10) in Library [S t (10) in Library [S t (10) con Lib	L700 7(STK L700, Ser4 TK L700 7(STK L700, S #J42VG4_09@Scsi3:0 700 7(STK L700, Ser #J 007 (STK L700, Ser #J 007 (STK L700, Ser #J 0(IBM ULT3S80-TD4, Se XL700 7(STK L700, S STK L700 7(STK L700, S S S S S S S S S S S S S S S S S S S	t)42VG4_00€ ##J42VG4_0 ##J42VG4_0 0,0,10)(FW:01 42VG4_00065 ##J42VG4_00065 ##J42VG4_00 5er#J42VG4_0 5er#J42VG4_0 5er#J42VG4_0 0,0,11)(FW:0 :0,0,1)(FW:0
***** Exhaus	tive Detection Report	***		
STK L700 7 (ST Drive 1: IBM L Drive 2: IBM L Drive 3: IBM L Drive 4: IBM L Drive 5: IBM L Drive 5: IBM L Drive 7: IBM L Drive 9: IBM L Drive 9: IBM L	K L700, Ser#J42VG4 LT3580-TD4_1(IBM UI LT3580-TD4_2(IBM UI LT3580-TD4_3(IBM UI LT3580-TD4_5(IBM UI LT3580-TD4_5(IBM UI LT3580-TD4_6(IBM UI LT3580-TD4_6(IBM UI LT3580-TD4_9(IBM UI ULT3580-TD4_9(IBM UI ULT3580-TD4_10(IBM	00@Scsi3:0,0,1) LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv LT3580-TD4, Serv ULT3580-TD4, Serv	(FW:0104)(scsidev@Sc #)42VG4_01@Scsi3:0, 1)42VG4_02@Scsi3:0, 1)42VG4_02@Scsi3:0, 1)42VG4_02@Scsi3:0, 1)42VG4_05@Scsi3:0, 1)42VG4_05@Scsi3:0, 1)42VG4_07@Scsi3:0, 1)42VG4_07@Scsi3:0, 1)42VG4_07@Scsi3:0, 1)42VG4_10@Scsi3:0, 1)42VG4_10@Scsi3:0, 1)42VG4_10@Scsi3:0,	si3:0.0.1)(2k 1,2)(FW:0104 1,3)(FW:0104 1,4)(FW:0104 1,6)(FW:0104 1,5)(FW:0104 1,7)(FW:0104 1,8)(FW:0104 1,9)(FW:0104 0,10)(FW:010 0,0,11)(FW:0
***** End Re	port ****			
Ready				_
		ilose I	Help	

15 Click OK.



- 16 Close the Library and Drive Configuration dialog box.
- 17 Select Policies > Storage Polices in the navigation pane, and then select New Storage Policy.

🕗 2k8r2intvm03 : Comm¥ault	® Simpana®			
Home Tools Storage	Configuration	Reports	View	SL
Library and Media	Hardware	Array	Shared C	stald
Drive Management M	Maintenance M	Management	Configu	ration
Stor	age		Inde	x
CommCell Browser	Р	🔷 Gettin	g Started >	$\mathcal{P}_{\mathcal{L}}$
2k8r2intvm03 Client Computer Groups Client Computer Groups Laptop Clients Media Agents 2k8r2intvm03 Client Computers 2k8r2intvm03 E I 0.8.230.103 E FAS2240B E Sorage Resources Storage Resources	age Policy	2k8r2intv	Mame veDR(2k8r2in iCWRR1	Polici
DR New Glob	al Deduplication P	olicy		- 5
Subclie Subclie Subclient	Associations			- 5
Reports Content Director Cost Analysis				ξ
Workflows				

18 Select Data Protection and Archiving and click Next.

hat will this storage policy be	used for?		
Storage Policy Type			
Data Protection and Archiving			
C CommServe Disaster Recovery Back	up		
			2
	Curved 1	a Carl Mark	

19 Enter a Storage Policy Name and click Next.

reate Storage Policy Wizard	y name
Storage Policy Name:	DRVTL_Policy
Incremental Storage Policy Provide the DataFabric Mana	ger Server Information
	0
	Cancel < Back Next > Finish

20 Select the newly added library and click Next.



21 Select the Drive Pool for the newly added library and click Next.

Create Storage Policy Wizard
Select the default MediaAgent and drive pool for the primary copy
0
MediaAgent: 2k8r2intvm03
Drive Pool: DrivePool(2k8r2intvm03)7
2
Cancel < Back Next > Finish

22 Select the Scratch Pool that you want to use for this library.

Create Storage Policy Wizard	×
Which scratch pool will you use for the primary copy?	
1	
Scratch Pool: Default Scratch	
	/
2	
	7 (
Cancel < Back Next >	Finish

23 Set Number of Device Streams to the number of tape drives in the library (10 is the default number), and click **Next**.

Create Storage Policy Wizard
Enter the streams and retention criteria
Number of Device Streams:
Choose the Primary Copy's Aging Rules:
IbacaAgent Backup data
Data Archive/Compliance Archiver
Infinite/ 365 I Days
Cancel < Back Next > Finish

24 Clear the selection for Hardware Compression, and click Next.

Create Storage Policy Wizard	•			×
Do you want to enable hardware	compress	ion for this _i	primary copy?	
	Cancel	< Back	Next > Finis	ih

25 Click Finish.

Name: DRVTL_ Primary Copy: P	Policy rimary		 _	
Drive Pool: Drive	Pool(2k8r2intvm03)7 fault Scratch			
No. of Streams:	1 1 un Aging Dulac: infin	ite		
Data/Complian Retain Snaps b	e Archiver Aging Rules: Inlin Number of Jobs: N/	ne es: infinite A		
Hardware Com	ression. No			
,				

Creating and configuring NDMP target container(s) for CommVault

Creating the NDMP VTL container for CommVault

You need to create and export the NDMP container in the DR Series system GUI.

1 In the left navigation area of the DR Series system GUI, select **Containers**, and then, on the **Action Menu** in the upper right corner of the page, click **Add Container**.

Quest DR4300) Sisystee	t.ocanna,local					administrator 🖬 o
GlobalView		Demo/Con	tainers				Add Container
Dashboard		Container *	Marker Type 8	Access Protocol 8	Connection Status &	Redication &	(# Log Out
Containers	-)	backup	Auto	NFS.CIFS	Available, Available	Not Configured	2 9 8
System Configuration		sample	Commitaut	NES CIES	Available Available	Not Configured	8 9 9
Support							
08/26/2017 14:10:44 US/Paolic-New	7	a trengs cons.					

2 Enter a container name, select the Virtual Tape Library (VTL) Access Protocol option, and then click Next.

Access Protocol 😧 Virtual Tape Library (VTL)	Select VTL
Container Name 🛛 VTL1	Name Container
Previous Next > Previous Kext > Previous Ke	

- 3 Do the following:
 - a Make sure that the STK L700 Robot Model is selected.
 - b Select the NDMP VTL Access Protocol.
 - c Specify the DMA Access Control by providing the storage node / media node IP Address, IQN or FQDN.
 - d Select the Unix Dump Marker Type.
 - e Click Next.

♣ Add Container	
Robot Model	O Quest DR_L700 STK L700
Tape Size	800GB (Max Num of Tapes is 2000)
VTL Access Protocol	O FC NDMPO iSCSI O No Access
FQDN or IP Address	cwf-cv-01.systest.ocarina.local
Marker Type	Unix Dump 🗸
✓ Previous Next >	E Finish Cancel

NOTE: Refer to the section, "Managing VTL media and space usage," later in this guide for information about determining the correct Tape Size to use.

4 Click Save to finalize VTL creation.

i

Add Container	
Storage Access Protocol	
Access Protocol	Virtual Tape Library (VTL)
Container Name	VTL1
Configure Virtual Tape Library	
Robot Model	STK L700
Tape Size	800GB
VTL Access Protocol	NDMP
FQDN or IP Address	cwf-cv-01.systest.ocarina.local
Marker Type	Unix Dump
Previous Next > Save	× Cancel

NOTE: All of the tapes will display as having a capacity of 799 GB in CommVault. This will not affect the use of smaller tapes; and, smaller tapes will be managed properly.

Configuring CommVault to use the newly created NDMP VTL

Follow these steps to configure CommVault to use the newly created NDMP VTL.

Setting Up the DR Series System as a Backup Target on CommVault -Configuring VTL for CommVault

- 1 Open the Commcell Console and select Client Computers in the navigation pane.
- 2 Select New Client > File System > NAS to add the DR Series system credentials.

2k8r2intvm03 - v10 R2 Commcell C	onsole			
Home Tools Storage Confi	guration Reports	View	/ Support	
) o ji			
	8-75			
Library and Media Hardwa	re Array			
Drive Management Maintena	ance Management			
Storage				
CommCell Browser		Р	🖶 Client Computers	×
2k8r2intvm03			🛛 🐣 2k8r2intvm03 > 🖶 C	lient
Client Computer Groups				1
			Client Name	
Media Agents				
File System				
A defaultBackupSet				
□ rhel6intvm01				
📄 📄 File System				
📲 defaultBackupSet				
Space_Savings_NDM	1P			
	Vietualization			
	Vircualization			
	Application	•		
Libraries	Clustered Serve	er 🕨		
🖬 🖶 💼 STK L700 5	File System		Windows	
E - 5TK L700 7	Reference Cop	у	Unix	
Locations E			OpenVMS	
Orphaned Media			IBM iSeries	
📄 🗐 VaultTracker			(NAS	
Containers			Edge Drive	
Iron-Mountain ID			CoptoptStore	
🔛 📰 Media Repository			Contentstore	
Policies			SAP Archive Link	
Monitoring Policies			Non NDMP Filer	
Replication Policies				

- 3 In the Add NDMP Server dialog box, do the following:
 - a Enter the newly added VTL DR Series system hostname or IP address, and login credentials.
 - b Click **Detect** and wait for the **Vendor** and **Firmware Revision** boxes to populate.
 - c Click OK.

Add NDMP Server			×
NDMP Server Hostname:			
NDMP Login:			\square_2
NDMP Password:			3
Change Password			
Vendor:			
Firmware Revision:			
Liste 4: 5	10000 ×		
Detect OK	Cancel	Delete	Help

Setting Up the DR Series System as a Backup Target on CommVault -Configuring VTL for CommVault

- 4 In the CommCell Console, on the Storage tab, click Library and Drive.
- 5 Select the MediaAgent, and click Add.



6 Click OK.

ailable MediaAgents:	Selected MediaAgents:	
	Add >>	
	<< Remove	
	Add All >>>	
	<< Remove All	

7 In the Information dialog box, click **OK** to continue.

Infor	mation 💌
1	Please configure storage devices on the new MediaAgents. - For SCSI devices, select detect/configure devices - For other devices select the Add menu OK

8 On the Start menu, click **Detect/Configure Devices...**

Library and Drive Configuration (CommServe Host: 2k8r2intvm03)
Selected MediaAgents
E 2k8r2intvm03
🔚 Libraries 📃 Data Paths 🛛 🤕 Shared Disk Device
Select MediaAgents
Add
NDMP
Centera +
Disk Device
Help
Exit
Start 1 object(s)

De	iect Library 🛛 🔀
braries	Vevice Type
braries	C SCSI Devices
STK L700	
	L Detect on Selected MediaAgents in Parallel
	Automatically Create DDS Drivepools
	NDMP Devices
	Madia Baset : 2/9/2intum02
	Exhaustive Detection(Only for Libraries without Drive ID Support)
	OK Cancel Help

9 Select NDMP Devices and the MediaAgent of your choice, and click OK.

10 Select the DR Series system for the NDMP Server, click Add, and then click OK.

vailable NDMP Servers:	Selected NDMP Ser	vers:
0.8.230.103 A522408 iD-VG2-1	Add >>	
	< <remove< td=""><td></td></remove<>	
	Add All >>	
	<< Remove All	
Update NDMP Host List		

11 Click Yes to confirm.

🕐 Confi	rm 🗙
?	NDMP detection will be required to stop library services of configured devices on the selected NDMP Servers. Services will be restarted after detection. Are you sure you want to proceed?
	Ves)_No

A dialog box opens showing progress.

Processing	X
	20%
Elapsed Time: 00:00:04	
View Log	Abort Help

12 Close the Log dialog box.

🖉 Log 🛛 🔀
Auto Detection of Libraries/Drives Started on HOST:[2k8r2intvm03]
Auto Detection of Libraries/Drives Started on HOST: [10.8.230.103]
10.8.230.103 : Library(STK L700, Ser#B4F740_00@L700-B4F740_00)(FW:0104)(L700-B4F7
10.8.230.103 : Drive(IBM ULT3580-TD4, Ser#B4F74O_01@ULT3580-TD4-B4F74O_01)(FW:C
10.8.230.103 : Drive(IBM ULT3580-TD4, Ser#B4F740_02@ULT3580-TD4-B4F740_02)(FW:L
10.8.230.103 : Drive(IBM UL13580-ID4, Ser#B4F740_03@UL13580-ID4-B4F740_03)(FW:L
10.8.230.103 · Drive(IBM UI T3580-TD4, Ser #B4F74O_05@UI T3580-TD4-B4F74O_05)(FW)(
10.8.230.103 : Drive(IBM 0E13580-TD4, Ser#B4E74O_06@UT3580-TD4-B4E74O_06)(FW:C
10.8.230.103 : Drive(IBM ULT3580-TD4, Ser#B4F74O 07@ULT3580-TD4-B4F74O 07)(FW:C
10.8.230.103 : Drive(IBM ULT3580-TD4, Ser#B4F740_08@ULT3580-TD4-B4F740_08)(FW:C
10.8.230.103 : Drive(IBM ULT3580-TD4, Ser#B4F740_09@ULT3580-TD4-B4F740_09)(FW:C
10.8.230.103 : Drive(IBM ULT3580-TD4, Ser#B4F74O_10@ULT3580-TD4-B4F74O_10)(FW:C
Auto detect HOST:[10.8.230.103] completed successfully. Libraries:[1], Drives:[10].
Close Help

13 Click OK.



14 Right-click the library you just added, and select Configure.

elecced MediaAgencs		
2k8r2intvm03		
Libraries Data Paths	Shared Disk Device	
Libraries		
STK L700 1(Configured)		
Sin Since rootinge compare	Configure	
	Deconfigure	
	Add MasterDrivePool	
	Add PnP Disk Drives	
	Discover Media	
	Validate	
	Reset Library	
	Delete	
	Advanced Options >	
	Properties	

15 Select the Library and All Drives radio button and click OK.

Con	figure	
	C Library Only	
(• Library and all drives	
1		
	OK Cancel	Help

16 Click Yes to confirm.



17 Select the appropriate media type and click **Yes**.

Discover Media Options			
Should the media be automat	ically discover	ed?	
Select Default Media Type:	ULTRIUM V4		-
	No	Halo	

18 Right-click the tape library you just added, and select Advanced Options > Exhaustive Detection.

Setting Up the DR Series System as a Backup Target on CommVault -Configuring VTL for CommVault

Cibrary and Selected Media	Drive Configuration (Comm Agents n03	Serve Host: 2k8r2intvm03) 🛛 🗙
Libraries	🚐 Data Paths 🛛 🥽 Shared Disl	< Device
Elbraries	00 1(Configured)	
E SIK L	Configure	
	Deconfigure	
	Add MasterDrivePool	
	Add PnP Disk Drives	
	Discover Media	
	Validate	
	Reset Library	
	Delete	
1	Advanced Options 🕨	Exhaustive Detection
	Properties	
		_
Start		
start		

19 Click Yes to confirm.

<u>A</u>	Exhaustive detection will unload all drives on all the selected MediaAgents.
	This may interfere with currently running backups/restores.
	Are you sure you want to run Exhaustive Detection?

20 Close the Log dialog box.

***** Start Exhaustive Detection ***** nitialize the library Jnmounted all media on MediaAgent [2k8r2intvm03] Jnmounted all media on MediaAgent [2k8r2intvm03]. ***** End Exhaustive Detection ***** ***** End Exhaustive Detection Report ***** ***** End Report ***** Ready	
nitialize the library Jnmounting all media on MediaAgent [2k8r2intvm03] Jnmounted all media on MediaAgent [2k8r2intvm03]. ****** End Exhaustive Detection ****** ****** End Exhaustive Detection Report ***** ****** End Report ***** Ready	
Inmounting all media on MediaAgent [ZK872intvm03] Immounted all media on MediaAgent [ZK872intvm03]. ****** End Exhaustive Detection Report ***** ***** End Report ***** Ready	
Inmounted all media on MediaAgent [ZKSrZintvmU3]. ***** End Exhaustive Detection Report ***** ***** End Report ***** teady	
***** Exhaustive Detection Report ***** ***** End Report ***** Ready	
***** Exhaustive Detection Report ***** ***** End Report ***** teady	
***** End Report ***** Ready	
teady	
Close Help	

21 Click OK.



Results show that the library is now configured.

- 22 Close the Library and Drive Configuration dialog box.
- 23 Click **Policies > Storage Policies** in the navigation pane, and then select **New Storage Policy** to create a new Storage Policy.



24 Click Data Protection and Archiving and then click Next.

Vhat wil	I this stora	age policy be	used for?		
Storage	Policy Type				
(De	ata Protection a	and Archiving			
C C	ommServe Disas	ster Recovery Back	up		
				I E	

25 Enter a Storage Policy Name and click Next.

Create Storage Policy Wiza	d 🛛
Enter the storage pol	cy name
Storage Policy Name:	
Tincremental Storage Policy	
Provide the DataFabric Ma	nager Server Information
	Cancel < Back Next > Finish

26 Select the Library you just added and click Next.

Create Storage Policy	Wizard			X
Select a default l	ibrary for this pr	imary copy		
_				_
Library:	STK L700 2			
		Cancel	< Back Next :	Finish

27 Make sure that these selections are correct and click Next.



28 Select the Scratch Pool that you want and click Next.

Which scratch	pool will you u	ise for the pri	mary copy?	
-				
(Scratch Pool: Defa	ault Scratch)

29 Set Number of Device **Streams** to the number of tape drives in the library (10 is the default number), and click **Next**.

③ Create Storage Policy Wizard
Enter the streams and retention criteria
Number of Device Streams:
Choose the Primary Copy's Aging Rules:
iDataAgent Backup data
Infinite/ 15 Days 2 Cycles
Data Archive/Compliance Archiver
✓ Infinite/ 365 [±] / ₂ Days
· ·
Cancel <back next=""> Finish</back>

30 Clear the Hardware Compression checkbox, and click Next.

Create Storage Policy Wizard				×
Do you want to enable hardwa	re compress	ion for this	primary copy?	,
Hardware Compression				
	Cancel	< Back	Next > Fini	ish

31 Click Finish.

Name: DRVTL	Policy		 	
Library: STK L7	00 2 Pool/2k9r2interni	1212		
Scratch Pool: D	efault Scratch	13)2		
IDataAgent Bac	: 1 kup Aging Rules: i	nfinite		
Data/Complian	ce Archiver Aging I v Number of Johs	Rules: infinite		
Hardware Com	pression: No			
Click Finish to c	reate the Storage	Policy		

32 In the CommCell Console, expand the newly added filer in the tree under **Client Computers**. You should see a NAS node followed by a defaultBackupSet node.

33 Double-click **default** in the right pane.



34 On the Content tab, enter the path to back up and click **Add**; and then, on the drop-down menu, navigate to the filer you want to back up, and click **OK**.

Subclient Properties of default				
Pre/Post Process Security Storage General Content	Device Advance	Activity (ed Options	Control	Encryption Filters
Contents of subclient:			_	
1			_	Delete
				4
Backup Content Path:			\neg (Add
/root_vdm_1/dma1		•	D	
/root_vdm_1/dma1/testdata/small)	
<u> </u>				
Case Sensitive				
		_		

35 Specify the Storage Policy that you just added and click OK.

General Content	dwanced Options	Filters
Pre/Post Process Security Storage De	vice Activity Control En	cryptic
Data Storage Policy Data Transfer Option	eduplication	
Channess Dalian		
Scorage Policy:		. 1
DRVTL_Policy	Data Pat	hs
<u></u>		
Incremental Storage Policy;	NUA	
	Data Pat	hs
Create Storage Policy		

36 Select the updated defaultBackupSet and click All Tasks > Backup All Subclients to start the backup job.



37 Click Yes to confirm backup.



38 Choose Full for the first backup job. You may schedule the job for later if needed. Click OK.

Select Backup Type	
C Incremental	Run this job now
C Differential	C Schedule
	Configure Schedule Pattern Configure
	0

39 Monitor the progress of the job from the Job Controller tab.

2k8r2intvm03 : CommVault # Simpana#							
tone Tools Storage Configuration	on Reports	View Support					
* 🚥 🗰	E.s.						
brary and Media Hardvare Drive Management Maintenance	Array Management	Ehared Cataleg Configuration					
ConmCel browser #	- Getting	Rated x B defaitlied	hupter D Jab Cont	roller X N Event Ve	wer x		
20072mbm03 Clent Computer Groups Statoo Clents	Job Control	*		~			
🗟 🏭 Media Agenta	N 30 D	Operation Client Colum	Agent Type Subclient	Job Type Phase	Storage P MedisAgent	Status Progress	1 Days
H 2 30/3rt/vill3 Gent Computers H 2 10.8.230.103	114	Backup SD-VG2-1	Celerra NAS default	Full Andrive Ind	w DRVTL_Policy 3k8r2intim03 R	uming 95%	9
B 1 30/2rbm03	A. A.	and we do		10.000	A		-

Running client restore from the NDMP VTL

- 1 Expand Client Computers in the tree with the filer to which you want to restore, and then expand NAS.
- 2 Right-click defaultBackupSet and select All Tasks > Browse and Restore for defaultBackupSet.



3 Select the backup you want to restore and click View Content.

bjects to Restore using following criteria	
C Latest Backup C Time Range	
Time Zone: (UTC-08:00) Pacific Time (U	US & Canada)
Start Time Sun 02/01/2015	End Time Mon 02/02/2015 End ID2 : 22 PM
C Relative Time	
	1
	· · · · · · · · · · · · · · · · · · ·

4 Select the data you want to restore and click Recover All Selected...

: SD-VG2-1 (Labert Data)					
include should with 1 (deta3)to	stdwa/small				
5 defaulttadupSet = root_vdm_J = dma3 = testdata = testdata = data	Name Goto Ng Ng Ng kg Lok	See 1 KB 78 Bytes 0 Bytes	Type Polder File File	Modified 2(2)15 7-507 PM 1(13)15 3-551 PM 1/13)15 3-66 PM	Backup Time 2/2/15 7:13 PM 2/2/15 7:13 PM 2/2/15 7:13 PM
		6			
			over All Selected	New Browse	

5 Specify the destination of the restore and click **OK**.

Destination clie	nt SD-VG2	2-1		~
🔽 Restore to	same folder			
Specify destina	ition path			
				Browse
	Pathe			
reserve Source I	Fauls			
eserve Source I		1 +	level from end of the s	ource path
Preserve		1 2	level from end of the s level from beginning of	ource path the source path

6 Monitor the job's progress from the **Job Controller** tab.

115 Restore SD-VG2-1 Celerra NAS Restore Running 5%	

Creating and configuring FC target container(s) for CommVault

Understanding FC switch zoning configuration

Before you can create the FC VTL on the DR Series system appliance, you must configure and enable FC switch zoning. Without this zoning, the Media Agent and DR Series system appliance will not be able to communicate. Also, it will be impossible to set an initiator WWN while attempting to create a FC VTL container.

NOTE: Please refer to your FC switch manufacture's guide for instructions on how to create zones and enable your switch configuration

Please refer to the following guidelines while zoning the DR Series system:

- Single Target; Single Initiator zoning is required.
- Point-to-point, direct connections are not supported.
- Multi-pathing involving two initiator ports is not currently supported.

NOTE: Multi-Path zoning will be available in a future software release.

Creating a FC VTL container for CommVault

You need to create and export the FC container in the DR Series system GUI.

1 In the left navigation area of the DR Series system GUI, select **Containers**, and then, on the **Action Menu** in the upper right corner of the page, click **Add Container**.

Quest DR4300) .systesi	Locarina.local						administrator 🔽 0
GlobalView	•	Demo/Contair	ners					Add Container
Dashboard		Container *	Marker Type 🗅	Access Protocol C	Connection Status 2	Replication a	Actions	🕒 Log Out
Containers	-)	hackup	Auto	NERCIER	Available Available	Not Cooline and		*
Replications		backop	700	110,010	Productor, Productor	not consigned	.	
System Configuration	1	sample	CommVault	NFS,CIFS	Available, Available	Not Configured		•
Support	1	2 ltem(s) found.						
09/26/2017 14:10:44								
US/Pacific-New								

2 Enter a container name, select the Virtual Tape Library (VTL) Access Protocol option, and then click Next.



- 3 Do the following:
 - a Make sure that the STK L700 Robot Model is selected.
 - b Select the FC VTL Access Protocol.
 - c Set Number of Drives to the required amount.

- d Specify **Port Initiator WWN** by clicking in the **Select Initiator WWN** box. This list should automatically populate.
- e Select CommVault for Marker Type.
- f Click Next.

i

+ Add Contain	er			
WARNING: Addin	ng/removing FC initiator(s) to/from a V	TL container will disrupt of	current I/O to the same initiator(s), if those initiator(s) exist on other VTL containers.
Robot Model	O Quest DR_L700 STK L700	>		
Tape Size	800GB (Max Num of Tapes is 200	0) 👻		
VTL Access Protocol	FC NDMP O ISCSI O	No Access		
Number of Drives	@ 10			
Initiator Port WWN(s)	× 21:00:00:0e:1e:ca:fc:80		*	
Target Port WWN(s)	5 54:86:17:a0:19:01:54:54 x 56:86	1:17:a0:19:01:54:55	*	
Marker Type	CommVault	•		
<pre> Previous Next ></pre>	E Finish X Cancel			

NOTE: A maximum of 40 drives is supported. If the Port Initiator WWN does not automatically populate, double-check your FC switch zoning. If you still cannot resolve this, please contact support. Refer to the section, "Managing VTL media and space usage," later in this guide for information about determining the correct Tape Size to use.

4 Click Save to finalize the VTL creation.

i

+ Add Container	
Storage Access Protocol	
Access Protocol	Virtual Tape Library (VTL)
Container Name	VTL1
Configure Virtual Tape Library	
Robot Model	STK L700
Tape Size	800GB
VTL Access Protocol	FC
Number of Drives	10
Initiator Port WWN(s)	21:00:00:0e:1e:ca:fc:80
Target Port WWN(s)	5d:8d:f7:a0:19:01:54:54, 5d:8d:f7:a0:19:01:54:55
Marker Type	CommVault
Previous Next > Bave	Cancel

NOTE: All of the tapes will display as having a capacity of 799 GB in CommVault. This will not affect the use of smaller tapes; and, smaller tapes will be managed properly.

Verifying the FC VTL is recognized – Windows

- 1 Open the Server Manager Snap-in and verify that the newly connected devices appear in the Device Manager.
- 2 Verify that the Library and IBM Ultrium-TD4 Devices are visible.

i

NOTE: Refer to the article at: http://catalog.update.microsoft.com/v7/site/home.aspx, for more information and assistance in acquiring Microsoft Device Drivers, for example, StorageTek Library Drivers.



3 If devices are not visible, right-click the computer hostname, and click Scan for hardware changes.



Configuring CommVault to use the newly created FC VTL

Follow these steps to configure CommVault to use the newly created FC VTL.

1 Open the **CommCell** Console and, on the **Storage** tab, click **Expert Storage Configuration**. Move the desired **Available MediaAgent** to the **Selected MediaAgents** list box and click **OK**.

🕞 cwf-cv-01 - v11 Commcell Console
Home Tools (Storage) Configuration Reports View Support
Expert Storage Media Hardware Array
Configuration Management Maintenance Management
Expert Storage Configuration (CommServe Host: cwf-cv-01)
CommCell Browser Selected MediaAgents
Cwf-cv-01
🗄 🖆 Client Computer Grou
Client Computers
Brief Security Agree Resources
Construction Construction Available MediaAgents: Selected MediaAgents:
Reports
Content Director
Add >>
<< Remove
Add All >>
<< Remove All
E cut

2 Click OK to continue.



3 On the Start menu, select Detect/Configure Devices....

lected MediaAgents		
2k8r2intvm03		
Libraries 🔲 🗔 Data Paths 🖗	C Shared Disk Device	
Libraries		
Calast Madia Assarba		
Select MediaAgents		
Select MediaAgents Detect/Configure Devices	2	
Select MediaAgents Detect/Configure Devices Add	2	
Select MediaAgents Detect/Configure Devices Add NDMP	2	
Select MediaAgents Detect/Configure Devices Add NDMP Centera	2	
Select MediaAgents Detect/Configure Devices Add NDMP Centera Disk Device	2	
Select MediaAgents Detect/Configure Devices Add NDMP Centera Disk Device Help	2	

4 Make sure that the options, SCSI Devices and Automatically Create DDS Drivepools, are selected, and then click OK.

Library and Drive Configuration (CommServe Host: 2k8r2intvm03)	X
-Selected MediaAgents	
😸 2k8r2intvm03	
Detect Library X	[]
Libraries Constraints Constrai	
NDMP Devices MediaAgent : 2k8r2intvm03 Exhaustive Detection(Only for Libraries without Drive ID Support)	
3 OK Cancel Help	
Start	

A progress bar appears. It may take a few moments to detect the iSCSI VTL.

Processing	×
0%	
Elapsed Time: 00:00:04	
View Log Abort Help	

5 Click **OK** and then click **Close**.



6 Click OK.


7 Right-click the library you just added, and select Configure.

같은 영상 가장에서 알려가 있는 것이가 특히 있는 것이다.		
2k8r2intvm03		
Libraries Data Paths	C Shared Disk Device	
TK L700 1(Configured)	d) Configure 2	
	Deconfigure	
	Add MasterDrivePool	
	Add PnP Disk Drives	
	Discover Media	
	Validate	
	Reset Library	
	Delete	
	Advanced Options	

8 Select Library and All Drives and click OK.

C Library Only
Library and all drives

9 Click Yes to confirm.



10 Select the appropriate media type, and then click **Yes**.

Discover Media Option	5		>
Should the media be autom	natically discover	red?	
Select Default Media Type	ULTRIUM V4		•
Yes	No	Help	

11 Right-click the new library and select Advanced Options...> Exhaustive Detection.

Selected Media	Agents	
- 2k8r2intym	103	
and an entry		
🏪 Libraries	🚐 Data Paths 🛛 🥽 Shared Dis	k Device
Libraries		
STK L70	JO 1(Configured)	7
	Configure	
	Deconfigure	
	Add MasterDrivePool	
	Add PnP Disk Drives	
	Discover Media	
	Validate	
	Reset Library	
	Delete	
	Advanced Options	Exhaustive Detection
	Properties	
		-

12 Click Yes to confirm.

Confi	rm Exhaustive Detection
<u> </u>	Exhaustive detection will unload all drives on all the selected MediaAgents. This may interfere with currently running backups/restores. Are you sure you want to run Exhaustive Detection?
	No No

13 Click Close.



14 Click OK.

Informa	tion	×
0	Right-click a particular device to continue its configu	uration.
	ОК	

15 Close the Library and Drive Configuration dialog box.

16 Select Policies > Storage Polices in the navigation pane and then select New Storage Policy.



17 Select Data Protection and Archiving and click Next.

🕐 Create Storage Policy Wizard				×
What will this storage policy be	used for?			
Storage Policy Type				
Data Protection and Archiving CommServe Disaster Recovery Backu	p			
	Cancel	< Back	Next >	2 Enish

18 Enter a Storage Policy Name and click Next.

nter the storage poli	cy name	
	0	
Storage Policy Name:	DRVTL_Policy	
Incremental Storage Policy		
Provide the DataFabric Ma	ager Server Information	
		2

19 Select the newly added library and click Next.

🔗 Create Storage Policy Wizard	
Select a default library for this primary	сору
0	
Library: STK L700 7	
	2
Can	cel < Back Next > Finish

20 Select the Drive Pool for the newly added library and click Next.

Create Storage Policy Wizard	×
Select the default MediaAgent and drive pool for the primary copy	
0	
MediaAgent: 2k8r2intvm03	
Drive Pool: DrivePool(2k8r2intvm03)7	
2	
Cancel < Back Next > Finish	

21 Select the Scratch Pool that you want to use for this library, and click Next.

Create Storage Policy Wizard	×
Which scratch pool will you use for the primary copy?	
1	
Scratch Pool: Default Scratch	
2	
Cancel < Back Next > Fin	ish

22 Set **Number of Device Streams** to the number of tape drives in the library (10 is the default number), and click **Next**.

🚱 Create Storage Policy Wizard				×
Enter the streams and retention cr	iteria			
_				
Number of Device Streams:				
Choose the Primary Copy's Aging Rules:				
iDataAgent Backup data				
□ Infinite/ 15 × Days 2 × Cyc	tles			
Data Archive/Compliance Archiver				
☑ Infinite/ 365 × Days				
			-	
	Cancel	< Back 📢	Next >	Finish

23 Clear the selection for Hardware Compression and click Next.

Create Storage Policy Wizard	×
Do you want to enable hardware	e compression for this primary copy?
Hardware Compression	
	Cancel < Back Next > Finish

24 Click Finish.



Configuring LAN-free ESX backup using iSCSI or FC

A LAN Free backup is any backup that avoids data transfers over a production network or VLAN. Typically, it occurs over a Storage Area Network(SAN). iSCSI and FC are usual examples, but a network dedicated to backup traffic can also be considered LAN-Free. In an ESX Lan-Free backup configuration, the storage device presents read/write volumes to the virtual servers and Read Only volumes to a backup server. This backup server reads directly from these volumes and writes them out to backup storage.

Both iSCSI VTL and FC VTL can be used in a LAN-Free configuration. Usually, the VTL protocol will match with the protocol used for storage. For example, if the virtual machines (VMs) are housed on FC storage then FC VTL would probably be best to use.

 NOTE: CommVault documentation on this procedure can be found here: https://documentation.commvault.com/commvault/v11/article?p=products/vs_vmware/t_vmw_config_lan_fre
 e_backups.htm

Requirements

Ensure your environment meets the following requirements for LAN-free backup.

- Virtual Server iData agent is installed on a Backup Proxy.
- Media Agent is installed on the same Backup Proxy.
- If iSCSI is being used, then the iSCSI network or VLAN is **required** to be independent from a production network to be considered LAN free.
- If FC is being used, an FC switch is required; point-to-point FC connections are not supported.

For FC VTL

Make sure to zone the DR Series system appliance to your backup proxy in your FC switch.

NOTE: Refer to your FC switch manufacture's guide for instructions on how to create zones, enable your switch configuration, and change fillword settings.

For iSCSI VTL

Make sure your iSCSI network is either on an independent VLAN or uses independent switches from your production network.

NOTE: Refer to your switch manufactures guide for instructions on how to create VLANS or configured MTU size.

Recommendations

CAUTION: The following recommendations need to be applied on the DR Series system, Switch, Storage Device, and Backup Proxy

- If iSCSI is being used, a Maximum Transmission Unit (MTU) size of 9000 is recommended for iSCSI VTL.
- If 8GB FC switch is being used, a fillword type of 3 is recommended

Configuring the backup

1 Create an iSCSI or FC VTL following instructions in the previous sections of this document, "Creating and configuring FC target container(s) for CommVault" or "Creating and configuring iSCSI target container(s) for CommVault." Also, make sure these VTL tape devices are visible in the OS of the backup proxy.



NOTE: Set the Access Control or MAC of the VTL to be accessible by the Virtual Backup Proxy in Commvault.

- 2 Configure your Backup Proxy/Media Agent to use the VTL Library as needed, following instructions in the previous sections of this document, "Configure CommVault to use the newly created FC VTL" or "Configuring CommVault to use the newly created iSCSI VTL."
- 3 On the Backup Proxy, do the following:
 - a On the Start menu, click Run, and then enter diskpart.
 - b Run the *automount disable* command to disable automatic drive letter assignment.
 - c Run the san policy=onlineAll command to ensure that newly discovered disks are brought online.
- 4 Configure your Backup Proxy to have **Read Only** access to your storage. This may involve switch and storage device configuration.

NOTE: Refer to your switch or storage device documentation for instructions.

- 5 Verify that your Storage Device volumes are detected by the Backup Proxy.
 - a Click Start, and then click Run.
 - b Type *diskmgmt.msc* in the run box and click **OK**.
 - c Select the Action menu and then click Rescan Disks.
 - d Verify the new disks show up without a drive letter as "Read Only."

🗟 Disk Managen	nent						
File Action Vie	ew Help						
👍 🛛 Refresh	🛛 🕅 🗙	🖻 🖻 🔍	10				
Volum Rescan D	isks avout	Type	File System	Status	Canacity	Free Space % Free	Eault
Create Vi	HD Simple	Basic	NTES	Healthy (S	100 MB	72 MB 72 %	No
Attach VF	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
All Tasks	▶ simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
Help	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
	Simple	Basic		Healthy (P	10240.00 GB	10240.0 100 %	No
■ (C:)	Simple	Basic	NTES	Healthy (B	746.71 GB	655.06 GB 88 %	No
New Volume (F:)) Simple	Basic	NTES	Healthy (P	2046.13 GB	1995.75 98 %	No
Disk 1 Basic 2046.13 GB Online	New Volume (2046.13 GB NTF Healthy (Primary	F:) 5 • Partition)					
Disk 2 Basic 10240.00 GB Read Only	10240.00 GB Healthy (Primary	Partition)	lo Drive Lett	er			
Disk 3 Basic 10240.00 GB Read Only	Read Or	lly <mark>ition)</mark>					
Disk 4 Basic 10240.00 GB Read Only	10240.00 GB Healthy (Primary	Partition)					
Dick 5							
Basic							
10240.00 GB	10240.00 GB						
Unallocated	Primary partit	ion					

- 6 Add your ESX server or vCenter to CommVault.
 - a In the CommCell Console, right-click Client Computers.
 - b Select New Client > Virtualization > VMware vCenter.

🕲 cwf-cv-01 ·	v11 Commcell (Ionsole					
Home To	ols Storage	Configur	ration i	Reports	Vie	w Support	
CommCell	Job Controller View	Event Viewer	Alert	Schee	luler	Licensing and Registration	Control N Panel
CommCell F	rouser			п		Job Controller	🖶 Client Comput
Client C	computer Groups				ち cwf	-cv-01 > 🖶 Client	Computers >
🗄 📲 Clienc C	New Client	•	Virtuali	zation	•	VMware vCenter	indows Serv
 ⊕ ▲ 10. ⊕ ⊕ 10. ⊕ ₩ cwf 	Customize Vi 200.241.200 -cv-01 -cv-02	iew	Applica Cluster File Sv:	tion ed Server stem	•	Microsoft Hyper- Citrix Xen	v hux 2.6.32- AS Server 3 Indows Serv
⊕ 🔏 cwf ⊕ 🚑 cwf ⊕ 🔏 Lins	-cv-03 -restore-01 joak31		Cloud / Others	Apps	> >	Amazon Azure	'indows Serv nux 2.6.18-1 'indows Serv
 ⊕ - ∆ Lins 	ioak32 :oak33 :oak34 ioak35 ioak36				Linso	Nutanix bak33 bak34	hux 2.6.32- hux 2.6.32- Linux 2.6.32- Linux 2.6.32- Linux 2.6.32- Linux 2.6.32-
 ⊕ A Lins ⊕ A Lins ⊕ A Lins ⊕ A Lins 	ioak37 ioak38 ioak39				LinS	pak36 pak37	Linux 2.6.32- Linux 2.6.32-

- 7 In the Create VMware vCenter Client dialog box, do the following:
 - a Enter your vCenter/ESX host name in the Client Name field. This should automatically populate the vCenter Server Name field.
 - b Enter your User Name and Password. If a domain account is being used, you might need to enter your username as <domain>/<username>.
 - c Click Add... in the Proxies section.
 - d In the Select Client / Client Groups dialog box, for your Backup Proxy, click **Include**, and then click **OK**.
 - e In the Create VMware vCenter Client dialog box, click OK.
- NOTE: If you do not see your Backup Proxy, make sure the Virtual Server iData Agent is installed correctly on the proxy.

L Commcell Co	Create ¥Mware vCenter Client	×	
Storage		_	
	Client Name : systest-vc-01		
Job	vCenter Server Name: systest-vc-01		5 Getting
ontroller 🗸	User Name:		Started 🗸
View			Fea
ser	Password:		<
	Confirm Password:		
uter Groups			
uters			sion
212.113	Proxies:		8 R2 Enterprise \
212.174	Clients / Client Groups		.2.el6.x86_64 >
01			O DO Estavarias
02			
93			
tore-01			2 R2 Standard
82			5.x86 64 >
3			5.×86_64 >
84			6.x86_64 >
85			6.x86_64 >
86 97			5.x86_64 >
88			5.x86_64 >
89			5.×86_64 >
ŧ0		_	5.x86_64 >
vc-02			6.x86_64 >
31			p.x86_64 >
Select Clie	ents / Client Groups		X
- Clients / Client	the Croups		
Cilerius y Ciler	teolude		
Exclude			
Q	< Exclude		
Infrastru Lipux-File			
Media Ag	ents << Exclude All		
Proxy Cli	ents and the second s		
r310-sys	-01.ocarina.local Include >		
systest-v	rc-01		
Windows	-Filesystem		
cwf-cv-01			
	OK Cancel Help		

- 8 Set backup content and verify the transport mode on the new Virtual Client.
 - a In the CommCell console, expand Client Computers, and then expand the virtual client.
 - b Expand the Virtual Server iData Agent, and then expand the VMware instance.
 - c Click defaultBackupSet, right-click default, and then click Properties.



9 In the Subclient Properties of the default dialog box, confirm the Transport Mode for VMware setting. The default value is "Auto".

🕄 Subclient Properties of default		×
Encryption IntelliSnap Operations VM Management	Advanced Options Backup O	ptions
Clinic Newsy and a subschars 01	icy Diorage Device Accordy C	
Data@gent: Virtual Server		
Backun Set · defaultBackunSet		
Subclient Name: default		
Note: This is a deradic sobclient.		
Transport Mode for VMware Auto		7
		_
	OK Cancel	Help

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NOTE: The default value of Auto is recommended to ensure backups succeed. However, if the desired outcome is that the jobs fail, if SAN mode is unusable, then change this setting to SAN. For more details on ESX transportation modes, refer to the following documentation:

https://documentation.commvault.com/commvault/v11/article?p=products/vs_vmware/c_vmw_transport_modes.htm

10 On the Content tab, select virtual machines for backup. By default, all virtual machines will be backed up. Click **Browse** if you need to select a specific virtual machine.

🚱 Subclient Properties of default		×
Encryption I IntelliSnap Operations General Content Filters Pre/Pos	VM Management Advanced Optic t Process Security Storage Dev	ons Backup Options ice Activity Control
Туре	Name	⇒ Browse
All unprotected VMs	J.	
		Add
		Edit
		Delete
		Preview
	ок	Cancel Help

11 Notice the **Hosts and Clusters** view in the top left. This view can be changed to **VMs and Templates**, and **Datastore** view as well. Expand the datacenters and clusters, and select resources that need to be backed up. Click **OK** when finished.



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NOTE: For information about how resource selecting causes different backup behavior at the datastore, resource pool, cluster, and datacenter levels refer to the following documentation:

http://documentation.commvault.com/commvault/v10/article?p=products/vs_vmware/config_adv.htm

12 On the Storage Device tab, click the **Storage Policy** dropdown, and select the storage policy created previously.

Subclient Properties of default		2
Encryption IntelliSnap Operations VM Management General Content Filters Pre/Post Process Security Data Storage Policy Data Transfer Option Dedunication	Storage Device	Backup Options Activity Control
Storage Policy: VTL Replication Test	Data Paths]
Incremental Storage Policy: N/A	Data Paths	
Create Storage Policy		
	OK Cance	el Help

13 Select the Data Transfer Options subtab, and click **Off** under Software Compression.

Subclient Properties of default	>
Encryption IntelliSnap Operations VM Management Advanced Options Backup Option General Content Filters Pre/Post Process Security Storage Device Activity Control	s /l
Data Storage Policy Data Transfer Option Deduplication	
Software Compression	
Select the software compression to be used in case hardware compression is not available or not selected in the destination data path.	
C On Client	
C On MediaAgent	
O Use Storage Policy Settings	
© Off	
Resource Tuning	
Specify the number of processes that the client will use to transfer data. For Windows, the range is 1-4 with default value of 2. For Unix, the range is 1-2 with default value of 1. Improvement in performance is resource dependent.	
Network Agents: 2 x	
Note: The setting does not affect performance if the MediaAgent is optimized for concurrent LAN backups.	
Throttle Network Bandwidth (MB/HR) 500 =	
	_
OK Cancel Help	

14 On the Deduplication subtab, clear the checkbox for **Enable Deduplication**.

Data Storage Policy Data Transfer Option Deduplication Enable Deduplication Generate Signature on On Client On MediaAgent	Iontro
Generate Signature on © On Client © On MediaAgent	
ⓒ On Client Ĉ On MediaAgent	
Please note that if Client Side Deduplication is enabled, signature generation will occur on the Client, regardless of this setting	

15 On the Encryption tab, click None or Network Only, and then click OK.

NOTE: None completely disables all encryption. Network Only is encryption "in flight," that is, over the network only. For more information about these settings refer to the following documentation: https://documentation.commvault.com/commvault/v10/article?p=features/data_encryption/data_encryption

getting_started.htm#Subclient_Encryption

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🛞 Subclient Properties of default 🛛 🗙
General Content Filters Pre/Post Process Security Storage Device Activity Control Encryption IntelliSnap Operations WM Management Advanced Options Backup Options
C None
C Media Only (MediaAgent Side)
C Network and Media (Agent Side)
Network Only (Agent Encrypts, MediaAgent Decrypts)
OK Cancel Help

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Using VTL replication with CommVault

The VTL replication feature allows for native data replication for up to three DR Series systems. This replication occurs at the tape level, which ensures "restorability" even if the replication is not completely in-sync at the point of failure.

Configuring the DR Appliance for VTL Replication

Native VTL Replication occurs between two DR Series systems but can optionally be configured for up to three systems. The primary VTL is referred to as the Source, the first replication target is referred to as the Replica Target. The optional second replication target is referred to as the Replica Cascade.

Prerequisites

- The Source, Replica Target, and Replica Cascade VTLs should be created. Follow the steps in the corresponding section in this guide, "Configuring VTL for CommVault," to create VTLs.
- The Source, Replica Target, and Replica Cascade VTLs must be of type STK L700.
- The Source, Replica Target, and Replica Cascade VTLs must be of the same Tape Size.

Setting up replication

1 In the DR Series system GUI of the Replication Source system, go to the Replications page, and, on the **Action** Menu in the upper right part of the page, click **Add Replication**.

Quest DR430) 5.systesi	.ocarina.local				administrator 🔽 0
GlobalView	•	All Replications				Add Replication
Dashboard	•	Source *	Status ≑	Replica 🗘	Status 🗢	c 🖙 Log Out
Containers	•					
Replications	♪	0 Item(s) found.				
System Configuration	•					
Support	•					
09/26/2017 15:09:09						
US/Pacific-New						

- 2 In the Add Replication pane, do the following:
 - a If only two DR Series systems are replicating, select Replica only.
 - b For a Replication Cascade, select Replica & Cascade.
 - c Click Next.

Add Replication
Choose replication type: Replica only O Replica & Cascade
< Previous Next > Prinish Cancel

3 For the Select local container dropdown, click the source replication VTL name, and click Next.

➡ Add Replication
Source Container
Select container location: Local O Remote
Select local container: VTL1
A Previous Next B Finish X Cancel

4 For Encryption, select either **AES 128-bit** or **AES 256-bit** as needed. If encryption is not needed, select **Not Enabled**. Click **Next**.

➡ Add Replication
Source Container \Rightarrow Replica Container
Encryption: Not Enabled O AES 128-bit O AES 256-bit
Previous Next > Prinish Cancel

- 5 Do the following:
 - a In the Username and Password fields, enter the corresponding information from the Replica target.
 - b Enter the Fully Qualified Domain Name or IP address of the Replica Target in the Remote Systems field.
 - c Click the Retrieve Remote Container(s) button.
 - d On the Select remote container drop down, click the Replica Target VTL name from the list.
 - e Click Next.
 - NOTE: Default Username is administrator with a Default Password of St0r@ge!

Replica Container
Select container location: O Local Remote
Username: @ administrator
Password:
Remote system: @ dr4300-27.systest.ocarina.local
Retrieve Remote Container(s)
Select remote container: VTL2
< Previous Next > Prinish * Cancel

NOTE: If you are configuring a Replica Cascade the next screen will look exactly like Step 5. Enter the Username, Password, Remote system, and Select Remote Container fields as they pertain to the Replica Cascade VTL target.

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6 Review the summary of the configuration, and click Finish.

Summary	
Source Container	
Location:	local
Name:	VTL1
Source Container \Rightarrow Replica Container	
Encryption:	Not Enabled
Replica Container	
Location:	remote
Remote System:	dr4300-27.systest.ocarina.local
name:	VTL2
Previous Next > Previous Ca	ncel

7 You can monitor replication status by clicking the + icon to the left of the replication.

Uest dr4300-26	.systest	t.ocarina.local					administrator systest.ocarina.local
obalView ashboard	1	All Replications Cocal container(s) in bold.					
intainers	٠	Source *	Status 0		Replica 0	Status 0	Cascaded Replica
Replications -	— dr4300-28 VTL1	H OS		dr4300-466dgk2 VTL2	•		
ipport	•			Ontine			
09/26/2017 15:15:33			Preter Scattus:	Default			
US/Pacific-New			State	REPLICATING			
			Encryption	Not Enabled			
			Percent done:	0 %			
			Replication Average Transfer Rate:	0 bytes/sec			
			Replication Peak Transfer Rate:	0 bytes/sec			
			Network Average Transfer Rate:	0 bytes/sec			
			Network Peak Transfer Rate:	0 bytes/sec			
			Network Bytes Sent:	280.00 N			
			Pending Bytes:	0			
			Estimated Time to Sync:	Calculating			
			Dedupe Network Savings:	0.00 %			
			Compression Network Savings:	0.00 %			
			Last INSYNC Time:	Unavailable			
			Time Until Scheduled Run	in Window			

Restoring from a replica or replica cascade target

Before attempting to restore from replication, it is important to understand how CommVault handles tape backups. First, each tape has an On Media Label (OML) based on the current barcode written to it. Since this OML is actually written on the tape itself, the data is also replicated to the target VTL. The second is that each OML has what CommVault refers to as a Magic Number. The Magic Number is a unique ID written inside the OML. The Magic Number and the OML have a relationship that is maintained in the CommServe database. If the barcode changes, it can impact restore and usability.

NOTE: It is import to note that only fully in-sync tapes are available on the replica site. What is restorable is effected by how in-sync the containers are at point of failure.

Understanding reserialization

When activating a Replica VTL for restore, it is possible to reserialize the VTL. This operation temporarily changes the library serial number and the tape barcodes so that a DMA will see it as a completely new/independent Tape Library. This feature will not be used for replica restores in CommVault.

Possible restore situations

There are two general situations in which restores from replicated data would be performed.

- A restore to the original CommCell for which it is assumed the CommVault database is intact.
 - In this example just the Primary Site DR or access to it might be down.
 - All the tapes will have OML's with Magic Numbers that match what is stored in the CommVault database.
 - Reserialization is not needed.
- A restore to a new/temporary or alternative site CommCell in which case it is assumed the CommVault database is different.
 - A new/temporary CommCell install might be used to restore the original CommVault Database.
 - An independent CommCell at a DR site is being used for restore at an offsite location.
 - All the tapes will have OML's that match the original serialization.

Restoring from replica VTL on original CommCell

In this case, it is assumed that the CommVault database is intact. The On Media Label (OML) and Magic Number of each tape have an entry in the CommVault Database. Because of this, you do not need to reserialize or else the OML and Magic Number will no longer match the Barcode. It is also assumed that the source DR Series system is offline and the VTL is no longer mounted to the Media Agent.

First, you need to activate the VTL. This involves configuring it with a connection protocol and bringing the replica tape library online.

1 In the DR Series system GUI navigate to the **Containers** page. Click the **edit button** on the Replica target VTL.

Quest DR4300 dr4300-27.systest.ocarina.local systest.ocarina.local g 0								
GlobalView •	DefaultG	roup/Contain	ers					
Dashboard								
Containers	Container *	Marker Type 🗢	Access Protocol	Connection Status 🗢	Replication 🗢	Actions		
Replications	backup	Auto	NFS,CIFS	Available, Available	Not Configured			
System Configuration	sample	None	Veritas OST	Available	N/A			
Support •	VTL2	None	VTL (No Access)	Offline	Online			
09/26/2017 15:17:56 US/Pacific-New	3 ltem(s) found.							

- 2 Select the VTL Access Protocol and enter the IQN, FQDN, IP address, or port initiator WWN of the media agent depending on which protocol is selected.
- 3 Click Next, and then click Save on the Summery Page.

i

₿ Edit - VTL2		
Robot Model	O Quest DR_L700 O Dell DR_L700	STK L700
Tape Size	800GB	
VTL Access Protocol		Access
IQN, FQDN or IP Addres	SS VQN, FQDN or IP Address	>
Marker Type	Auto	•
< Previous Next >	E Finish Cancel	

NOTE: Now that the Target VTL has an access protocol it must be activated, which makes the Replica VTL readable.

Setting Up the DR Series System as a Backup Target on CommVault -Using VTL replication with CommVault 4 Navigate to the **Replications** page, and then expand the replication to review its **replication statistics**. Check the Percent Done, and if it is 100% In-Sync, then click the **Activate button**.

Quest DR430	0 7.syste	st.ocarina.local				administrator v 0 systest.ocarina.local	:
GlobalView	•	DefaultGroup/Repli	cations				^
Dashboard	•	 Local container(s) in bold. 					
Containers		Source *	Status 🗢	Replica 🗢	Status 🗢	Cascaded Replica 🗢	
Replications)	- cwf-dr2000v-06 VTL1	× .	dr4300-27 VTL2	+		1
System Configuration	•		Ø 🔒 🔳 🚺 Q				
Support	•		Peer Status:	Online			
09/26/2017 15:21:39			Peer Bandwidth:	Default			
US/Pacific-New			State:	INSYNC			
			Encryption:	Not Enabled			
			Percent done:	100 %			
			Replication Average Transfer Rate:	0 bytes/sec			
			Replication Peak Transfer Rate:	9.22 KB/sec			
			Network Average Transfer Rate:	0 bytes/sec			
			Network Peak Transfer Rate:	17.68 KB/sec			
			Network Bytes Sent:	239.73 K			1
			Pending Bytes:	0			
			Estimated Time to Sync:	0 sec			
			Dedupe Network Savings:	0.00 %			

- 5 In the Activate VTL target replica container dialog box, do the following:
 - a Enter **00** for the Reserialization code for replica. This will ensure the library has the same serial numbers and barcodes it did originally.
 - b If the VTL is in sync click, Activate, if it is not in sync click Force Activate.

Activate VTL target F	Replica Container - VTL2
Reserialization code for replica:	OO ✓ ✓ Activate ✓ Force Activate X Cancel

At this point the Library will be online and available.

6 You now need to connect the library to the Media Agent. Refer to the sections in this document specific to configuring your chosen protocol (such as "Configuring an iSCSI Target in Windows/Linux," "Configuring CommVault to use the newly created NDMP VTL," or "Configuring CommVault to use the newly created FC VTL.")

Once the VTL is recognized by Windows, the Tape library will be visible to CommVault. Because the serial number and barcodes are the same they will match the CommVault database. The original library should come online and be accessible for restores without having to run through an add library process.

Restoring from a replica VTL on a new or alternative CommCell

In this case, you cannot assume the CommVault database is intact. The On Media Label (OML) and Magic Number of each tape will not have an entry in the CommVault Database. Because the OML needs to match the tape barcode even in new CommVault installations, you should not reserialize or else the OML and Magic Number will no longer match the Barcode.

1 First, you need to activate the VTL. This involves configuring it with a connection protocol and bringing the replica tape library online. In the DR Series system GUI, navigate to the Containers page, and click the **edit button** for the replica target VTL.

Quest DR4300 administrator systest.ocarina.local systest.ocarina.local of the systest.ocarina.local systest.ocarina.local of the system.locarina.local of the system.locarina.l										
GlobalView	befaultGroup/Containers									
Dashboard	•									
Containers		Container *	Marker Type 🖨	Access Protocol \$	Connection Status \$	Replication 🗢	Actions			
Replications		backup	Auto	NFS,CIFS	Available, Available	Not Configured	2 🖬 🗎			
System Configuration	•	sample	None	Veritas OST	Available	N/A				
Support	_	VTL2	None	VTL (No Access)	Offline	Online				
09/26/2017 15:17:56 US/Pacific-New		3 Item(s) found.								

- 2 Select the VTL Access Protocol and enter the IQN, FQDN, IP address, or port initiator WWN of the media agent depending on which protocol is selected.
- 3 Click Next, and then click Save on the Summary Page.

🕑 Edit - VTL2		
Robot Model	O Quest DR_L700 O Dell DR_L700 STK L700	
Tape Size	800GB	
VTL Access Protocol	O FC O NDMP • ISCSI O No Access	
IQN, FQDN or IP Add	Tess IQN, FQDN or IP Address	
Marker Type	Auto 🗸	
<pre></pre>	E Finish X Cancel	

NOTE: Now that the Target VTL has an access protocol you need to activate it. This makes the Replica VTL readable.

Setting Up the DR Series System as a Backup Target on CommVault -Using VTL replication with CommVault 4 Navigate to the Replications page, and expand the replication to review replication statistics. Check the Percent Done, and if it is 100% In-Sync, then click the **Activate button**.

Quest DR4300 dr4300-27	.syste	st.ocarina.local				administrator v 0
GlobalView	•	DefaultGroup/Repli	cations			
Dashboard	•	 Local container(s) in bold. 				
Containers		Source ^	Status 🗢	Replica 🗢	Status 🗢	Cascaded Replica 🗢
Replications	>	- cyf-dr2000v-06 VTL1	×	dr4300-27 VTL2	+	
System Configuration	•					
Support	•		Peer Status:	Online		
09/26/2017 15:21:39			Peer Bandwidth:	Default		
US/Pacific-New			State:	INSYNC		
			Encryption:	Not Enabled		
			Percent done:	100 %		
			Replication Average Transfer Rate:	0 bytes/sec		
			Replication Peak Transfer Rate:	9.22 KB/sec		
			Network Average Transfer Rate:	0 bytes/sec		
			Network Peak Transfer Rate:	17.68 KB/sec		
			Network Bytes Sent:	239.73 K		
			Pending Bytes:	0		
			Estimated Time to Sync:	0 sec		
			Dedupe Network Savings:	0.00 %		

- 5 In the Activate VTL target replica container dialog box, do the following:
 - a Enter 00 for the Reserialization code for replica. This will insure the library has the same serial numbers and barcodes it did originally.
 - b If the VTL is in sync click Activate; if it is not in sync click Force Activate.

Activate VTL target F	Replica Container - VTL2
Reserialization code for replica:	00 Cancel

At this point, the Library will be online and available.

- 6 Now, you need to connect the library to the Media Agent. Refer to the sections in this document specific to configuring your chosen protocol (such as "Configuring an iSCSI Target in Windows/Linux," "Configuring CommVault to use the newly created NDMP VTL," or "Configuring CommVault to use the newly created FC VTL.")
- 7 Once the VTL is recognized by Windows, you need to add the tape library to CommVault. This is because this library is new to this CommCell instance. Refer to the sections in this document specific to configuring your chosen protocol (such as "Configuring CommVault to use the newly created iSCSI VTL" Configuring CommVault to use the newly created NDMP VTL," or Verifying the FC VTL is recognized by Windows.")

At this point, you will have a newly created Tape Library listed in CommVault.

8 You need to run a catalog of these tapes so that the instance of CommVault is aware of the restorable data. In your CommCell Console, expand **Storage Resources**, and then **Libraries**. Expand the newly added Tape Library, and then **Media By Location**. Click the **Media in Library** option and a list of tapes should appear.

ImCell Job Event Controller Viewer View	Scheduler Lice Re Config	nsing and Control gistration Panel ure	What's Getting Web new? Started V Console Featured	Metrics		COMMVAULT
nmCell Browser P	🚺 Job Ci	ntroller 🗴 🍓 Media In L	brary ×			
Liberia	🚺 🖧 cwf-cv-01	> 🛐 Storage Resources >	📑 Libraries > 💼 STK L700 122 > 🌄 Med	a By Location > 🍇 Med	lia In Library >	
utoraries up urzodov-12TB-one-commvault-cifs	Status	Barcode	Storage Policy/Copy Location	Container	Last Write Time Size of Stored Data	Betain Data Until Media Groun
	C 1	4377E5001	slot 1		0 Bytes	Default Scratch
		437765002	slot 2		0 Bytes	Default Scratch
		437765003	slot 3		0 Bytes	Default Scratch
dr4300-11-cv-cifs1-cv1-rdcifs1		427765004	slot 4		0 Bytes	Default Scratch
dr4300-11-cv-cits1-cv2-cits1		437765005	dot 5		0 Bytes	Default Scratch
dr4300-11-cv-cits1-ws34-rdcits1		407725000	SIDE 5		0 Dytes	Default Stratch
dr4300-11-cv-cl/s1-ws35-fdcl/s1		437725000	slot 0		0 Dytes	Default Scratch
dr4300-11-cv-cits1-ws30-cits1		437725007	SUC 7		0 Bytes	Default Stratch
dr4300-11-cv-ofs1-cv3-ofs1		4377E5000	slot 8		0 Bytes	Derault Stratth
dr4300-11-cv-nfs1-cv3-rdnfs1		4377E5009	slot 9		U Bytes	Derault Scratch
dr4300-11-cv-nfs1-linsoak35-rdnfs1		4377ESUUA	slot 10		U Bytes	Default Scratch
dr4300-11-cv-nfs1-linsoak36-rdnfs1	1 <u>1</u> 2	4377E500B	slot 11		0 Bytes	Default Scratch
	40	4377E500C	slot 12		0 Bytes	Default Scratch
	<u> </u>	4377E500D	slot 13		0 Bytes	Default Scratch
dr4300e-01-cv3-rdnfs1		4377E500E	slot 14		0 Bytes	Default Scratch
dr6000-19-cv-rdcifs1	-	4377E500F	slot 15		0 Bytes	Default Scratch
dr6000-19-cv-rdnhs1		4377E500G	slot 16		0 Bytes	Default Scratch
drb3UU-U5-cv-nrs1-Insoak31-nrs1	6	4377E500H	slot 17		0 Bytes	Default Scratch
dr6300-05-cv-ofe1-lineoak33-rdofe1	6	4377E500I	slot 18		0 Bytes	Default Scratch
dr6300-05-cv-ofst-linsoak35-rdnfst		4377E500J	slot 19		0 Bytes	Default Scratch
dr6300-05-cv-nfs1-nfs1	6	4377E500K	slot 20		0 Bytes	Default Scratch
dr6300-05-cy-nfs1-rdnfs1	P 0	4377E500L	slot 21		0 Bytes	Default Scratch
		4377E500M	slot 22		0 Bytes	Default Scratch
IP-CIFS-TEST	P 0	4377E500N	slot 23		0 Bytes	Default Scratch
Mallesh-cifs1	P 0	4377E5000	slot 24		0 Bytes	Default Scratch
Mallesh-NFS1	5	4377E500P	slot 25		0 Bytes	Default Scratch
🖃 📷 STK L700 122	P 0	4377E500Q	slot 26		0 Bytes	Default Scratch
H MasterPool STK L700_122	P h	4377E500R	slot 27		0 Bytes	Default Scratch
- Will Media By Location	P	4377E5005	slot 28		0 Bytes	Default Scratch
Evported Media	P h	4377E500T	slot 29		0 Bytes	Default Scratch
E- Media By Grouns	P	4377E500U	slot 30		0 Bytes	Default Scratch
- III Slots	l en	4377E500V	slot 31		0 Bytes	Default Scratch
		4377E500W	slot 32		0 Bytes	Default Scratch
.nmuell browser		4377E500X	slot 33		0 Bytes	Default Scratch
ents		101120000	300.00		0 0 9 10 5	Dordaic Scraceri

NOTE: Only In-sync tapes will show up in this list. All other tapes did not complete replication and would not be restorable.

i

9 On the Media In Library tab, click any barcode and then use the Ctrl-A keyboard shortcut to select all tapes.

Cwf-cv-	01 - v11	Commcell C	onsole											
Home	Tools	Storage	Configura	tion	Report	s Vie	w Support							
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				- 717		\bigcirc		* ©		an L	- -		${ }$	
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	С	ontroller 🗸	Viewer	~			Registratio	n Panel	n	ew?	Started	~ ~	onsole	
		View					Configure				Fe	atured		
CommC	Cell Brows	er			Р		Job Controller	🔨 🍓 Media I	in Library	×				
	Deduplic	ation Engines				👌 cwf	-cv-01 > 🌍 St	orage Resources	> 📑 Lit	oraries	: > 🚮 STK L	700 122	> 🌄 Me	edia B
	Libraries	100v-12TB-one	-commvault-cif	s			Status	Barcode		torade	Policy/Conv	1	Location	-
	🔟 dr43	:00-10-cv-cifs2	-cv1-rdcifs1			-	4	377E5001		corago	,10%,700,7	slot 1	Eocacion	
	🚻 dr43	00-10-cv-cifs2	-cv2-rdcifs1				4	37755002				slot 2		
	🚻 dr43	00-10-cv-rdnfs	5-01					37755002				dot 2		
	🚻 dr43	00-11-cv-cifs1	-cv1-rdcifs1					27755004				dot 4		
	🛄 dr43	00-11-cv-cifs1	-cv2-cifs1					27755005						
	🛄 dr43	00-11-cv-cifs1	-ws34-rdcifs1				4	07720005				SIDC 5		
	dr43	00-11-cv-cifs1	-ws35-rdcits1				4	37725006				SIOC 6		
	dr43	00-11-6V-6651	-WS36-CIFS1					377E5007				slot 7		
	dr43	00-11-cv-clist 00-11-cv-ofc1	-wsb/-urst .cu3-ofc1					377E5008				slot 8		
	dr43	00-11-cv-n/s1-	-cv3-rdofs1				4	377E5009				slot 9		
	dr 43	00-11-cv-nfs1-	-linsoak35-rdn	fs1		<u> </u>	4	377E500A				slot 10		
	dr43	00-11-cv-nfs1-	-linsoak36-rdn	fs1			4	377E500B				slot 11		
	👖 dr43	00e-01-cv-cifs	1			—	4	377E500C				slot 12		
	<u> 11</u> dr43	:00e-01-cv-rdn	fs1-sg2			-	4	377E500D				slot 13		
	🚻 dr43	00e-01-cv3-rd	nfs1			-	4	377E500E	All Task	s 🕨	Catalog			
	🚻 dr60	00-19-cv-rdcif:	51			•• •	4	377E500F	View	<u> </u>	cacalog			
	🚻 dr60	00-19-cv-rdnfs	51			-	4	377E500G	1000		Discover	·		
	🛄 dr63	00-05-cv-nfs1-	-linsoak31-nfs	1		-	4	377E500H	Options			slot 17		
	dr63	00-05-cv-nts1-	linsoak32-nts	1		-	4	377E500I				slot 18		
	dr63	00-05-cv-nFs1-	linsoak33-ran Jia asalaa wala	rs1 6-4		-	4	377E500J				slot 19		
	arba	00-05-cv-nrsi-	-IINSOAK34-ran Déci	rs1			4	377E500K				slot 20		
	dr63	00-05-cv-nisi- 00-05-cv-ofe1.	-rdofe1				4	377E500L				slot 21		
	dr63	:00-05-cv-rdcif:	<1				4	377E500M				slot 22		
	IP-C	IFS-TEST					4	377E500N				slot 23		
÷.	🔟 Malle	esh-cifs1					4	377E5000				slot 24		
	🔟 Malle	esh-NFS1						377E500P				slot 25		
E.	ᡖ ѕтк	L700 122						37755000				slot 26		
	🗄 - 👼 I	MasterPool_STI	K_L700_122					377E5000				slot 27		
	- 🕀 🖏 J	Media By Locat	ion					1277EE005				alot 29		
		Media In Lit	orary					27755005				siut 28 dat 20		
		📷 Exported M	ledia					37755001				sioc 29		
		viedia By Group Flata)5		T		4	1377E5000				SIDC 30		
	:	5IULS					4	377E5UUV				slot 31		
Comm(Cell Brow	ser					4	377E500W				slot 32		
Agents	5						4	377E500X				slot 33		
							4	2775500V				Jalak 24		

10 Right-click any tape, select the All Tasks menu, and click Catalog.

11 Click **Catalog and Merge**, change the Maximum Number of Drives to the maximum in the library (10 by Default), and click **OK**.

🕲 Catalog Media 🛛 🛛 🗙
General Media Password Job Initiation
C Catalog only
Catalog and Merge
Always add the following prefix to imported entities
Prefix
Set file marker
From Start Of Tape 💌
To End Of Tape 💌 0 🖉
Maximum Number Of Drives
Drive Pool DrivePool(cwf-cv-01)123
Recatalog already cataloged media
🖉 OK Cancel 📴 Save As Script Help

12 Monitor the **Catalog Media** operation in the **Job Controller** tab. The time this takes will vary depending on the number of tapes and size of data on them.

🛞 cwf-cv	-01 - v11	Commcell Co	onsole																	-	8>
Home	Tools	Storage	Configura	ation	Report	s Vie	w Sup	port													5 3
Comm	Cell Co	Job ntroller v	Event Viewer	Alert	Sd	heduler	Licensi Regis	ng and tration	Control Panel	What's new?	Gettin Started	ig i v C	Web onsole	Aetrics				СОМ	MVAU	LT' 🐧	
		View				_	Configure		_		F	eatured									
Comr	Cell Browse	r			ņ		Job Cont	roller ×												4	Þ≡
	dr430	0-11-cv-cifs1-	-ws35-rdcifs1			D Job	Controller													ф.	00
	👖 dr430	0-11-cv-cifs1-	ws36-cifs1														Filters:		*	+ 🗉	all -
	dr430	0-11-cv-cifs1-	-ws37-cifs1			57	Joh ID		Operation	Client	om An	ient Tyne	Subclient	Joh Typ	e Phase	Storage Policy	MediaAgent	Status	Progress	Errors	< ×
	dr430	0-11-cv-nrs1- 0-11-cv-nfs1-	cv3-rdnfs1			39	96846 Ca	aloque Me	edia					1	Catalogue			Running	0%		
	dr430	0-11-cv-nfs1-	linsoak35+rdr	nfs1		35	96755 Bar	:kup		Linsoak	34 Linu	x File S	default	Full	Backup	dr6300-05-cv-nfs1-linsoak34-rdnfs1	Linsoak34	Running	27%		
		0-11-cv-nfs1-	linsoak36-rdr	nfs1		35	96754 Bar	: kup		Linsoak	33 Linu	IX File S	default	Full	Backup	dr6300-05-cv-nfs1-linsoak33-rdnfs1	Linsoak33	Running	27%		
	📲 dr430	0e-01-cv-cifs1	1			35	96752 Bar	: :kup		LinSoak	39 Linu	ıx File S	default	Full	Backup	dr4300-10-cv-rdnfs-01	cwf-cv-03	Running	48%		
	dr430	0e-01-cv-rdnf	fs1-sg2			39	96751 Bar	: :kup		LinSoak	40 Linu	ıx File S	default	Full	Backup	dr6000-19-rdnfs1	cwf-cv-03	Running	31%		
	dr430	0e-01-cv3-rdr	nts1			39	96750 Bar	: :kup		LinSoak	38 Linu	IX File S	default	Full	Backup	dr4300e-01-cv3-rdnfs1	cwf-cv-03	Running	76%		
	dr600	0-19-cv-rdors 0-19-cv-rdofe	51			39	96747 Bar	: kup		LinSoak	32 Linu	IX File S	default	Full	Backup	dr6300-05-cv-nfs1-linsoak32-nfs1	LinSoak32	Running	32%		
	dr630	0-15-cv-rdnis 0-05-cv-rds1-	linsnak31-nfs	<1		39	96745 Bar	:kup		LinSoak	31 Linu	IX File S	default	Full	Backup	dr6300-05-cv-nfs1-linsoak31-nfs1	LinSoak31	Running	28%		
	dr630	0-05-cv-nfs1-	linsoak32-nfs	s1																	
		0-05-cv-nfs1-	linsoak33-rdr	nfs1																	
		0-05-cv-nfs1-	linsoak34-rdr	nfs1																	
		0-05-cv-nfs1-	nfs1																		
		0-05-cv-nfs1-	rdnfs1																		
	dr630	0-05-cv-rdcifs	51																		

- 13 Go back to your CommCell Console, and expand Client Computers and then the client to be restored.
- 14 Expand the iDataAgent to be restored, and right-click a backup set.

15 Select All Tasks and click Restore by Jobs.



16 Clear the checkbox, Specify Time Range, and click OK.

Restore by Jobs fi	lter		
ackup Type A All	O Full		C. Differential
 Incremental 		Full	C Automated System Recover
	Synchold		 Hatomatea System Netoyo
ob Status C) All	Completed	O Failed	C Killed
peciry time kar			
Time Zone:	(UTC-08:00) Pacific Time	(US & Canada)	<u>_</u>
Start Time		End Time	
Sunday, Sep	otember 25, 20 📃 💌	Monday,	September 26, 20 💌
4	: 10 PM		4:10 PM

- 17 On the Backup Job History tab, find the job you want to restore by checking start time.
- 18 Right-click the job, and click Restore Selected Jobs if you want looking to do a whole client restore, or click View backup items if you want to restore individual files/folders

🕲 cwf-cv	/-01 - v11 Commo	ell Console												
Home	Tools Storag	ge Configur	ation	Reports	View	Support								
1			•)	,	Q.	6	2)	Ø	
Comm	Cell Job	Event	Alert	Sche	duler	Licensing and	Control	What	at's	Gettin	g Web	, I	Metrics	
	Controller	 Viewer 	~			Registration	Panel	ne	ew?	Started	✓ Cons	ole	~	
	View				С	onfigure				F	eatured			
Comn	nCell Browser			₽	D 3	lob Controller 🗙	🔮 Backup 🛙	Job Histo	ry of Cli	. x				
Second Contract	v-01			T [_							
🛓 🖶 ci	ient Computer Group	s			lient: cwf	-cv-01 > File Syste	em > Backupset:	: defaultBa	ackupSet					
🖕 🖶 C	lient Computers				lob ID S	tatus Operation T	Type Subclient	Storage	Policy Jo	b Type	Failed Folders	Failed	=iles Skip	ped F
🕂 🕂	10.250.212.113			3	95348 🧭) Backup	default	VTL Replic	cati Ful)	0	0	
E	10.250.212.174			3	95320 🥃) Backup	default	VTL Replic	cati Ful	1 0)	0	0	
	CWF-CV-U1			3	95312 🥃) Backup	default	VTL Replic	cati Ful	1 0)	0	0	
	en e system	kunSet		3	95259 🥃) Backup	default	VTL Replic	cati Ful	1 0)	0	0	
+	cwf-cv-02	- appor		3	95230 🖉	Backup	default	VT Replic	cati Ful	I 0)	0	0	
	cwf-cv-03			3	95200 🥥) Backup	default	VT	Browse a	nd Restor	re		0	
主 🕂	cwf-restore-01			3	95192 🥃) Backup	default	VT	1 :		-		0	
🕀 🔏	🕺 LinSoak31			3	95139 🥃) Backup	default	VT	List bridps	,		_	0	
🗄 🤇	LinSoak32			3	95113 🥥) Backup	default	VTI	Find				0	
E	¥ Linsoak33			3	95083 🥃) Backup	default	VT	Restore S	elected J	lobs		0	
) LINSOAK34 V LinSoak35			3	95075 🥃) Backup	default	VT	Uiour Epilo	d Thoma		_	0	
	LinSoak36			3	94994 🧕) Backup	default	VT	view Falle	u items			0	
I <u>⊸</u> /	LinSoak37			3	93958 🥃) Backup	default	VT	Resubmit	Job			0	
E 🕀 🚶	🕇 LinSoak38			3	93903 🥃) Backup	default	VT	View Job I	Details			0	
🕀 🕻	🕇 LinSoak39			3	93875 🥃) Backup	default	VT	View Med	ia			0	
🕀 🕻	🕺 LinSoak40			3	93843 🥃) Backup	default	VT	View Ever	nts			0	
±	winsoak31			3	93836 🥃) Backup	default	VT					0	
	y winsoak32			3	93824 🧕) Backup	default	VTI	VIEW CONI	ent Inde	×	P	0	
	y winsoak33			3	93817 🥃) Backup	default	VT	View back	up items	J		0	
	winsoak35			3	93785 🥃) Backup	default	VT	View Back	ир Сору	file listing		0	
÷.	winsoak36			3	93777 🥃) Backup	default	VT	View Logs				0	
🕂 🚽	🕈 winsoak37			3	93720 🧕) Backup	default	VT	SendLog				0	
÷	🔮 winsoak38			3	93689 🥃) Backup	default	VTL Ropin	caana rai		,	_	0	
÷.2	winsoak39			3	93659 🥃) Backup	default	VTL Replic	cati Ful	1 0)	2	0	
📃 🕀 💆	y winsoak40			3	93651 🧭) Backup	default	VTL Replic	cati Ful)	2	0	

NOTE: For more information about CommVault restore options refer to the following documentation: http://documentation.commvault.com/commvault/v10/article?p=products/windows/restore_adv.htm

19 In the Restore Options dialog box, change the restore destination and overwrite files settings if needed then click **OK**.

Restore Options for All Selected Items	
Seneral Job Initiation	
C Restore ACLs Only C Restore Data Only 💿 Restore B	oth Data and ACLs
Unconditionally overwrite only if target is a DataArchiver student of the state	dr
Verwrite Files	
Overwrite if file on media is newer O Unconditional O	Verwrite
Restore only if target exists	
Recreate Mount Points	
Restore Destination	
Destination client	
CON-CO-01	
Restore to same folder	
Specify destination path	
	Browse
T Impersonate User	
User Name:	
Password:	
Confirm Password:	
Cancel Advanced Boseve A	s Script Help

i NOTE: If CommVault asks for more media to be placed in the library for restore then likely not all the tapes related to the backup were in-sync. Try again with another backup job for that client.

20 Monitor the restore progress in the Job Controller.

🕲 cwf-cv-01 - 1	v11 Commcell C	onsole														l IIII	
Home Too	ls Storage	Configura	ation Re	ports	View	Support											
CommCell	Job Controller √	Event Viewer	Alert	Schedule	er Lice Re	ensing and	Control Panel	What's of new? St	ietting arted y	Web Console	Metrics				COM	1MVAUL1	Г
	View				Config	gure			Featured	1							
CommCell Br	owser		Ą		🚺 Job C	ontroller >	🕻 😬 default	BackupSet 🗙 🙀 🤇	lient: cwf-cv-0	1 (Lates)	<						
cwf-cv-01	mputer Groups mputers		-		lob Contro	ller								Filters:			-
10.2	50.212.113			87	Job ID		Operation	Client Com.	. Agent Type	Subclient	Job Type	Phase	Storage Policy	MediaAgent	Status	Progress	E
⊕ △ 10.25 ↓	50.212.174				396850	Restore 🥌		cwf-cv-01	Windows Fi.			Restore		cwf-cv-01	Running	5%	η
	ile System				396755	Backup		Linsoak34	Linux File S	. default	Full	Backup	dr6300-05-cv-nfs1-linsoak34-rdnfs1	Linsoak34	Running	28%	٦
	defaultBackupS	et			396754	Backup		Linsoak33	Linux File S	. default	Full	Backup	dr6300-05-cv-nfs1-linsoak33-rdnfs1	Linsoak33	Running	28%	
🕀 🏭 cwf-c	:v-02				396751	Backup		LinSoak40	Linux File S	. default	Full	Backup	dr6000-19-rdnfs1	cwf-cv-03	Running	85%	
🕀 🔏 cwf-c	:v-03				396750	Backup		LinSoak38	Linux File S	. default	Full	Backup	dr4300e-01-cv3-rdnfs1	cwf-cv-03	Running	78%	
E A Cwf-r E ∆ LinSo E ∆ LinSo	restore-01 rak31 rak32				396745	Backup		LinSoak31	Linux File S	. default	Full	Backup	dr6300-05-cv-nfs1-linsoak31-nfs1	LinSoak31	Running	29%	

Deactivating a replica VTL

Once all issues have been resolved, make sure to disconnect your library and deactivate it. Then reconfigure replication as needed.

- 1 To deactivate a library in the DR Series system GUI, navigate to the Replications page.
- 2 Expand the replication and click the **Deactivate** button.

Quest DR4300	syste:	st.ocarina.local				administrator systest.ocarina.local	✓ 0	:
GlobalView	•	DefaultGroup/Repli	ications					
Dashboard	•	 Local container(s) in bold. 						
Containers		Source A	Status 🗢	Replica 🗢	Status 🗢	Cascaded Replica 🗢		
Replications		r4300-26	~	dr4300-27 VTL2	+			
System Configuration	•		2 0 1 0					
Support	•		Peer Status:	Online				
09/26/2017 15:23:53			Peer Bandwidth:	Default				
US/Pacific-New			State:	INSYNC				
			Encryption:	Not Enabled				
			Percent done:	100 %				
			Replication Average Transfer Rate:	0 bytes/sec				
			Replication Peak Transfer Rate:	9.22 KB/sec				
			Network Average Transfer Rate:	0 bytes/sec				
			Network Peak Transfer Rate:	17.68 KB/sec				

3 In the warning dialog box, click **Yes** to confirm deactivation.

A Warning!
Are you sure you want to deactivate target replica container "dr4300-27:VTL2" ?
Yes No

5

Setting up the DR Series system cleaner

Performing scheduled disk space reclamation operations are recommended as a method for recovering disk space from system containers in which files were deleted as a result of deduplication.

The cleaner runs 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 to force it to run during a scheduled time.

If necessary, you can perform the procedure shown in the following screenshot to force the cleaner to run. After all of the backup jobs are set up, the DR Series system cleaner can be scheduled. The DR Series system cleaner should run at least 40 hours per week when backups are not taking place, and generally after a backup job has completed. Refer to the *DR Series Cleaner Best Practices* white paper for guidance on setting up the cleaner.

- 1 In the left navigation area of the DR Series system GUI, click System Configuration > Schedules.
- 2 On the Action Menu in the upper right corner of the page, click Add Cleaner Event.

Quest dr4300) I.systes	st.ocarina.local							administrator v 0 systest.ocarina.local
GlobalView	. •	Scheo	lules						Add Cleaner Event
Dashboard	. *	Cleaner sta	atus: Running 🛛 🔳 Clear	ner Schedule All 👻	Source Replication Schedule	All 👻 Target Repli	ication Schedule All 🔻		Add Replication Event Add Multiple Replication
Containers	1		Curr	M	Tur	144-1	Thu	5-1	Add Multiple Cleaners
Replications	. •	3:00	Sun	Mon	lue	wea	THU	FII	Run Cleaner Now
System Configuration	•	4:00							(+ Log Out
Support	1								
09/29/2017 12:06:54		5:00							
US/Pacific-New		6:00							
		7:00							
		8:00							
		9:00							
		10:00							
		11:00							
		10.00							

3 Define the schedule, and click **Save**.

C New
 Only one cleaner event is allowed per day. Set event from start day: Sunday → at: 01 → : 00 → to end day: Sunday → at: 02 → : 00 → Save ★ Cancel

The new cleaner event is displayed on the Schedules page.

Quest DR4300 dr4300-26 systest.coarina.local							administrator systest.ocarina.local	• 0	:
GlobalView •	Schedules								-
Dashboard •	Cleaner status: Running	Cleanar status Pumping							
Containers •	Ceaner Schedule All + Source Kepication Schedule All +								
Replications •	0:00	Mon	Tue	Wed	Thu	Fri	Sat	A	
System Configuration	1								
Support •	Cleaner)							
09/29/2017 12:08:32	2:00								
US/Pacific-New	3:00								
	4:00							-1	
	5.00								
	5:00								
	6:00								

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Monitoring deduplication, compression and performance

After backup jobs have run, the DR Series system tracks capacity, storage savings, and throughput in the DR Series system dashboard. This information is valuable in understanding the benefits of the DR Series system.

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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 are completed, the ratios will increase. Backup jobs with a 12-week retention will average a 15x ratio, in most cases.


A - VTL configuration guidelines

Managing VTL protocol accounts and credentials

iSCSI account details and management

By default, the iSCSI username is iscsi_user and can be confirmed by reviewing the output of the iscsi -- show --user command. For example:

> iscsi --show --user user: iscsi_user

The default iSCSI Password is "St0r@ge!iscsi".

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You can modify this password in the DR Series system GUI by selecting **System Configuration > Users**. On the **Users** page, click the edit icon for the **iscsi_user**.

IMPORTANT: iSCSI CHAP passwords must be between 12 and 16 characters long.

Quest DR4300 dr4300-26.syste	est.ocarina.local			administrator systest.ocarina.local	•
GlobalView	Active Directory				
Dashboard >	Client Connections	Role 🛎	Actions		
Containers >	Date And Time				
Replications	Enclosures	administrator, CIPS	a x		
System Configuration	Licenses	OST, RDA	2 4 🗎		
Support ,	Networking	ISCSI	2 4 🗎		
09/29/2017 12:12:18	Schedules	NDMP	2 4 10		
US/Pacific-New	SSL Certificate				
	Storage Groups				
	Users				

Alternatively, you may also use the "iscsi --setpassword" CLI command to change the iSCSI CHAP password setting as shown in the following example:

NDMP account details and management

The default username for the NDMP service is *ndmp_user*, which can be confirmed by reviewing the output of the CLI command, ndmp --show. For example:

> ndmp --show
NDMP User: ndmp_user
NDMP Port: 10000

The default NDMP Password is "St0r@ge!".

You can modify this password in the DR Series system GUI by selecting **System Configuration > Users**. On the **Users** page, click the edit icon for the **ndmp_user**.

Quest DR4300 dr4300-26.syste	est,ocarina.local			administrator systest.ocarina.local	✓ 0	:
GlobalView •	Active Directory					
Dashboard •	Client Connections	Role 1	Actions			
Containers >	Date And Time	odelpletoler CIEP				
Replications	Enclosures					
System Configuration	Licenses	OST, RDA	2 4 0			
Support +	Networking	ISCSI	2 4 前			
09/29/2017 12:12:18	Schedules	NDMP	2 4 1			
US/Pacific-New	SSL Certificate					
	Storage Groups					
	Users					
L						

Alternatively, you may also use the ndmp -setpassword cli command to change the NDMP Password setting as shown in the following example:

VTL default account summary table

Service	Account	Default Credentials	CLI Modifier		
NDMP	ndmp_user	St0r@ge!	ndmpsetpassword		

Managing VTL media

Adding VTL media to a container

IMPORTANT: Media can always be added as needed. Media cannot, however, be deleted; therefore, you should take care to avoid creating too many media items.

To add media to an existing VTL container, follow these steps.

- 1 In the DR Series system GUI, go to the **Containers** page.
- 2 Click the edit icon for the VTL to which you want to add media.
- 3 In the field Add More Tapes (no of tapes), enter the number of tapes to add to the VTL container.
- 4 Click Next.
- 5 Click Save to finalize the change.

Quest	DR4300 dr4300-26.1	systest	carina.local		administrator systest.ocarina.local	• 0	:
GlobalView		•	Demo/Containers				
Dashboard Containers		⊃	Edit VTL1			~]
Replications		1	WARNING: Adding/removing	FC initiator(s) to/from a VTL container will disrupt current I/O to the same initiator(s), if those initiator(s) exist on other VTL containers.			
System Confi	guration		Robot Model	O Quest DR_L700 STK L700			
Support		_	Tape Size	800GB			
09/29/2017	13:58:26		VTL Access Protocol	FC O NDMP O ISCSI O No Access			
US/Pac	ific-New		Number of Drives	10			
			Initiator Port WWN(s)	[# 21:00:00:de:teomfr:80]			
			Target Port WWN(s)	(# 5636071a019015451) (# 5686071a019015455)			
			Marker Type	CommYault.			
			Add More Tapes (no. of tapes)	1 - 1940			
			< Previous Next > Prinish	¥ Cancel			

Alternatively, you can use the "vtl -create_carts" cli command for this operation. For example:

> vtl --update_carts --add --name sample --no_of_tapes 10

Created 10 cartridges

Updating CommVault to identify newly added VTL media

After the VTL media has been added to the target VTL container, CommVault must now be updated to be able to use the media.

- 🔮 Backup Job History of Cli... 🗙 🖓 🖫 Default Scratch 🗙 CommCell Browser џ 🖃 🧐 Media Agents 💦 2k8r2intvm03 > 🌒 Storage Resources > 🏬 Libraries > 🔚 STK L700 🕯 🗄 🚑 2k8r2intvm03 | 🖻 📄 File System Status 😬 defaultBackupSet 雨 R2XRFE005 🗄 🖓 rhel6intvm01 5 R2XRFE006 🖻 📗 File System 5 R2XRFE007 😬 defaultBackupSet R2XRFE008 🖶 Client Computers R2XRFE009 🗄 者 2k8r2intvm03 R2XRFE00A 🗄 📑 File System 😬 defaultBackupSet 🗄 🔬 rhel6intvm01 🔒 Security 🗄 🎡 Deduplication Engines 🗄 📑 Libraries 🗄 ᡖ STK L700 15 MasterPool_STK_L700_15
 Media By Location 🚊 🐻 Media By Groups Cleaning Cleaning Overwrit Foreign Import Media Move Media Delete Catalog Properties 📗 Slots I/E Ports Expects in Progress
- 1 Select the Default Scratch of the library and click Import Media.

2 Click Continue.

3

4

🕐 Impo	rt	×
▲	After the new media has been inserted into the library through either the mail slot or the door, click Continue. If you are unfamiliar with the media importing procedure for your library, see the units operation manual.	
	Cancel	
Click OK		
(mport	ter all the media have been moved into the slots and the library finishes its initialization without errors, click OK to continue. (Note: There are	e currently 0 free slots in the lib
	<u>OK</u>	
Click OK		
		1

Setting Up the DR Series System as a Backup Target on CommVault -A - VTL configuration guidelines

Discover	Media 🛛
1	The media will be discovered, since the Auto-Discover option has been enabled for this library.
	OK

5 Review the resulting log and click **Close**.

	🖉 Log 🛛 🗙
	Unloaded the media from drive slot (9) in Library [STK L700 15(STK L700, Ser#R2XRFE_0C Unmounting the media from drive slot (9) in Library [STK L700 15(STK L700, Ser#R2XRFE_ Unmounted the media from drive slot (9) in Library [STK L700 15(STK L700, Ser#R2XRFE_ -> Drive [IBM ULT3580-TD4_9(IBM ULT3580-TD4, Ser#R2XRFE_09@Scsi3:0,0,10)(FW:01 Mounted a medium to drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_00@ -> Detected the media in Drive [IBM ULT3580-TD4_10(IBM ULT3580-TD4, Ser#R2XRFE_00@ -> Detected the media in Drive [IBM ULT3580-TD4_10(IBM ULT3580-TD4, Ser#R2XRFE_1 Unloading the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Unloaded the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Unmounting the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Unmounting the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Unmounted the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Unmounted the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_ Cummounted the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Unmounted the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Cummounted the media from drive slot (10) in Library [STK L700 15(STK L700, Ser#R2XRFE_1 Cimbed detection on Library [STK L700 15(STK L700, Ser#R2XRFE_10@Scsi3:0,0,1)(FW: ****** End Exhaustive Detection *****
	***** Exhaustive Detection Report *****
	STK L700 15(STK L700, Ser#R2XRFE_00@Scsi3:0,0,1)(FW:0104)(scsidev@Scsi3:0,0,1)(2 Drive 1: IBM ULT3580-TD4_1(IBM ULT3580-TD4, Ser#R2XRFE_01@Scsi3:0,0,2)(FW:0104 Drive 2: IBM ULT3580-TD4_2(IBM ULT3580-TD4, Ser#R2XRFE_02@Scsi3:0,0,3)(FW:0104 Drive 3: IBM ULT3580-TD4_3(IBM ULT3580-TD4, Ser#R2XRFE_03@Scsi3:0,0,4)(FW:0104 Drive 4: IBM ULT3580-TD4_4(IBM ULT3580-TD4, Ser#R2XRFE_04@Scsi3:0,0,5)(FW:0104 Drive 5: IBM ULT3580-TD4_5(IBM ULT3580-TD4, Ser#R2XRFE_05@Scsi3:0,0,6)(FW:0104 Drive 5: IBM ULT3580-TD4_5(IBM ULT3580-TD4, Ser#R2XRFE_06@Scsi3:0,0,6)(FW:0104 Drive 6: IBM ULT3580-TD4_5(IBM ULT3580-TD4, Ser#R2XRFE_06@Scsi3:0,0,6)(FW:0104 Drive 7: IBM ULT3580-TD4_7(IBM ULT3580-TD4, Ser#R2XRFE_06@Scsi3:0,0,6)(FW:0104 Drive 8: IBM ULT3580-TD4_7(IBM ULT3580-TD4, Ser#R2XRFE_06@Scsi3:0,0,0)(FW:0104 Drive 9: IBM ULT3580-TD4_9(IBM ULT3580-TD4, Ser#R2XRFE_07@Scsi3:0,0,0)(FW:0104 Drive 9: IBM ULT3580-TD4_9(IBM ULT3580-TD4, Ser#R2XRFE_07@Scsi3:0,0,0)(FW:0104 Drive 9: IBM ULT3580-TD4_9(IBM ULT3580-TD4, Ser#R2XRFE_07@Scsi3:0,0,0)(FW:0104 Drive 10: IBM ULT3580-TD4_10(IBM ULT3580-TD4, Ser#R2XRFE_10@Scsi3:0,0,0)(FW:0104 Drive 10: IBM ULT3580-TD4_10(IBM ULT3580-TD4, Ser#R2XRFE_10@Scsi3:0,0,0)(FW:01404 Drive 10: IBM ULT3580-TD4_10(IBM ULT3580-TD4
	Ready
	۲ ۲
:	Close Help

6 Select Start > Detect/Configure Devices...



7 Note the tapes that were added.

🕐 2k8r2int+m03 - +10 R2 Commcell Con	sole			
Home Tools Storage Configu	ration Reports	View Support		(
📥 🚥 🏢	8			3
Library and Media Hardware	Array			3
Drive Management Maintenand	e Management			2
Storage				`````````````````````````````````
CommCell Browser	ዋ 🚽 🔮 Backup J	b History of Cli 🗙	🔁 Default Scratch 🛛 🗙	
2k8r2intvm03	🔺 💦 2k8r2intvm0	3 🗦 💽 Storage Resour	ces > 🎥 Libraries > 💼 STK L700 15 > 🔓	🗊 Media By Groups 👂 🐁 Default Scratch 👂 🔶
Laptop Clients		Status	Barcod	e Là
🖻 幅 Media Agents	P 0		R2XRFE005	slot 5
🖻 🚑 2k8r2intvm03			R2XRFE006	slot 6
E- File System			R2XRFE007	slot 7
defaultBackupSet			R2XRFE008	slot 8
			R2XRFE009	slot 9
efaultBackupSet			R2XRFE00A	slot 10
Client Computers			R2XRFE00B	slot 11
🖹 🚑 2k8r2intvm03	P 0		R2XRFE00C	slot 12
🖃 📄 File System			R2XRFE00D	slot 13 🧹
- 😬 defaultBackupSet			R2XRFE00E	slot 14
🕀 🛆 rhel6intvm01			R2XRFE00F	slot 15
E Storage Resources			Added	
				4
5TK L700 15				ĵ
AsterPool_STK_L700_15				
🕀 🌄 Media By Location				~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
🖻 🐻 Media By Groups				/
Default Scratch				3
Cleaning Media	minn	m	man man and the second	

Managing VTL space usage

General performance guidelines for DMA configuration

- The DR Series system (version 3.2 and later) provides inline VTL deduplication, compression, and encryption at rest functionality. Backup applications (such as NetVault, Veritas BackupExec, Veritas NetBackup, and so on) should be configured so that any multiplexing, pre-compression, software-side deduplication, or encryption is disabled. Enabling any of these features may adversely affect the space savings and ingest performance of the DR Series system VTL feature.
- Slots and media should be configured so as to accommodate the environment backup requirements. Initially, the logical capacity of a VTL should be no more than twice the physical size of the DR Series system. If the initial VTL setup is over-subscribed at higher than a 2-1 ratio without proper planning the DR Series system could fill up prematurely and cause unexpected system outage. It is highly advisable to configure the DR Series system VTL feature such that the media count be made to accommodate your initial data protection requirements. and then media be added as the deduplication statistics become available to ascertain growth, media, and space requirements.
 - Media Type selection will depend on a number of factors including the DMA used, the backup cycles, data sources, and more. As a general rule, using smaller tapes is better than using larger tapes so as to allow for a higher level of control over space usage by backup operations. This also allows for easier handling in the event of a system running out of physical space as well as the normal data cleanup procedures.
 - Adding media to an existing DR Series system VTL is painless and should be leveraged to incrementally add media as needed. Although this may require a higher level of involvement in managing the media usage, it will result in better performance and avoid unplanned outages.

Physical space sizing and planning

Various factors such as total data footprint, change rate, backup frequency and data lifecycle policies will dictate how much physical space will be needed to accommodate the Virtual Tape Libraries within a DR Series environment. In addition, if other container types are hosted these two must be factored into space requirement calculations. As a general rule the following can be used as a reference architecture to determine the basic capacity needed for a given virtual tape library container:

- 1 Determine Existing Data Set
- 2 Determine the change rate (Differential)
- 3 Determine the retention period
- 4 Calculate the data footprint during the retention period for existing data sets based on a 10-1 deduplication ratio
- 5 Calculate the data footprint during the retention period for change rate data sets based on a 10-1 deduplication ratio
- 6 Calculate the ratios within the retention period for each of the data sets
- 7 Determine the lowest ratio data set to be retired within the retention period and create media of size that closest matches this data footprint so that when a retention period is met the most amount of media is recycled to invoke data reclamation alignment and optimizing media consumption.
- **IMPORTANT:** If other containers are being configured to host CIFS/ NFS / RDA or OST, these must also be factored into the planning and management of space.

Logical VTL geometry and media sizing

The logical size of the VTL including media size and media count should be made so as to accommodate the existing data footprint targeted for protection. The calculation for such should include the initial footprint, change rate and retention period. It should also take in account the size of both full and incremental data sets. Using the smallest iteration of the data sets to dictate the logical size of the VTL media affords users the ability to retire media in smaller increments which results in high levels of use and also provides the users the ability to conduct operations across smaller objects which results in higher levels of flexibility such as when a restore is needed during backup operations.

We can review a typical full weekly plus incremental daily example to demonstrate one method of conducting this calculation. In our example the total logical foot print for the customer environment is 20TB and with a 10% change within a weekly recovery point objective period for a complete weeks' worth of protection we calculate that we will require 22TB of total logical media to retain the data footprint for the given environment for one week. In order to allow for disparities, we also include a 10% increase to allow for flexibility in the deployment and use of the VTL which results in a 24.2TB total virtual media requirement for a single weekly retention period.

IMPORTANT: Media can always be added as needed. Media cannot however be deleted so care must be taken in order to avoid creating too many media items.

In the previous example at the end of the 5-week cycle, the 1st week retires and frees up media to be reused or recycled which once processed will allow the DR to reclaim the physical space associated with the virtual media.

Since the smallest data set footprint resulting from the change rate is 2TB in each incremental iteration we create our media at 800GB increments and add as we grow. For this example, the initial Virtual Tape Library would be created with 152 (121TB divided by 800GB) pieces of media at 800GB for each piece media.

		Pre-Dedupli	cation
Week	Logical Size	Logical Full Metrics	10% Change Rate
			Logical Incremental Metrics
1	24.2TB	20TB	2TB
2	24.2TB	20TB	2TB
3	24.2TB	20TB	2TB
4	24.2TB	20TB	2TB
5	24.2TB	20TB	2ТВ
Total	121TB		

20TB Total initial footprint with a 10% change rate

Media retention and grouping

Due to the nature of Virtual Tape Libraries media must be managed in order to insure that physical capacity is reclaimed in an orderly fashion to avoid running out of space and disrupting operations. Media must be grouped within the data management application, in a way that full data sets are targeted to separate media as incremental data and they in turn are grouped by data sets that expire within the same period or that share the same recovery point objective. This insures that media can be reused effectively so that when full all incremental data expire the logical space can be reconciled thus enabling the physical space to be reclaimed.

VTL media count guidelines

Туре	Capacity	Max number of Tapes supported
LTO-4	800GiB	2000
LTO-3	400GiB	4000
LTO-2	200GiB	8000
LTO-1	100Gib	10000

Setting Up the DR Series System as a Backup Target on CommVault -A - VTL configuration guidelines

Туре	Capacity	Max number of Tapes supported
LTO-1	50Gib	10000
LTO-1	10GiB	10000

VTL space reclamation

General guidelines

The DR Appliance Virtual Tape Library feature is presented to operating systems and data management applications alike as devices either through iSCSI, NDMP, or FC protocol connectivity. The DMA interfaces with the virtual tape library and all its underlying components including the drives and media though these specific protocols.

The DMA must interact with the virtual tape media during a recycle, reuse or media initialization process in order for the DR to be able to reclaim space during its own cleaning cycle.

This two-step process is required so that the backup software can reconcile the space by marking the media as expired then reusing it, consolidating space across volumes/tapes or by simply recycling the media into a scratch pool. Once these operations have been completed the DRs own cleaning cycle should be used to reclaim that virtual tape media space which in turn will free up physical space on the DR unit.

Implementing proper media pool, groups and recycling practices will allow the virtual tape media to be used at optimal levels and that the underlying physical space be reclaimed accordingly by the scheduled DR reclamation.

NOTE: In general the guidelines provided above should be sufficient for normal operations to insure proper reclamation of space is conducted preemptively. Refer your individual DMA applications for best practices and guidelines regarding tape reuse.

Manual space reclamation in CommVault

If space becomes an issue or a user impact requires manual cleaning, media can be manually Erased, Blanked, Scratched or recycled and a manual cleaning cycle initiated on the DR Series system.

- 1 Identify the DR VTL tapes from which you want to remove backups via the Commcell Console. Note the Barcodes of the Assigned tapes that you want to erase and reclaim their storage on the DR Series system.
- CAUTION: This will permanently delete / destroy the data on these virtual volumes.

🖉 2k8r2in	tvm03 -	v10 R2 C	ommcell Console	2								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Home	Tools	Storage	e Configuratio	n Reports	View	Support						5
*	E.			:							commva	ult
Library an Drive	d M Mana	edia agement	Hardware Maintenance	Array Management							SIM	PANA
		SI	torage								0	(
CommC	ell Browse	er	₽	Assig	ned Medi	🕽 × 🚺	lob Controller 🗙 🏹 🏓	Event Viewer \times				4
- B	Libraries		A	👌 2k8r2intv	mO3 > 🍕	Storage Res	sources > 🏬 Librarie	s > 💼 STK L700	10 🕞 🐻 Media By Gi	roups > 🔝 Assigned	Media >	φ.
- E-	💼 STK L 🗄 🚔 M	.700 10 1asterPool_	STK_L700_10	Status		Barcode	Storage Policy/Copy	/ Location	Container	Last Write Time	Size of Stored Data	Retain Data Unt
		ledia By Lor	cation		TPG	325002	policy10 / Primary	slot 2		4/10/2015 3:30:0	277.88 GB	Infinite
		Default :	Scratch)
		🖉 Cleaning 😽 Retired I) Media Media									ł
	6	Overwrit	te Protect Medi									1
		E Foreign I	Media Media									
		Assigned	d Media						44			
him	√ # 2	and the second	my in	they man	mm	mum	m			man man	m	my me

2 Select All Tasks > Delete Contents for the tapes you want to erase.



3 Click Yes in this warning box.

🖉 Delete Content Warning !! 🛛 🛛 🛛							
Â	Deleting the Contents of this media will result in the following: - Next backup of all the clients may be converted to full. - You will not be able to recover previously stored data. - The media will be moved to the specified Scratch or Overwrite Protect Media Pool. We strongly recommend that you do not use this option. Are you sure you want to continue?						
	(Yes) No						

4 Enter "erase and reuse media" in the text box to confirm you want to remove the data from the selected tape.



5 Select the **Media Pool** you want the tape to be moved to.

🕐 Delete Contents and Move Media 🛛 🛛 🔀
Please select the Destination Scratch or Overwrite Protect Media Pool from below. After Deleting the Contents, Media will be moved to that Media Pool.
Destination Scratch/Overwrite Protect Media Pool Default Scratch
OK Cancel Help

6 Find the tape in the Media Pool and select the Options > Erase Media context menu.



7 Select Quick Erase and click OK.



8 Click Yes if you want to erase the media.

🖉 Erase Media Warning !! 🛛 🗙 🗙								
?	Once Erased, this media cannot be used for Disaster Recovery Are you sure you want to continue?							
	Ves No							

9 Monitor the progress of the erase from the **Job Controller** tab.

🖉 2k8r2inl	tvm03 - v10 R2 C	ommcell Console	:											_
Home	Tools Storage	e Configuratio	n Reports	View	Support									5
-			9 //										_	<
	0.0	(H.1.1.1.1)	8									com	nmvault	1
Library an	d Media	Hardware	Array									CI	۸ND۸	NLA
Drive	Management	Maintenance	Management									ା	INILV	HIV
	s	torage												
CommC	Cell Browser	Р	🔒 Defa	ault Scratch	Jot	Controller	👌 🔋 Even	t Viewer $ imes$						5
	Libraries	_	D Job Con	troller										Ð
D	STK L700 10	STK 1700 10									Filters:			J + 🏱
	Hedia By Lo	cation	V Job	ID Ope	ration	Client Com	Agent Type	Subclient	Job Type	Phase	Storage P	MediaAgent	Status	Progress
	🖻 🐻 Media By Gr	oups	 183	Erase Med	lia					Erase Media		•	Running	0%
		Scratch g Media												5
		Media ite Protect Medi												- 5
Wiamin	m with the to me	Media	,	\sim	maria	-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		mant	h		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	and a

10 Once the reconciliation process has been completed on the CommVault software, from the DR Series system, initiate a cleaning cycle either via the UI or via the command line. For example:

> maintenance --filesystem --reclaim_space

Successfully started cleaner.

11 Make sure the space has now been reclaimed via the UI or via the command line. The Cleaner Status should transition from *Pending* to *Running*, and then to *Done* at which time the statistics should change to reflect the reclaimed space.

Using the CommVault erase spare media feature (optional)

The following are optional and ensures that space is reclaimed more aggressively on DR Series system VTLs. This is a feature specific to CommVault and has advantages and disadvantages if used. Applying these setting will cause any tape that is aged (at retention for CommVault) to be moved to the spare media pool and then proactively deleted by CommVault. This will trigger space to be reclaimable on the DR Series appliance by the cleaning process. The advantage of this is the size on disk of your VTL data will be more closely aligned with actual data usage. The disadvantage is that when data on the VTL is at retention, it will be deleted proactively and will not be restorable past retention.

CAUTION: Using these settings will result in VTL data being deleted shortly after meeting retention and will not be restorable.

 In the CommCell Console, expand Policies and then Storage Policies. Right-click the storage policy copy that uses the VTL, and click Properties.



- 2 On the **Media** tab, select the **Mark Media to be Erased After Recycling** option, and click **Yes** in the resulting dialog box.
- 3 Click **OK** in the Storage Policy Copy properties window.

i

	Policy Copy p	properties of Prin	nary			
Genera	al I	Retention	Data Daths Media	Da	ta Path Configura	ation
belectiv	е сору	Associations	Media Advan	ced Dea	uplication	Provisioning
Enabl	e Multiplexing		_			
Multiple	exing Factor:			1 -		
🗖 Us	e device strea	ms rather than multi	iplexing if possible			
rase Spa	re Media					
🔽 Ma	ark Media to be	e Erased After Recy	cling			
Enabl	o Modio Dofroc	ь				
	al	11				
12	months aft	er the media were v	vritten			
3	 months bef 	ore media is aged				
Г	50 4 %	6 or less of media ca	apacity is used			
_			- d- d			
	media retireme	nt threshold is exce	eaea			
	mark refreshed	l appendable media	active for new data			
	🛞 Confi	irm				×
	$\overline{2}$	Checking this opti	ion will set all Spare Medi	a aged from this o	topy to be erased	i.
	•	Are you sure	you want to continue?			
			Yes No			
				_	_	

NOTE: At this point, the storage copy will mark tapes as erasable as soon as they age. Steps 1 and 2 should be performed on every storage copy policy leveraging the DR Series system VTL. The next steps will schedule the actual erase to occur.

4 In the CommCell Console, expand **Storage Resources** and **Libraries**. Right-click the DR Series system VTL, and then select **Erase Spare Media**.



- 5 Do the following:
 - a On the General tab, keep all of the default settings.
 - b On the **Job Initiation** tab, click the radio button for **Schedule**.
 - c Click the Configure button.
 - d Set a Schedule and Schedule Name, and click OK.
 - e Click OK in the Erase Spare Media window.

NOTE: It is recommended that you give the schedule a name including the library name, indicating that it is a "Aged Tape Erase". You should also match this to your data aging schedule, which is daily at 12:00 PM by default.

🕲 🕞 Erase Spare Media	🕽 Schedule Details 🛛 🗙
Genera Job Initiation Job Initiation C Immediate Run this job now C Schedule	Schedule Name STK L700 Aged Tape Erase C One Time Start Time C Daily Start Time C Weekly Repeat C Monthly Every I ± Days(s) Exceptions
E E E	C Vearly
Cancel Save As Script He	OK Cancel Help Options>>

NOTE: Repeat Steps 3 and 4 for every VTL in which this behavior is desired.