

Setting Up the DellTM DR Series System as a CIFS or VTL Backup Target on $EMC^{\mathbb{R}}$ Networker[®]

Dell Engineering June 2015

A Dell Technical White Paper

Revisions

Date	Description
January 2014	Initial release
April 2015	Added VTL Content for v3.2 Release
June 2015	Added content for configuring an iSCSI target for Linux

THIS WHITE PAPER IS FOR INFORMATIONAL PURPOSES ONLY, AND MAY CONTAIN TYPOGRAPHICAL ERRORS AND TECHNICAL INACCURACIES. THE CONTENT IS PROVIDED AS IS, WITHOUT EXPRESS OR IMPLIED WARRANTIES OF ANY KIND.

© 2015 Dell Inc. All rights reserved. Reproduction of this material in any manner whatsoever without the express written permission of Dell Inc. is strictly forbidden. For more information, contact Dell.

PRODUCT WARRANTIES APPLICABLE TO THE DELL PRODUCTS DESCRIBED IN THIS DOCUMENT MAY BE FOUND AT: <u>http://www.dell.com/learn/us/en/19/terms-of-sale-commercial-and-public-sector</u> Performance of network reference architectures discussed in this document may vary with differing deployment conditions, network loads, and the like. Third party products may be included in reference architectures for the convenience of the reader. Inclusion of such third party products does not necessarily constitute Dell's recommendation of those products. Please consult your Dell representative for additional information.

Trademarks used in this text:

Dell[™], the Dell logo, and PowerVault[™] are trademarks of Dell Inc. Other Dell trademarks may be used in this document Microsoft[®], Windows[®], Windows Server[®], Internet Explorer[®], MS-DOS[®], Windows Vista[®] and Active Directory[®] are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Red Hat[®] and Red Hat[®] Enterprise Linux[®] are registered trademarks of Red Hat, Inc. in the United States and/or other countries. Novell[®] and SUSE[®] are registered trademarks of Novell Inc. in the United States and other countries. EMC[®] and Networker[®] are registered trademarks of EMC Corporation in the United States and other countries.

Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and/or names or their products and are the property of their respective owners. Dell disclaims proprietary interest in the marks and names of others.



Table of contents

Exe	ecutiv	/e summary	4
1	Insta	alling and configuring the DR Series system	5
2	Crea	ating and configuring CIFS target container(s) for Networker	9
	2.1	Creating the network share container for Networker use	9
	2.2	Configuring the Networker storage node – Windows CIFS	
	2.3	Configuring Networker to use the newly created network share	
	2.4	Setting up DR Series system replication and restore from the replication target	25
	2.4.1	1 Creating a replication relationship between two DR Series systems	25
	2.4.2	2 Restoring from the replication target container	29
3	Crea	ating and configuring iSCSI target container(s) for Networker	
	3.1	Creating an iSCSI VTL container for Networker use	
	3.1.1	Configuring the iSCSI Networker storage node – Windows	
	3.1.2	2 Configuring the iSCSI target – Linux	
	3.2	Setting up Networker to use the newly created iSCSI VTL	40
4	Crea	ating and configuring NDMP target container(s) for Networker	44
	4.1	Creating the NDMP VTL container for Networker use	44
	4.2	Configuring Networker to use the newly created NDMP VTL	46
5	Setti	ing up the DR Series system cleaner	51
6	Mor	nitoring deduplication, compression, and performance	52
А	Man	naging VTL protocol accounts and credentials	53
	A.1	iSCSI account details and management	53
	A.2	NDMP account details and management	54
	A.3	VTL default account summary table	55
В	Add	ing VTL media	56
	B.1	Adding the VTL media to the container	56
	B.1.1	1 VTL media count guidelines	56
	B.2	Updating Networker to identify newly added VTL media	



Executive summary

This paper provides information about how to set up the Dell DR Series system as a backup target for EMC Networker software. This whitepaper 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://www.dell.com/powervaultmanuals

Note: The DR Series system and EMC Networker screenshots used for this whitepaper may vary slightly, depending on the firmware version of the DR Series system or the software you are using.



1 Installing and configuring the DR Series system

- 1. Rack and cable the DR Series system and power it on.
- 2. Initialize the DR Series system. For more information, see following topics "iDRAC Connection", "Logging in and Initializing the DR Series System", and "Accessing iDRAC6/iDRAC7 Using RACADM" in the *Dell DR Series System Administrator Guide*.
- 3. Log on to iDRAC using the default address **192.168.0.120** with the user name: **root** and password: **calvin**, or log on with the IP that is assigned to the iDRAC interface.

	TED DELL REMOTE CONTROLLER 6 - ENTER	PRISE	Support	ADONL LOGON
System Dell DR4000 root , Admin		Power Logs Alerts Console/Media stem Details System Inventory	vFlash Remote File Share	
System IDRAC Settings Batteries Fans	System Summary			03
Intrucion Power Supplies	Status Component		Virtual Console Preview	
Prover Supprises Status Component Virtual Condice Preview Removable Flash Media Temperatures Voltages				
	observa : seconda			
Power Monitoring	Inmusion		and the set of the set	
	Power Succ	Sws .		1 1
	Removable	Flash Media		
	Temperature			
	Vutages		Retesh	aunch
	Server Information		Guick Launch Tasks	
	Power State	ON	Power Otl/OFF	
	Oystem Model	Dell DR4000	Power Cycle System (cold boot)	1
	System Revision	и	Launch Wirtual Console	
	Dystem Host Name	DR4000-DKCV6S1 asglab roundrock	View System Event Log	
	Operating System	CentOS	View IDRAC Log	
	Operating System Ve	release 5.4 (Final) Kernel 2.6.18-164.e	Update Firmware Reset IORAC	
	Service Tag	DKCV6S1	NEED COMP.	
	Express Denice Cod	e 29529104401		
	BIOS Version	1.9.0		
	Firmware Version	1.80 (Build 17)		

4. Click the Launch button to launch the virtual console.



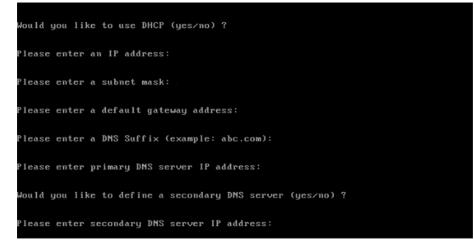


5. When the virtual console opens, log on to the system as: user: administrator, password: **St0r@ge!**

NOTE: 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@gel

6. Set the user-defined networking preferences.



7. View the network preferences summary and confirm if the settings are correct.

Set Static IP Ad	ddress
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



8. Log on to the DR Series system administrator console, using the IP address you just provided for the DR Series system as:

DELL DR4000-DKG	CV6S1	Help
Login		Reset Password
	Please enter your password:	
	Username: administrator	
	Password: St0r@gel	
	Log in	

user: administrator, password St0r@ge!

9. Join the DR Series system to Active Directory.

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

a. Select Active Directory from the navigation area of the GUI.



Copyright © 2011 - 2013 Dell Inc. All rights reserved.



b. Enter your Active Directory credentials to join the DR Series system to a domain.

Glob	w-01 ecatina local in-	Active Directory	not
Dasi Alert	hboard	Settings	
Even	nta Ath		régured. Clics on the John Inn to configure them
	stica: Container	Active Directory Configuration	
Stor	atica: Replication age tainers trailon	Domain Name (FGDN)*	* = fields are required.
Ciler Sche	edulots	Password* Org Unit	Enter Active Directory Info
Clea Syst Netw	lication Schedule uner Schedule Iem Configuration vorking		Cancel Join Domain
Loca Ema Adm Past Ema Oate	ve Directory al Workgroup Users al Alerta al Carta al Relay Host al Relay Host al Relay Host al Time pert pert		



2 Creating and configuring CIFS target container(s) for Networker

2.1 Creating the network share container for Networker use

1. Create and mount the container by selecting **Containers** in the navigation area of the GUI, and then clicking **Create** at the top of the page.

Dashboard Alerts Events	Containers				Crea		
-Health -Usage	Number of Containers: 7					Container Pa	th: /contain
-Statistics: Container	Containers	Files	NFS	CIFS	OST	Replication	Select
Statistics: Replication	backup	58	~	~		Not Configured	0
Storage	d2d2t	2			~	N/A	0
Containers	DDTest	0	~	~		Online	0
Replication Compression Level	demo2Zhuhai	22	~	~		Not Configured	0
-Clients	My Container Backup	27	~	~		Not Configured	0
Schedules	nfs	44	~			Not Configured	0
Replication Schedule	ootb-ost-test	254	•		~	N/A	0
Cleaner Schedule System Configuration	Outprostriest	204			•	19//5	0
Networking Active Directory Local Workgroup Users Email Alerts Admin Contact Info Email Relay Host Date and Time Support Diagnostics							
Diagnostics Software Upgrade License							





2. Enter a Container Name, select the Marker Type as **Networker**, and select the Connection Type as **NFS/CIFS**.

Create New Container:	
Choose the type of container to create ((NFS and/or CIFS) or OST) and ac Container Name ⁴ , My_Container_Backup Max 32 obtate Marker Type ⁴ ; O None O Auto O CommVaut O Networker TSM Af Connection Type ⁵ ; O None O NFS/CIFS O OST NFS NFS access path:	cters and only letters, numbers, - and _ characters.
10.250.242.206//containers/My_Container_Backup Use NFS to backup UNIX or LINUX clients.	Use CIFS to backup MS Windows clients.
	Cancel Create a New Container

 Under the CIFS section, note down the CIFS share path (this will be used in configuring the device on the Networker server), and select Enable CIFS. For the Client Access section, select either Open Access or manually add clients to the Clients list.

Choose the type of container to create ((NFS and/or CIFS) of	* = required fields or OST) and add clients that need access.
Container Name*: My_Container_Backup	Max 32 characters and only letters, numbers, - and _ characters.
Container Name ¹ : My_Container_Backup Marker Type ¹ : None Auto CommVault Networke Connection Type ¹ : None NFS/CIFS OST NFS MFS access path: 10.250.242.206/containers/My_Container_Backup Use NFS to backup UNIX or LINUX clients. Enable NFS	
	Cancel Create a New Container



Note: For improved security, Dell recommends adding IP addresses for the backup console (Networker Server), Networker storage nodes, and Networker clients. Not all environments will have all components.

4. Click Create a New Container and confirm that the container is added.

2.2 Configuring the Networker storage node – Windows CIFS

- 1. Log on to the storage node and click **Start > My Computer**.
 - _ 🗆 X 👔 Computer Computer • 🔻 🐼 Search P File Edit View Tools Help 🕛 Organize 👻 🏢 Views 💌 😤 System properties 📷 Uninstall or change a program 🖙 Map network drive Open Control Panel 0 🛛 👻 Type 🔺 ▼ Total Size Name Free Space Favorite Links Ξ Hard Disk Drives (2) Documents 🚢 OS (C:) Local Disk 221 GB 81.0 GB Pictures RECOVERY (D:) Local Disk 10.2 GB 4.37 GB Music More » Devices with Removable Storage (2) Ξ ADVD/CD-RW Drive (E:) CD Drive Folders BD-ROM Drive (G:) S... CD Drive 3.81 GB 0 bytes 🧮 Desktop Administrator 📔 Public 📜 Computer 🚢 OS (C:) RECOVERY (D:) 🔮 DVD/CD-RW Drive (🛃 BD-ROM Drive (G:) : Network 👿 Recycle Bin 🔒 DL Logs
- 2. Click Map network drive.

3. In the **Map Network Drive** window, in the **Folder** field, enter the path to the container on the DR Series system.





6	😪 Map Net	twork Drive
		work folder would you like to map? drive letter for the connection and the folder that you want to connect to:
	Drive: Folder:	S: S: Image: Simple: Si
		Connect using different credentials <u>Connect to a Web site that you can use to store your documents and pictures</u> .
		Finish Cancel

- 4. Select Reconnect at logon.
- 5. When prompted, enter the CIFS credential to authenticate on the Active Directory domain. The DR Series system container is now mounted to your backup server.
- 6. If Client Direct is used, make sure all the clients can access the same DR container share using this path. Otherwise, separate **Client Direct Paths** must be entered with the actual paths that clients use to access the DR container share (please refer to step 10 in the next section **Set up Networker**).

2.3 Configuring Networker to use the newly created network share

- 1. Open the Networker Management Console (NMC).
- 2. Click the **Enterprise** menu button, select the storage node that the DR Series system share will be configured as a backup device, right-click the host, and then click **New** > **Managed Application**.

1anagement Co	nsole ¥8.0 -	127.0.0.1			
ise Libraries	Reports	Setup		User:	administrator
Enterprise Star	t Window	Help			
3					
_		🔰 Host:	r310-sys-16	50	
	•	Managed App	lication	on Features	
Properties				Events, Gather Reporting	Data
Delete	Delete				
Сору	Ctrl-C				
Move					
Refresh	F5				
	Libraries Enterprise Star New Properties Delete I Copy I	ise Libraries Reports Enterprise Start Window	ise Libraries Reports Setup Enterprise Start Window Help The Host: The Hos	ise Libraries Reports Setup Enterprise Start Window Help Host: r31D-sys-19 Host: r31D-	Ibitaries Reports Setup Enterprise Start Window Help Image: Start Window Help Image: Host: r310-sys-150 Image: Host: r310-sys

3. Select **Networker** and click **Next**.

Create Managed Application				
Select Managed Application				
Select managed application for the host				
Nett/Vorker				
Backup and recover for the department and enterprise				
) Avamar				
Deduplication backup and recover for the enterprise				
	< Back Next > Cance			



4. Click Finish.

Create Managed Appli Manage NetWorker	
_	itor managed application activities on the host
Managed Application Name:	NetWorker
Description:	Backup and recover for the department and enterprise
√endor Name:	EMC Corporation
Features	
Capture Events	
Gather Reporting Data	
	< Back Finish Cancel

5. Right-click and select the newly created Networker application and click Launch Application.





6. In the Devices window, right-click **Device** in the left panel and click **New Device Wizard**.

💑 EMC NetWor	ker Administratior	n ¥8.0 - r310-sys-1	50 (NetWorker 8.0	.0.1.Build.153 Eval -	Windows NT Serv	er on Intel)	_ 🗆 🗙
onitoring	Configuration		Ç, edia				User: administrator
File Edit Vie	w Devices Rec	over Window He	alp				
+ 0 × 0	🔍 🌖 📰 🗉		₽₽∣₽⋎٩	2 63			15
B-B r310-sys- B-M Librar	ies	尾 Devices (1	
🗈 🔓 Stora	New	Ctrl-N	Parent jukebox	Description	Volume name	M Enabled	
🗄 🙀 Data	New Device Wiz	tard					
	Refresh	F5					
	Scan for Device	s					
	Configure All Lib	raries					
A T			0 æ # ×	Alerts			• • • • •
Log Priority Time ▼	Source	Catanan	Li Di ↔ ∧ Message	Priority Time 🔻	Category		
Friday 3:		server	Started	Friday 3:18:34		wessage NetWorker evaluation mode will expire	in 30 days and the se
Friday 3:		index	Checking ind			ter terrer e raisandi mode trii expire	aree ways and the dem
A							

7. Select Advanced File Type Device (AFTD).

Levice Configuration Wizard		×
Select the Device Type		
Select the type of stand alone device to con	nfigure.	
 Select the Device Type 		
Select Storage Node	O Data Domain	
Select Device Path	Choose this option to create a Data Domain type device on Data Domain system running DDOS version 4.9.1.0 or greater. This option requires a NetWorker DD Boost license.	
Configure Attributes		
Label and Mount Devices	 Advanced File Type Device (AFTD) Choose this option to create a disk type device. This option can also be used to create devices 	
Review Configuration Settings	on a non DD Boost enabled Data Domain system.	
O Check Results	Avamar Declupication Node	
0	< Back Ne	d > Cancel
·	< Dack Te	a. Comodi



8. In the next dialog box, select **Device storage is remote from this Storage Node**, type in the network path of the DR Series system container share location (if name resolution works, the hostname or FQDN can be used in the server portion of the network path). In the Authentication section, type the CIFS credentials to access the DR Series system share. Click **Next**.

Device Configuration Wizard			
Select Storage Node			
		o be configured is remote to that storage node, enter a network path to the	storage. Supply a username
and password to browse the storage and	u select device paths	s, or manuary enter the paths.	
Select the Device Type	Storage Node:	r310-sys-150	•
Select Storage Node	Dedicated Sto	orage Node	
Select Device Path			
Configure Attributes	🗹 Device storaç	ge is remote from this Storage Node.	
Label and Mount Devices	Network Path:	W10.250.242.206Wy_Container_Backup	
Review Configuration Settings			
Check Results	Browse or Ma		
	 Browse st 	orage node or network path	
	O Manually er	nter local or remote device paths	
	Authenticatio	n	
	Username:	testad\administrator	1
	Password:	••••••	
2			< Back Next > Cance

9. Click New Folder, type an appropriate folder name, select the folder, and click Next.

💑 Device Configuration Wizard		×
Select the Device Path		
Select one or more device paths from this	network path to create devices on.	
Select the Device Type	New Folder	Remove Folder
Select Storage Node		
Select Device Path	B− ■ New_Folder	
Configure Attributes		
Abel and Mount Devices		
Review Configuration Settings		
Check Results		
	Selected Device Paths	
8	< Back	Next > Cancel



Device Configuration Wizard Select the Device Path Select one or more device paths from this	network path to create devices on.	
Select the Device Type		New Folder Remove Folder
🤣 Select Storage Node	= 🏚 r310-sys-150: \\10.250.242.206Wty_Container_Backup	
Select Device Path	🕀 – 🗹 🔎 NetworkerAFTD	
Configure Attributes		
Label and Mount Devices		
Review Configuration Settings		
Oheck Results		
	Selected Device Paths 1010.250.242.206Wty_Container_BackupWetworkerAFTD	
3		<back next=""> Canc</back>

10. Set the session attributes according to the Networker administration documentation and click **Next**.

If the Client Direct feature will be used, different device path(s) that clients use to access the DR Series system container share can be entered into the **Client Direct Paths** (please refer to step 6 in the last section **Configure Networker Storage Node**). If all of the clients are able to access the DR Series system container share using the direct path, there is no need to enter extra client direct paths.

💑 Device Configuration Wizard				×
Configure Device Attributes				
Fill in any device attributes. Give each der CIFS or Unix Automounter paths.	vice a unique name. If clients w	ill backup directly to this stora	ge (Client Direct), then enter thos	e access paths in the form of
Select the Device Type	NetWorker D 🔺 Comm	ent Device Path	Client Direct Paths	Target Max Sessions
Select Storage Node	DR_AFTD	W10.250.242.206Wy	_Contai	4 32
Select Device Path				
 Configure Attributes 				
Label and Mount Devices				
Review Configuration Settings				
Ocheck Results				
	NetWorker Device Name:	DR_AFTD		
	Comment:			
	Device Path:	\\10.250.242.206\My_Contain	er_BackupWet\	
	Client Direct Paths:			
	Target Sessions:		4	
	Max Sessions:		32 🔹	
0				<back next=""> Cancel</back>



11. The new Networker device should have Pool Type set to **Backup**. Click **Next**.

💑 Device Configuration Wizard				×
Label and Mount Devices				
Choose to label and mount any device. Th	is operation may take an extended a	mount of time. Only devices who's st	orage has not been labeled appear below	κ.
-				
Select the Device Type	NetWorker Device Name 🔻	Label Pool Type	Disk Pool	_
Select Storage Node	DR_AFTD	Sackup 🗸	Default	
Select Device Path				
Configure Attributes				
 Label and Mount Devices 				
Review Configuration Settings				
Check Results				
	Label and Mount device after			
		creation device operation may take an exten		
	Pool Type	device operation may take an exten	aed amount of time.	
	Backup			
	Backup Clone			
	Pool			
	Default		-	
0			< Back	Next > Cancel
•			- Dalok	

12. Review the configuration and then click **Configure**.

💑 Device Configuration Wizard			×
Review the Device Configurati	ion Settings		
Review the device configuration summary	. To modify the configuration, click Back, To	accept and create the configuration, click Configure.	
,			
Select the Device Type	Adding new directory on Stor	ane Node r310.ssc.150	^
Select Storage Node		42.206Wy_Container_Backup/NetworkerAFTD	
Select Device Path	Adding new AFTD "DR AFTD"		
Configure Attributes			
Label and Mount Devices	AFTD Name: Device Access Information:	DR_AFTD W10.250.242.206W/y_Container_Backup/WetworkerAFTD	
Review Configuration Settings	Target Sessions:	4	
O Check Results	Max Sessions: Remote User:	32 testad/administrator	
	Password:	****	
	Labeling device "DR_AFTD"		
	Device Name: DR_AFTD		
	Pool Name: Default		
			•
		< Back	Configure Cancel



13. Click Finish.

ice Configuration Results ults of device configuration.		
Select the Device Type		
	Adding new directory on Storage Node r310-sys-150	
Select Storage Node Select Device Path	Successfully added directory "\10.250.242.206\My_Container_Backup\NetworkerAFTD"	
	Adding new AFTD "DR_AFTD"	
Configure Attributes	Successfully added new AFTD "DR_AFTD"	
abel and Mount Devices	Labeling device "DR_AFTD"	
Review Configuration Settings	Successfully labeled device "DR_AFTD"	
Check Results		

14. On the **Configuration** tab, select **Clients**, right-click the client that will be backed up, select **Client Backup Configuration** and click **New**.

💑 EMC NetWorker Administrati	ion ¥8.0 - r31	0-sys-150 (NetWo	orker 8.0.0.1.Build.	153 Eval - Windows NT Server on Int	el)		
Monitoring Configuration	Devices	K. Media				User:	administrator
File Edit View Configuration	n Recover	Window Help					
🕇 🚯 🗶 😰 🔍 🔳 🗏		지었다.					18
🖃 🚺 r310-sys-150	💋 Clients	(1)					
Archive Requests	P Clients	0					
	Name 🔻	Backup type	Comment	Scheduled backup Save set	Client direct	Group	Sc
Clients	厦 r310-pire 4				\$	Default	De
Clones		Client Backup Config	uration 🕨 🕨	New Ctrl+Alt-N			
		New	Ctrl-N	Modify Ctrl+Alt-M			
🗷 🚛 Groups		Properties	Ctrl-O				
🖃 🎼 Local Hosts		Edit Name	041 0				
fr r310-sys-150							
-0 Lockboxes		Add To Name					
Notifications		Remove From Name.					
Policies		Delete	Delete				
		Сору					
—👶 Restricted Data Zor							
Schedules		Refresh	F5				
Snapshot Policies		Recover					
Log		00	₽ × Alerts			[•
Priority Time Sour	ce	Category Message	Priority Tir	ne 🔻 Category Message			
Friday 3:17:57 AM even		server Started			evaluation mode will exp	pire in 30 da	ys and the se
Friday 3:18:04 AM even	t i	index Checking i					



15. Go through the process of creating a new backup group.

Worker client software installed or to o		
Specify the Client Name and ype	Client Name: 2310-595-150	
pecify the Backup onfiguration Type		
pecify the VMware Backup ype	Traditional NetWorker client Configure a backup usin	g the HefWorker client host software. Not for VMware clients.
	O VMware client	g the networker them host soltware. Not for vinware thems.
elect the VCB Options elect the Client Properties	Configure a VMware clie	nt for traditional backup using the HetWorker stient software (if installed) or
hoose the Backup Group	O VMware proxy host	s using a proxy host (VCB or VADP).
pecify the Storage Node ptions		DP proxy host to back up virtual machines.
pecify the Client Backup ptions		
pecify the Proxy Backup ptions		
pecify the vCenter and lesystem Mount Point		
pecify the Retry, Lookup nd Transport Options		
pecify the Proxy Host ackup Option		
pecify the Snapshot Policy		
ackup Configuration ummary		
heck Results		
nt Backup Configuration et the Backup Configurati		- Deck Next> Car
t Backup Configuration ct the Backup Configuration ct the backup configuration type from	n the available applications. The ava	lable applications represent which NetWorker modules are installed on the client.
t: Backup Configuration ct the Backup Configurati It the backup configuration type from pecify the Client Name and (pe	the available applications. The ava	liable applications represent which Net/Worker modules are installed on the client.
t Backup Configuration ct the Backup Configuration tt the backup configuration type from pecify the Client Name and ppe pecify the Backup	n the available applications. The ava	lable applications represent which NetWorker modules are installed on the client.
L Backup Configuration ct the Backup Configuration it the backup configuration type from pecify the Client Name and (pp pecify the Backup onfiguration Type pecify the Client Backup pecify the Client Backup	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which Net/Worker modules are installed on the client.
t Backup Configuration ct the Backup Configuration it the backup configuration type from pecify the Client Name and pro- pecify the Backup pecify the Client Backup pro- pro-	the evaluable opplications. The eva Client Operating System: NetWorker Version:	liable applications represent which NetWorker modules are installed on the client.
t Backup Configuration ct the Backup Configuration the backup configuration type from pecify the Client Name and precify the Backup onfiguration Type pecify the Client Backup prions elect the Client Properties	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which NetWorker modules are installed on the client.
t Backup Configuration ct the Backup Configuration tt the backup configuration type from pecify the Client Name and (pp pecify the Backup onfiguration Type pecify the Client Backup pitons elect the Client Properties hoose the Backup Group	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which NetWorker modules are installed on the client.
t Backup Configuration ct the Backup Configuration the backup Configuration type from the backup configuration type from pecify the Client Name and pro- pecify the Backup pro- pecify the Client Backup pro- pecify the Storage Node	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which Net/Worker modules are installed on the client.
t Backup Configuration et the Backup Configuration tt the backup configuration type from pecify the Client Name and rpe pecify the Backup pecify the Client Backup pions elect the Client Properties hoose the Backup Group pecify the Snapshot Policy pecify the Snapshot Policy pecify the Snapshot Policy pecify the Strage Node pions	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which NetWorker modules are installed on the client.
At Backup Configuration ot the Backup Configuration tot the backup configuration type from the backup configuration type from pecify the Client Name and ype pecify the Backup onfiguration Type pecify the Client Backup pions elect the Client Properties hoose the Backup Group pecify the Storage Node pions ackup Configuration ummary	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which NetWorker modules are installed on the client.
At Backup Configuration ot the Backup Configuration tot the backup configuration type from the backup configuration type from pecify the Client Name and ype pecify the Backup onfiguration Type pecify the Client Backup pions elect the Client Properties hoose the Backup Group pecify the Storage Node pions ackup Configuration ummary	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which Net/Worker modules are installed on the client.
At Backup Configuration ot the Backup Configuration tot the backup configuration type from the backup configuration type from pecify the Client Name and ype pecify the Backup onfiguration Type pecify the Client Backup pions elect the Client Properties hoose the Backup Group pecify the Storage Node pions ackup Configuration ummary	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which Net/Worker modules are installed on the client.
At Backup Configuration ot the Backup Configuration tot the backup configuration type from the backup configuration type from pecify the Client Name and ype pecify the Backup onfiguration Type pecify the Client Backup pions elect the Client Properties hoose the Backup Group pecify the Storage Node pions ackup Configuration ummary	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which Net/Worker modules are installed on the client.
Anck Results At Backup Configuration At the Client Backup At the Client	the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications 👻	liable applications represent which NetWorker modules are installed on the client.

- 16. In Specify the Client Backup Options, define the following settings as follows.
 - a. Deduplication should be set as None
 - b. Target Pool should be set as the pool that has the DR Series system device included.
 - c. **Client Direct** can be enabled if the client is directly backing up data to a preferred DR, thus bypassing the storage node that is managing the DR share. For Client Direct to work, the DR device must have at least one device path that the client can use to directly access the DR container share. Refer to step 6 in the last section **Configure the Networker Storage Node**, and step 10 in this section.



Specify the Client Backup Opti	ons
Specify backup options. Data deduplication will choose a target pool for the backups.	n requires either a Data Domain or Avemar storage server to be configured on the NetWorker server. By defauit, NetWorker Client Direct, supported for Data Domain and AFTD storage only, sends backups directly to the storage devices, rhere possible. The Checkpoint Restart option enables failed scheduled backups to restart from the point of interruption.
Specify the Client Name and	Deduplication
Туре	 None
Specify the Backup Configuration Type	🔿 Data Domain backup
Specify the Client Backup	Avamar deduplication backup
Options	V Avamar dedupiication backup
Select Files to Backup	
Select the Client Properties	Pool
Choose the Backup Group	
Specify the Snapshot Policy	Target Pool: Default
Specify the Storage Node Options	Backup to Disk
Backup Configuration	Client Direct: 🔽
Summary	
Check Results	Checkpoint Restart
	Checkpoint Enabled:
	Checkpoint Granularity: Directory
ient Backup Configuration	
elect the Filesystem Objects	
	up.
	cup.
	cup.
elect the client filesystem objects to back	
	By default, the entire contents of the client will be backed up. Un-check any items you do not want to include in the backup.
elect the client filesystem objects to back Specify the Client Name and Type Specify the Backup	 By default, the entire contents of the client will be backed up. Un-check any items you do not want to include in the backup. □-IZI Join-sys-150
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup	By default, the entire contents of the client will be backed up. Un-check any items you do not want to include in the backup. □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup	By default, the entire contents of the client will be backed up. Un-check any items you do not want to include in the backup. If 310-sys-150 If J0-sys-150 If J0 = C If J0 = C
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options	By default, the entire contents of the client will be backed up. Un-check any items you do not want to include in the backup. DF → OF F
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup	By default, the entire contents of the client will be backed up. Un-check any items you do not want to include in the backup. If 310-sys-150 If J0-sys-150 If J0 = C If J0 = C
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup	By default, the entire contents of the client will be backed up, Un-check any tense you do not want to include in the backup. Default does -150 Default does -15
etct the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select the Client Properties	By default, the entire contents of the client will be backed up, Un-check any tense you do not want to include in the backup. Default does -150 Default does -15
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Group	By default, the entire contents of the client will be backed up, Un-check any tense you do not want to include in the backup. Default does -150 Default does -15
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Group Specify the Snapshot Policy	By default, the entire contents of the client will be backed up. Un-check any tens you do not want to include in the backup. Default does -150 Default does -150
lect the client filesystem objects to back Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Group Specify the Snapshot Policy	By default, the entire contents of the client will be backed up. Un-check any tens you do not want to include in the backup. Default does -150 Default does -150
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select the Client Properties Choose the Backup Group Specify the Snapshot Policy Specify the Snapshot Policy	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select He Client Backup Sheet the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select He Client Backup Sheet the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Shoese the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select He Client Backup Sheet the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up. Un-check any tens you do not want to include in the backup. Default does -150 Default does -150
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select Files to Backup Shoese the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select He Client Backup Sheet the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Shoese the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Shoese the Backup Group Specify the Storage Node Options Backup Configuration Summary	By default, the entire contents of the client will be backed up, Un-check any tens you do not want to include in the backup. Default Diskster (Diskster (D
Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select the Client Backup Select the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration	By default, the entire contents of the client will be backed up. Un-check any tens you do not want to include in the backup. Def I do set-150



Client Backup Configuration			
Select the NetWorker Client F	roperties		
Select the NetWorker client properties. 1	o accept the default properties, click Next.		
Specify the Client Name and Type	Browse Policy: (Maintain backup entries in the online file index)) Month 👻 🕇	•
Specify the Backup Configuration Type	Retention Policy: (Maintain backup entries in the save set index)	Year 👻 🕇	
Specify the Client Backup Options	Backup Schedule:	Default	
Select Files to Backup	Client Comment:		
Select the Client Properties			
Choose the Backup Group Specify the Snapshot Policy	Remote Access:		
Specify the Storage Node Options			
Backup Configuration			
Summary Check Results			
		< Back	Next > Cance
lient Backup Configuration			
	_		
pecify the NetWorker Backu			
Select or create the NetWorker group fo	r this configuration.		
	Add to an existing group		
Specify the Client Name and Type	Name Start Ti	me	
Specify the Backup	Default 21:00		
Configuration Type	FrankS 21:00		
Specify the Client Backup			
Options	 Create a new group 		
Select Files to Backup	Group Name:		
Select the Client Properties	Client Retries:	1	
Choose the Backup Group	Schedule Options		
Specify the Snapshot Policy			
Specify the Storage Node Options	Scheduled Backup Start Time 21:00 (24-hour clock)		
Backup Configuration Summary	Automatically start the backup at the s	cheduled time	
Check Results			
		< Ba	ck Next > Car
2			



pecify the Storage Node Opti	ons					
Select the backup and recovery storage n						
Specify the Client Name and Type	Changing the storage node option	ns for this configuratio	n will affect	all configurations for th	is client.	
Openify the Dealure	Backup Storage Nodes					
Configuration Type	Backup to NetWorker server on	ly .				
Specify the Client Beelvun	 Backup to the following storage 	nodes				
Options	Name	Туре	Config	Device Sharing Mode	Number of Devices	
Select Files to Backup	🗹 📦 r310-sys-150	scsi	Yes	server default	1	^
Select the Client Properties						~
Choose the Backup Group						
Specify the Storage Node Options	Recovery Storage Nodes					
	Recover from NetWorker server	r only				
Backup Configuration Summary						
Check Results	Recover from the following stor					
Check Results	Name	Туре		Device Sharing Mode		
	🗌 📦 r310-sys-150	scsi	Yes	server default	1	_
						~
)					< Back	Next > Cano
lient Backup Configuration						
ckup Configuration Summar	-	cept and create the cor	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and	dify the configuration, click Back. To acc Adding new client "r310-sys	-150''	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type	dify the configuration, click Back. To acc dify the configuration, click Back. To acc Adding new client "r310-sys Save set:	⊧ 150'' All	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and	dify the configuration, click Back. To acc Adding new client "r310-sys Save set: Name:	- 150'' All r310-sys-150	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type	dify the configuration, click Back. To acc Adding new client "r310.sys Save set: Name: Backup Type: Deckuplication:	- 150" All r310-sys-150 Filesystem None	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup	dify the configuration, click Back. To acc Adding new client "r310-sys Save set: Name: Backup Type: Deduplication; Checkpoint Enabled:	All All r310-sys-150 Filesystem None false	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options	dify the configuration, click Back. To acc Adding new client "r310.sys Save set: Name: Backup Type: Deckuplication:	- 150" All r310-sys-150 Filesystem None	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup	Adding new client "/310-sys Save set: Name: Backup Type: Deduplication: Checkpoint Finabled: Checkpoint Granularity: Client Direct: Poot	All All r310-sys-150 Filesystem None false Directory true	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select the Client Properties	dify the configuration, click Back. To acc Adding new client "r310.sys Save set: Name: Backup Type: Deskuplication: Checkpoint Granularty: Client Direct: Pool: Browse Policy:	All r310-sys-150 Filesystem None false Directory true Month	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select the Client Properties Choose the Backup Group	Adding new client "Allo-sys Save set: Name: Backup Type: Deskpleation: Checkpoint Enabled: Checkpoint Enabled: Checkpoint Granularity: Client Direct. Poot Browse Policy: Retertion Policy:	x150" All r310-sys-150 Filesystem None false Directory true Month Year	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select the Client Properties Choose the Backup Group Specify the Storage Node	Adding new client "/310.sys Save set: Name: Backup Type: Deskapication: Checkpoint Enabled: Checkpoint Chabled: Pool: Browse Policy: Retertion Policy: Schedule: Group:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select He Client Properties Choose the Backup Group Specify the Storage Node Options	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All File-sys-150 File-system None Talse Directory true Month Year Defaut	nfiguration,	click Create.		
ckup Configuration Summar eview the configuration summary. To mo Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration	Adding new client "/310.sys Save set: Name: Backup Type: Deskapication: Checkpoint Enabled: Checkpoint Chabled: Pool: Browse Policy: Retertion Policy: Schedule: Group:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	nfiguration,	click Create.		
A specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select the Client Properties Choose the Backup Goptions Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	nfiguration,	click Create.		
existing the client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select Files to Backup Select Files to Backup Select the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	figuration,	click Create.		
A specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select the Client Properties Choose the Backup Goptions Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	nfguration,	click Create.		
specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Goptions Specify the Storage Node Options Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	niguration,	click Create.		
specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Goptions Specify the Storage Node Options Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	niguration,	click Create.		
specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Goptions Specify the Storage Node Options Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	nfguretion,	click Create.		
A specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select the Client Properties Choose the Backup Goptions Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	niguration,	click Create.		
A specify the Client Name and Type Specify the Client Name and Type Specify the Backup Configuration Type Specify the Backup Options Select the Client Properties Choose the Backup Goptions Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	niguration,	click Create.		
Type Specify the Backup Configuration Type Specify the Client Backup Options Select Files to Backup Select the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration Summary	Adding new client "/310 sys Save set: Name: Backup Type: Deskupication: Checkpoint Granularity: Client Direct: Poot Browse Policy: Retertion Policy: Schedule: Group: Storage Nodes:	-150" All r310-sys-150 Filesystem None false Directory traits Directory traits Directory traits Directory traits Parat Default	niguration,	click Create.		



17. After the backup group is successfully created, click **Start** to start the backup.

💑 EMC NetWork	er Administra	tion ¥8.0 - r310-s	ys-150 (NetWor	ker 8.0.0.1.8uild.15	3 Eval	- Windows NT	Server on	Intel)				_ 🗆 🗵
	Configuration	0evices	R. Media									User: odministrator
File Edit View			ndow Help									
+0×0		सिंदि द द	X95									
E-S r310-sys-t		炬 FrankS (1)									
- Audt L		Name 👻	Backup type	Commerit	Sch	eduled backup	Save set	L.	Client direct	Group	Schedule	
Clients	dEMC res foult	📕 r310-sys-150	Filesystem			~	AI		7	FrankS	Default	
B-J Local H	Client Bac	kup Configuration	•									
In r31	di Properties	6	Ctrl-N Ctrl-O Delete									
- Probes - Registr - & Restric	a Copy	h Clients										
	Start											•
Log	Befresh		F5	089		Alerts						004×
Priority Time *			pye		and a	Priority Time *		Cabegory				
Friday 3.13	204 AM eve			ce: storted c checking index for "		A Friday 3	18:34 AM	registr	NetWorker ev	aluation mode w	dli expire in 30 days and th	e server will be disabled after

18. Monitor the job status in the **Monitoring** tab.

🛃 EMC NetWorker Administration V8.0 - r310-sys-150	I (NetWorker 8.0.0.1.Build.153 Eval - Wi 💻	Ľ	💑 FrankS Details						×
Monitoring Configuration Devices Med		itor	Start Time: 🔥 4/2 Duration: 196 Sec		Status: Ru Total Amount: 13	inning	Percer	25% tage Complete	-
File Edit View Monitoring Recover Window He	ale				Total Amount. 13	o mb		augo complete	
+ 6 🗙 🛛 🔧 🔚 🔚 🕞 🕒 😁 👘 🔅 🤅		/8	Waiting to Run:						
		. 0.	Client Name 🔻	Save	e Set	Comm	and	Level	
Groups	084	_	👂 r310-sys-150	DIS,4	STER_RECOVERY:1	Startin	g session: state activ	e full	
Status Group 🔻 Last Run	Duration % Complete Next Run								
🗳 Default	00:00:00 100% disabled	_							
FrankS 4/26/13 4:36:54 PM	00:03:16 25% disabled								
Groups Clones									
All Sessions	089	×	Currently Running:						
Client Name 🔻 Type Start Time	Duration Device		, ,	0.01		0.17			
J r310-sys-150 save 4/26/13 4:37:11 PM	00:02:59 DR AFTD		Client Name	Save Set VSS SYSTEM FILE	Level Type	Start Time	Duration Device 00:02:16 DR AFTD		ate 164
1			P 1010-Sys-150	VSS SYSTEM FILE	TUI	4/20/13 4.37.45 PM	00.02.16 DR_AFTD	-	104
All Sessions Save Sessions Recover Ses.	Clone Sessi. Synthetic Ful. Browse S	es							
Devices	084	×							
Status Device Storage No	Library Volume	Po							
DR_AFTD r310-sys-1	r310_sys_150.00	1 De	Completed Success	fully:					
		•	Client Name 🔻	Save Set	Level Type	Start Time	Duration Size F	ile Co Messaq	ies
Operations Archive Requests			10-sys-150		1 11		00:00:05 907 KB	8	
×▼		•		VSS SYSTEM BO		4/26/13 4:37:35 PM		191 🔲	
Log 🗆 🗗 🏹 🗡 Alerts	007	×	🗾 r310-sys-150	A:\	full	4/26/13 4:37:35 PM	00:00:00 405 KB	6	
Priority Time Priority T Priority T	ime 🔻 Category Message	_	🗾 r310-sys-150	VSS SYSTEM SE	full	4/26/13 4:37:40 PM	00:00:05 18 MB	13	
🔵 Friday 3:17:57 AM event 📑 🛕 F	riday 3:18:34 AM registr NetWorker evaluation	in							
									-
			Eailert						•
		_							



2.4 Setting up DR Series system replication and restore from the replication target

2.4.1 Creating a replication relationship between two DR Series systems

ivan	-sw-03.ocarina.local	Containers				Crea	te Edit Delete Dis	play Statistic
	Dashboard Alerts	Number of Containers: 10					Container Pa	th: /containe
	Events	Containers	Files	NFS	CIFS	RDA	Replication	Select
	Health	backup	2	~	~		Not Configured	0
	Usage Container Statistics	cifs1	6		~		Not Configured	0
	Replication Statistics	cifs11	0		~		Not Configured	0
	Storage	kknfs	0	~			Not Configured	0
-	Containers	nbu-cifs-01	14		~		Not Configured	0
	Replication	nybu	7	~	~		Stopped	0
	Schedules	pybu1	7	•	~		Online	0
ļ	Replication Schedule	nw-cifs-01	21		~		Not Configured	0
	Cleaner Schedule				~			
	System Configuration	rep-source	0		1		Not Configured	•
	Networking Active Directory	sample	12		~		Not Configured	0
	Local Workgroup Users Email Alerts Admin Contact Info Password Email Relay Host Date and Time Support							

1. Create a source container on the source DR Series system.

2. Create a target container on the target DR Series sys
--

vanw-sw-01.testad.	ocarina.lc Containers				Crea	te Edit Delete Dis	play Statisti
Dashboard Alerts	Number of Containers: 10					Container Pa	th: /containe
Events	Containers	Files	NFS	CIFS	RDA	Replication	Select
Health	backup	0	~	~		Not Configured	0
Usage Container Stati	cifs1	11		~		Not Configured	0
Replication Sta		0		~		Not Configured	0
Storage	kknfs	0	~			Not Configured	0
Containers	kknfs2	0	-			Not Configured	0
- Replication Clients	nfs-01	0	~			Not Configured	0
Schedules	nfs1	0	-			Not Configured	0
Replication Scl	badula		~				
Cleaner Sched	lule	9		~		Not Configured	0
System Config	guration rep-target	0		1		Not Configured	•
-Networking -Active Director	sample	7		~		Not Configured	0
- Local Workgro - Email Alerts - Admin Contact - Password - Email Relay Ho - Date and Time - Support	up Users Info						



3. On the source DR Series system, go to the **Replication** menu, and then click **Create**.

an-sw-03.ocarina.local	Replication		Create Edit	Delete Stop Start	Bandwidth Disp	lay Statist
Dashboard Alerts	Number of Source Replication	ns: 2				
Events	Local Container Name	Role	Remote Container Name	Peer State	Bandwidth	Select
Health Usage	nvbu	source	10.250.243.18 nvbu	Stopped	Default	0
Container Statistics Replication Statistics	nvbu1	source	10.250.243.18 nvbu1	Online	Default	0
Clients						

4. Select the newly created container as the source container, and then enter the target DR Series system information.

	Create Replication		admi	nistrator (Log out) Help
	Step 1: Select a local container *	Step 3: Select a role *	Step 4: Remote container settings Create container on remote system Username*: administrator Password*: Peer System*: 10.250.242.133 Remote Container: Retrieve Containers(s)	* = required fields
	Password Email Relay Host Date and Time		Cancel	Create Replication
Copy	Support right © 2011 - 2013 Dell Inc. All rights reserved.			



5. Click **Retrieve Container(s)**, and then select the newly created target container from the list.

Step 1: Select a local container *		Step 3: Select a role *	Step 4: Remote container settings
backup cifs1 cifs11	^	Source Target	 Create container on remote system Map to container on remote system
kknfs nbu-cifs-01 nw-cifs-01		Source	Username*: administrator Password*:
rep-source sample			Peer System*: 10.250.242.133
Step 2: Select Encryption [*] ● None ● 128 bit ● 256 bit			Remote Container Retrieve Containers(s) backup cifs1 cifs1 kknfs kknfs2 nfs-01 nfs1 nw-cifs-01 rep-target sample
Password			Cancel Create Rep

6. Click Create Replication.

			* = required f
Step 1: Select a local container*	Step 3: Select a role	Step 4: Remote container settings	
backup cifs1	 Source Target 	 Create container on remote system Map to container on remote system 	
cifs11 kknfs			
nbu-cifs-01	Source	Username*: administrat	or
nw-cifs-01 rep-source		Password*:	
sample	-	Peer System*: 10.250.242	133
	T	Remote Container: Retrieve Co	ntainers(s)
		backup cifs1	
Step 2: Select Encryption *		cifs2	
None 128 bit 256 bit		kknfs kknfs2	
		nfs-01 nfs1	
		nw-cifs-01	
		rep-target sample	
		Cumpie	
			Cancel Create Replica
Password			
Email Relay Host			



7. Verify that the replication relationship between the DR Series systems has been created and that the **Peer Status** is **Online**.

an-sw-03.ocarina.local	Replication		Create Edit	Delete Stop Start	Bandwidth Disp	lay Statist
Global View Dashboard Alerts	Number of Source Replication	ns: 3				
Events	Local Container Name	Role	Remote Container Name	Peer State	Bandwidth	Select
Health Usage	nvbu	source	10.250.243.18 nvbu	Stopped	Default	0
Container Statistics Replication Statistics	nvbu1	source	10.250.243.18 nvbu1	Online	Default	0
Storage Containers	rep-source	source	10.250.242.133 rep-target	Online	Default	•
Schedules Replication Schedule Cleaner Schedule System Configuration Networking Active Directory Local Workgroup Users Email Alerts Admin Contact Info Password						

Copyright © 2011 - 2013 Dell Inc. All rights reserved.



2.4.2 Restoring from the replication target container

 Add the target container onto the Networker storage node. Right-Click Device > New Device Properties, and then enter necessary information for the target device. When complete, mount the device.

*	EM	C NetWorker Adr	ninistration V8.1 - zhuhai-2012-02 (NetWorker 8.1.0.1.Build.199 NetWorker Source Capacity Data Zone Enabler - Windows NT Server on Intel)	- 0 X
Monitoring Configurat	ton Bovices	A. Media	Placone	User: amendator
File Edit View Devices Window	w Help			
+ 0 × 0 < 3 50 mm	6 🗆 12 12 19 19 19			
B- 🔰 zhuhai-2012-02 B- 🎲 Libraries	C Devices (2)			
Constant Constant	Name Parent Parent Parent Parent	ukebox Descriptio	2048a/_2012_02 Yes	_
- Ling Avenuer Deduptication Nodes			Her Devok Yaladi OxiV Her Devok Yaladi OxiV Matty Secker Reports	
			Dealer Dakie Cary Nort	
			Reten F5 Umour Lear. EastIndrawin EastIndrawin	
			Omtpare Drive	
			Scan for Devices	
			Configure A4 Libraria	
Log			□ d' 9 × Alerts	D a + x
Pricely: Then Source Vecheosity: 7.23.40	12-02 media - Zhuhai-2 12-02 media - Zhuhai-2 12-02 media - Zhuhai-2	112-02 testad ocarina io 112-02 testad ocarina io 112-02 testad ocarina io 112-02 testad ocarina io 112-02 testad ocarina io	Priority: Time. Coldogray Message Cold done browsing	

NOTE: Do not label the target device.

2. Unmount the source container.

6	EMC NetWork	er Administration V8.1 - zhuhai-2012-02 (NetWorker 8.1.0.1.Build, 199 NetWorker Source Capacity Data Zone Enabler - Windows	NT Server on Intel)
Monitoring Configurat	an Bovices Lite	a 🚱 Recover	Ver: edministrator
le Edit View Devices Window			
0×0×) 555	BURRIAN ULAN		
- 10 zhuhei-2012-02	😥 Devices (2)		
	Name Parent jukebox	scription Volume name M. Enabled	
8- 🔂 Data Domain Systems	C rep-target	New Device Wilzard Obliv	
Avamar Deduplication Nodes		New Device Properties Ctrl-N	
		Modify Device Properties On-O	
		Edit Description	
		Auto To Description	
		Flamove-Frein Descongiston	
		Delete Delete	
		Copy	
		- 100-01-07	
		Mout	
		Retresh PS	
		Unnount	
		Label_	
		EjecLMMraw	
		En able Disable	
		Contigue Drive	
		Spain for bences	
		- Configure All Janaires	
,		D d' 9 × Alerts	089
ty Time · Source	Category Message	Priority Time Category Message	
Wednesday 7.24.42 zhuhai-201		carina.locat done browsing	
Wednesday 7:24:58 zhuhai-201			
Viednesday 7:27:26 event	task m Starting NSR recover' 1		
Viednesday 7:27:27 _ zhuhai-201	2-02 media Zhuhai-2012-02.testad.		



3. Go to **Recover**, click +, select a backup source host, and click **Next**.

Monitoring Configuration Bevices	Recover			User: additud
Edit View Recover Wilndow Help	ä.	Recover Configurati	on X	
0×0< 00	Select the Recovery Hosts			
al Recovers:	A Service of Contraction Contraction of Contraction			
ce:		st, and the recovery type. The necovery vittand queries the source is cled recovery type must be installed on the destination host.	ist and the destination host, then displays the recovery types that are supported by either	
itigured Recovers:				
atus Name Source Client Destination Clie				
		Source Host	Destination Host	
	Select the Recovery Hosts	Name: Dra Pais 2012, 02 tested oppring local	Recover to the same host	
	Obtain the Volume Information	OS Windows NT Server on Intel	O Recover to the same nota	
	O Petiam the Recovery			
	O Check the Recovery Repults	NetWorker version: 81.0.1 Build 199	None	
		Earliest backup: Nov 28, 2013 9.41:21 PM	20	
		Latest backup Dec 4, 2013 7:20:06 PM	Net/Norker version	
		Available Recovery Types		
		Types of Backups 💌	Backups Found in Last Vieek Number Found	
		Block Besed Beckup	0	
		Block Based Backup (cloned to tape)	0	
218 X		Snapshot Management	0	
ently Ruoning			Provide State of the State of t	
us Name 💌 Source Client Destination Clie			Complete	Rate
				00
Time Source Calegory Messag			and the second	
Vietnesday 7:24.42 _ zhuhai-2012-02 _ media Zhuhai-	0		- Tent Next + Close	
Viednesday 7:24:58	0		Allania Next > Otre	
Viednesday 7.27.26 event task m. Starting m				
Viednesday 7:27:27 zhuhai-2012-02 media Zhuhai-20	112-02 testad ocarina local: browsing 112-02 testad ocarina local: done browsing			

4. Select the data set to recover, click **Versions** to view the **Select Versions** window, select the data, and click **OK**.

M. EN	C NetWorker Administration V8.1 - zhuhai-2012-02 (NetWorker 8.1.0.1.Build.199 NetWorker Source Capacity Data Zone Enabler - Windows NT Server on Inte	n) – – ×
Monitoring Coeffiguration Devices	And Pacover	User: schrävsföstor
File Salt View Recore View Image: Salt Image: Salt Image: Salt Image: Salt Salt New Salt Salt	Recover Configuration Execute the Data to Recover The Divers the analysis you be perform a synthesis to income yours as specific date and lines. To use this option, the clerit time hads or that must contain the backage information, the diverse the analysis you be perform as any effective to the analysis of the income that as a specific date and time. To use this option, the clerit time hads or that must contain the backage information, the diverse the analysis would be perform as an experise of the analysis. The diverse that must contain the backage information, the diverse that diverse would be perform as an experise date and time. To use this option, the clerit time inter of the source had must contain the backage information, the diverse that diverse would be perform as an experise date and then. Use this option when the client time inter of the source had must contain the backage information.	
Connety-Forming	Salect the Roomy Hugs Oref Tubue 2012/22 betad acres to recover by the sector has to 110013, or recover by one and to 1010013 Devents [See 50 Fig. 2012/21 betad fig. 2012/	
Viednesday 7.28.04 zhuhai-2012-02 media Zhuhai-2	Compa Brows Text Second All Text Cancel Compa Brows Text Second All Text Cancel Textoriary Later Cancel February Cancel Februar	Complete: Andro (OBD)

5. Select the **Recovery Options**, choose **Original path**, or enter a new destination path to which to recover data, and click **Next**.

6. Enter a **Recover name**, and click **Run Recovery**.

📜 EN	C NetWorker Administration V8.1	- zhuhai-2012-02 (NetWorker 8.1.0.1.Build.199 NetWorker Source Capacity Data Zone Enabler - Windows NT Server on Inte	s) ×
Monitoring Configuration Breices	Recover		Deen emmethilor
File Diff Control Vectors Image: State Image: State Image: State Image: State State Image: State Image: State Image: State Image: State	Select the Recovery Options Specify the original path or a new path o	Recover Configuration	
Currently Numbing Status Jame Source Citest Destination Cite	Soluct the Recovery Houts Soluct the Data to Recovery Detect the Recovery Optime Soluct the Volume Momentain Attain the Volume Momentain Chevic the Recovery Results	Risk huft for Secourcy Organ gaft. There definition gaft. Cherr Other gaft for Options Option for Second Seco	Compete Rule (HSKS)
Wednesday 7 20:04 zhuhai-2012-02 media Zhuhai-3	Statement statute to contract where the state to sta	NT TAVAS JULI JULI ANNA DAL	□æ∓×

M. EN	AC NetWorker Administration V8.1	- zhuhai-2012-02 (NetWorker 8.1.0.1.Build.199 NetWorker Source Capacity Data Zone Enabler - Windows NT Ser	ver on Intel)
Monitoring Configuration EDevices	Recover		User: administrator
File Edit View Recover Window Help	3 .	Recover Configuration	
Total Recovers Since Contigured Recovers Status Name Source Clerit Destination Cle	When you configure a hard stop time, the	In the recovery to start later. You can configure a hard stop lime to control how long the Recovery Waterd performs the recovery operation. Recovery Waterd lasts an in-progress recovery of the specified later.	
	Select the Recovery Hosts Select the Data to Recover Select the Recovery Options Obtains the Volume Information Perform the Recovery Concil: the Recovery Results		
		Recover Resource For Interace Protect the resource will added by user Addamated y remove that resource based on yoke addeders referition	
Currently Running		Summary	
Status (Name 👻 ; Source Client Destination Cli		Adding new recover	Complete Rote (HB/S)
		Source Carry Tense 2th/shi/2 021 021 details cores local Source Carry Covering Tystem 2th/shi/2 021 details cores local Destination Carry Issoet 2th/shi/2 021 details cores local Destination Carry Issoet 2th/shi/2 021 details cores alocal Destination Carry Issoet Previous Til detain core intel Recover Type Previous Values and transmitter Advectore Type No. C. Staff details Lised: The regulared values to recovery (Recommended) Recover Type C. Staff details (Staff details details details details details details) Recover Type C. Staff details details details details details Deplacet the regioner Recover Type	
Log Priorty Time Source Category Messag			
 Viednesday 7.27.28 zhuhei-2012-02 media Zhuhei- 			
Wednesday 7:28:04 zhuhai-2012-02 media Zhuhai-	0		kose
	S15M on znana-2012-02 successnuty recover 2012-02 tested ocarina.local: done browsing	ed 2012/06-2012/12/16/08/0.008	
	2012-02 testad ocerne.locel. done browsing cover 'RC03' succeeded. Job id '32074'		



7. Check the **Recovery Results**.

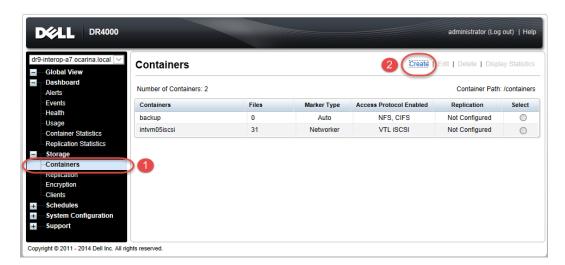
	C Networker Administration vo.1	-zhuhai-2012-02 (NetWorker 8.1.0.1.Build.199 NetWorker Source Capacity Data Zone	chabler - windows fut beiver on	intel)
Monitoring Configuration Devices	Recover			User: advent
Edit View Recover Window Help	8 .	Recover Configuration		×
0 × 0 < 0 0	Check the Recovery Results			1
tel Recovers:		ation. When you close this window, the recovery operation continues. To display this page again, right-click the reco	and another suffrage in the Restauras	
nce: antigured Recovers:		auch, when you doub this wendow, the recovery operation continues. To display this page again, right-click the reco Cancel Recovery to stop the recovery operation.	very contiguration in the recover	
tatus Name Source Client Destination Clie				
🖌 RCot 🖉 atvansi-2012. 🗐 atvansi-201				-
	Select the Recovery Hosts	Recover Name: RC01 Size: 187	MB Succeeded	
	Select the Data to Recover	Source Client zhuhai-2012-021estad.ocarina.local Completest 187	SME Carcel Recover	
	Select the Recovery Options	Start time: Dec 5, 2013 1:20:01 AM		
	Obtain the Volume Information	Duration 00:01:26		
	Perform the Recovery	Drives rep-target		
	Check the Recovery Results	Volumes used: zhuhai_2012_02.testad.ocarina.local.000		
		Recovery Log	Export Log Fil	
		In a consistent and a state of a mort matter of the subparticipation of the su		
		C testidaaWetworker 8.1 triw61_win_x64/win_x64/support (s)ing exe C testidaaWetworker 8.1 triw61_win_x64/support (s)inm exe		1
		C testideaWetworker 8 11w81 win "s64w/n "s64wapportujirdp.exe C testideaWetworker 8 11w81 win "64w/n "64eupportujirdbajexe		
mently Running		C testfidmaWetworker 8.11mx81_win_164iwin_r64isupportsjirelem.exe C testfidmaWetworker 8.11mx81_win_164iwin_r64isupportsjirje.exe		
atus Name 🕶 Source Client Destination Clie		C.testidnaVetworker 8.1/nw61_win_x64/win_x64/aupport/ampnal.exe		Complete Rate
		CitestidesWetworker 8 1/nw81_win_x64/win_x64/support\ CitestidesWetworker 8 1/nw81_win_x64/win_x64)		
		C BestidesWetworker 8 11w/81_win_x64\ C BestidesWetworker 8 11w/81_win_x64 ziz		
		CiteofideaWetworker 8.1\		
		C BestidewikisoB_pe.exe C BestidewikisedB_v14.msi		
		C Bestiden/Witaak/D-2.5.1-stx.exe C Bestiden/Witware-converter-al-5.0.1-875114 exe		
		C.TestfidmaWMware-PowerCLI-4.1.1-302441.exe		
		C test/dmsWMware-vtc-1.10.3-368992.exe C test/dmsWMware-vSphere-WS-SDK-4.1.0-257238.zp		
		Citestidealvnc-4_1_3-x86_win32.zip Citestidealv		
•		Received 89 file(s) from NSR server 'shuhai-2012-02' Recover canadelion line: 125/2013 1:21:25 AM		08
ty Time 🔻 Source Category Messag		Neover completion site: 125/2013 1.21.26 AM		-
Wednesday 7.30.19. shuhai-2012-02. media Zhuhai- Wednesday 7.30.20. shuhai-2012-02. media Zhuhai-	0		+ Sait Frish Chas	
	2012-02 Sector COMPANICALL VANA (12/04/13)	Ione reading from zhune _un	Testacount	
Wednesday 7:30.55 event recover User Sh	STEM on zhuhei-2012-02 successfully recover	ed zhuhai-2012-02 testad.con		



3 Creating and configuring iSCSI target container(s) for Networker

3.1 Creating an iSCSI VTL container for Networker use

1. Create and export the iSCSI container by selecting **Containers** in the left navigation pane of the DR Series system GUI, and click **Create** at the top of the page.



2. Enter a container name and select the Virtual Tape Library (VTL) container option. Click Next.

Container Wizard - Create N	ew Container	
- Container Name		* = required fields
Container Name*:	Max 32 characters, including only letters, numbers, hyphen, and underscore. Name must start with a letter. iscsiVTL1	
Virtual Tape Library (VTL) :		
		Cancel Next >



3. Select the iSCSI **Access Protocol**. Specify the DMA **Access Control** by providing the storage node / media node IP Address, IQN or FQDN. For Marker Type, select **Networker**. Click **Next**.

Container Wizard - Create New (Container	
- Configure Virtual Tape Library		* = required fields
Is OEM:		tainer Name and Type siVTL1
Tape Size:	● 800GB ○ 400GB ○ 200GB VT	L
	○ 100GB ○ 50GB ○ 10GB	
Access Protocol:	O NDMP O ISCSI O No Access	
Access Control (initiator):	IQN, FQDN or IP	
Marker Type:	O Unix Dump 💿 Networker O BridgeHead	
	O None O Auto O Time Navigator	
	< Back	Cancel Next >

4. Click Create a New Container.

Container Wizard - Create New Container	
Configuration Summary	* = required fields
Container Name and Type	Virtual Tape Library
Container Name: iscsiVTL1	OEM: no
Connection Type: VTL	Tape Size: 10gb
	Access Protocol: iSCSI
	Access Control: iqn.1991-05.com.microsoft:2k8r2intvm05
	Marker Type: Networker
	< Back Cancel Create a New Container



3.1.1 Configuring the iSCSI Networker storage node – Windows

iSCSI initiator configuration is a two-step process, consisting of:

- Target discovery.
- Establishing an iSCSI session with the target using CHAP authentication.
- 1. Provide the IP or FQN of the DR Series system in the **Target** field. Click **Quick Connect**, which results in target discovery, The Quick Connect dialog box lists all available targets on the DR Series system. At this point, the status will be Inactive. Click **Done** and close the dialog box.

51 Initiator Properties argets Discovery Favorite Targets Volumes and Devices I Quick Connect To discover and log on to a target using a basic connection, typ DNS name of the target and then click Quick Connect. Target:	
-	Quick Connect
Name To connect using advanced options, select a target and then click Connect. To connect disconnect a target, select the target and then click Connect.	Targets that are available for connection at the IP address or DNS name that you provided are listed below. If multiple targets are available, you need to connect to each target individually. Connections made here will be added to the list of Favorite Targets and an attempt to restore them will be made every time this computer restarts. Discovered targets Name Status Ign.1984-05.com.dell:dr4000.9lbp8r1.intvm05iscsi.10
For target properties, including configuration of sessions, select the target and click Properties.	Progress report
For configuration of devices associated with a target, select the target and then click Devices. More about basic ISCSI connections and targets	Unable to Login to the target.
OK	Connect. Done



2. Close the dialog box and proceed by selecting the newly discovered target. This target will have an **Inactive Status** as it requires authentication parameters to be provided for iSCSI login. Select the Target from the list, click the **Connect** button, and then in the **Connect to Target** dialog box select the **Advanced** button.

iSCSI Initiator Properties	
Targets Discovery Favorite Targets Volumes and Devices RADIUS Configuration Quick Connect	
Target:	Quick Connect
Discovered targets	Refresh
iqn.1984-05.com.dell:dr4000.9lbp8r1.intvm05iscsi.10	Status Inactive
To connect using advanced options, select a target and then Connect	
Connect To Target X Target name:	Disconnect
iqn.1984-05.com.dell:dr4000.9lbp8r1.intvm05iscsi.10	Properties
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.	Devices
Advanced OK Cancel	
OK	Cancel Apply



3. In Advanced Settings, select to Enable CHAP log on and type the User Name and Target Secret / Password. Select OK to save the settings. Refer to *Appendix A* for further details about accounts and credentials.

۱dv	anced Settings		? ×				
Ge	neral IPsec						
Γ	Connect using						
	Local adapter:	Default					
	Initiator <u>I</u> P:	Default					
	Target portal IP:	Default					
	-CRC / Checksum						
	Data digest	🔲 Header digest					
1	Enable CHAP log on						
1	CHAP Log on information	<u></u>					
	CHAP helps ensure conn an initiator.	ection security by providing authentication between a target and					
	To use, specify the same name and CHAP secret that was configured on the target for this initiator. The name will default to the Initiator Name of the system unless another name is specified.						
1							
1	<u>N</u> ame:	dr9-interop-a7					
l	Target <u>s</u> ecret:	••••••					
	Perform mutual authentication To use mutual CHAP, either specify an initiator secret on the Configuration page or use RADIUS.						
	Use RADIUS to gener	rate user authentication credentials					
	Use <u>R</u> ADIUS to authe	enticate target credentials					
		OK Cancel Appl	y I				



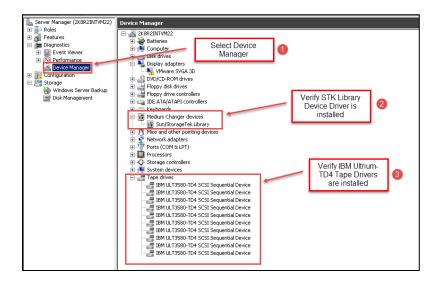
The iSCSI target should now appear as connected and the device discovery can now proceed.

farget:				Quick Connect
iscovered ta	ingets			Refresh
Name iqn.1984-05	.com.dell:dr4000.9lbp8r1.intvm05isc	;i.10	Statu Conn	is iected
Fo connect u: lick Connect	sing advanced options, select a targe	t and then		Connect
lick Connect: To completely	, v disconnect a target, select the targ			Connect
click Connect Fo completely then click Disc For target pro	, v disconnect a target, select the targ	et and		
lick Connect fo completely then click Disc for target pri elect the tar for configura	, y disconnect a target, select the targ connect. operties, including configuration of se	et and ssions,		Disconnect



4. Open the **Server Manager Snap-in** and verify that the newly connected devices appear in the **Device Manager**. Verify that the STK Library and IBM Ultrium-TD4 Device Drivers are installed.

Note: (Refer to the link, <u>http://catalog.update.microsoft.com/v7/site/home.aspx</u> for information and assistance in acquiring Microsoft Device Drivers , for example, StorageTek Library Drivers).



3.1.2 Configuring the iSCSI target – Linux

Before you begin this procedure, 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.

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

Déd

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

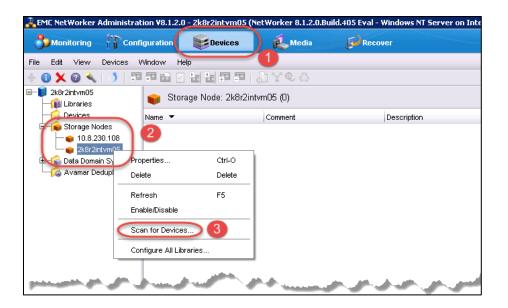
For example:

iscsiadm -m session = tcp: [8] 10.8.230.108:3260,1 iqn.1984-05.com.dell:dr4000.3071067.interoprhel52n1.30

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

3.2 Setting up Networker to use the newly created iSCSI VTL

1. Access the **Devices** menu within the Networker Administration interface. Select the Storage Node that has had the NDMP VTL configured for access. Select to **Scan for Devices**.





2. In the **Scan for Device** dialog box, select the appropriate storage node with the settings to **Search** all LUNs, Use Persistent Names and Device Scan Type of scsi.

Create a new Storag	eate new storage nodes to scan
cicale a non cicia <u>s</u>	
Scan Storage Node	Name 🔻 Search Use Persiste Exclude SCSI Paths
10.8.230.108	Vec Vec
2k8r2intvm05	Yes Yes
Indate storage pode	e properties if required
Update storage node Storage Node Name:	Exclude SCSI Paths:
Storage Node Name:	
Storage Node Name: Search all LUNs:	2k8r2intvm05 Exclude SCSI Paths: Yes 2
Storage Node Name: Search all LUNs: Use Persistent Names:	2k8r2intvm05 Exclude SCSI Paths: Yes 2
Storage Node Name: Search all LUNs: Use Persistent Names: Device Scan Type:	2k8r2intvm05 Exclude SCSI Paths: Yes 2 Yes 3
	2k8r2intvm05 Exclude SCSI Paths: Yes 2 Yes 3 Image: Scsi Indexp 1

3. After the device scans, the iSCSI VTL should now appear and must be configured for use. Select the library within the **Storage Nodes** navigation tree and proceed with the **Configure Library** option. In the **Configure Library** dialog box, **Check All** drives and click **Start Configuration**.



Monitoring TConfiguration	Devices	🔔 Media	Recover						
e Edit View Devices Window H	lelp								
🕕 🔿 🗶 🔹 🚺 🖉 🖼 🖗	1 🖬 🖬 💷 👘 👘	YOG							
- 🔰 2k8r2intvm05	🚫 Library: STK@3	3.0.1							
🖻 👔 Libraries		5.0.1							
-S STK@3.0.1	Name 🔻	Driv	e Serial Number	Drive Number					
LTO Ultrium-4(1) S LTO Ultrium-4(10)	S LTO Ultrium-4(1)	Seri	al Numbers:VW/NN=5	02 1					
S LTO Uttrium-4(10)	S LTO Ultrium-4(10)	Seri	al Numbers:VWVNN=5	02 10					
LTO Ultrium-4(2)	S LTO Ultrium-4(2)	Seri	al Numbers:VW/NN=5	02 2					
LTO Ultrium-4(3)	S LTO Ultrium-4(3)	Seri	al Numbers:VWVNN=5	02 3					
LTO Ultrium-4(4)	S LTO Ultrium-4(4)		al Numbers:\/W/NN=5						
S LTO Ultrium-4(6)	S LTO Ultrium-4(5)		al Numbers:VW/NN=5						
-S LTO Ultrium-4(7)	S LTO Ultrium-4(6)		al Numbers:\WWNN=5						
- S LTO Ultrium-4(8)	S LTO Ultrium-4(7)		al Numbers:////NN=5						
LTO Ultrium-4(9)	S LTO Ultrium-4(8)		al Numbers:////NN=5						
Devices	S LTO Ultrium-4(9)	Seri	al Numbers:VW/VNN=5	02 9					
🕞 📦 Storage Nodes									
ia− e 2k8r2int∨m05									
E-S STK@301	F5								
		Configure Library		··					
LTC Configure Libra		ibrary to configure							
Scan for Devic	es	Storage node name: 2k8r2intvm05							
		Library name: STK@3.0.1							
-S LTC Configure All L	ibraries	Singsuit							
S LTO Ultrium-4(6)		Configure devices on various s	torage nodes using existing driv	re connectivity					
-S LTO Utrium-4(7)		storage node 💌 LTO Ultriu			Ubrium-4(7) LTO Ubrium-4(8		LTO Utrium-4(4) LTO Utri		LTO
LTO Uttrium-4(8)		2k9r2intvm05 🕑 11.1Tape9	🕑 11.1Tape8	🕑 11.\Tape? 🗹 11.\Tap	pe6 💽 11.1Tape5	Vilape4	✓ 11.1Tape3	V.17ape1	Ø 8
LTO Uttrium-4(9)									
🕀 🌈 Data Domain Systems					ot be up-to-date. A re-scan operatio				
-6 Avamar Deduplication Nodes			(* ins	storage node's configuration may no	a be up-to-date. A re-scan operatio	in is suggested to ensure the con	inguration is current.		
	-			3					
				•	Start Configuration	Cancel			
A T									
og				0 8 9 ×					
riority Time - Source	Category Message								
Monday 10:22:39 AM 2k8r2intvm05	media 2k8r2intvm05:b	ootstrap saving to p	ol 'Default' (QEBDR1)	10A)	1				
				100	4				
Monday 10:22:41 AM 2k8r2intvm05	media 2k8r2intvm05:b	ootstrap done saving	to pool 'Default' (GEE	BDR100A) 172 🕍	1				

4. The VTL should now show up ready for use. By default, the cleaning option is enabled, which must be disabled. Within the navigation tree, select the Library and **Properties** option. In the dialog box, disable the **Auto-clean** option, and omit the default slot and cleanings settings. Click **OK** to save the changes.

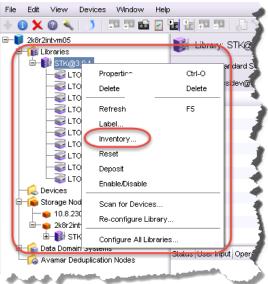
File Edit View Devices Window Help		
+ 🚯 🗙 🖉 🔍 🔳 💷 🖾 🖾 🖾 🖾 💷 💷	DY€ &	1
Correction	Image: Solition of the second seco	Time
	Virtual Jukebox:	5
	OK Reset Cancel	12
the second second second	and present for any markers and produced and	



5. After the library has been configured, the individual tape drives must be configured so that they service only one target session at any given time. Multiplexing to virtual tape drives has an adverse effect on deduplication and thus requires that each drive only handle a single target session.

		Build-405 Eval - Windows NT Server on 1	General Configuration Advanced Intornation Volume Operations Coud Syste	w1
Monitoring Configuration	Devices & Media	Recover		
Edit View Devices Window He	dp.	14	Save Sessions	Remote Host
🗙 😡 🐛 👌 🖽 🖽 🖾 🗹	불답변해 친구이죠.		Target sessions:	NDMP
8/8r2ntvm05	Library: STK@3.0.1			
El Librarios	Br Library. STRags.0.1		Max sessions: 32 🗘	Remote user:
	Model Standard SCSI Juliebox		Max nominal count: 1 🗘	Password
LTO Utrium-4(1)	Control Port scsidev@c3.0.1		Current rsmmd count 1	
	wide .	Volume Valte Met		DFC Device Configuration
	T W Uape0			bre bewee comparation
LTO Utrium-4(4)	Vi.Viape1	Properties 20 Ctri-O	Local Backup	Enable fibre channel
	S % Tape2	Mourt	Dedicated storage node: Ves No	Fibre channel hostname:
PLACE AND AND	🕞 h.Uape3			
BUTCHER AND	W.Wape4	Unhourt	Second Second	
LTO Utrium-4(9)	W.lTapeS W.lTape6	Label	Media Management	
B B SINGST	Willapes	inventory	Volume default capacity	
The Strageroo_voleve_oo	W.V.Tape8	Reset	AFTD percentage capacity 0	
	Wittape9	Deposit		
8- 🖕 2k8r2ntvm05		EpctMindraw	Verify label on eject.	
B-10 STK@3.0.1	tatus User Input Operation Data	A31.		
10-10 STK(23.1.1	Operation: "inventory"	Nenove		
	operation: "inventory"	Nelease Device		
LTO Utrun-4(1)	g operation: "inventory"	Loss Without Mount		
LTO Utrium-4(10)		Enable/Disable		
LTO Utrium-4(2)				
LTO Ultrium-4(3)		Volune Operations +		
LTO Ultrium-4(5)		Menage Library Operations		
LTO Ultrium-4(6)		Re-configure Library		
LTO Utrium-4(8)		Scan for Devices		
LTO Utrium-4(9)		Configure All Libraries		
C Tista Dossin Svetere		Compare Aa Lorones		
110			i and a second se	
		and the second	O CH Re	Cancel
Time - Source	Category Message		Finally for Company and and	and the second s

6. Conduct a full inventory of the library.

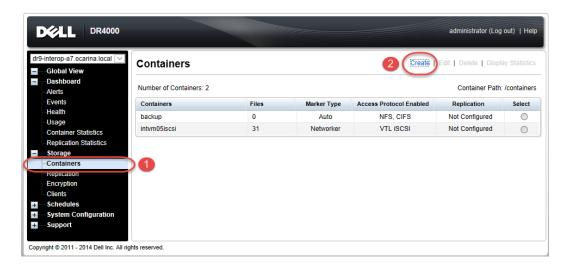


7. Label all the media with labels and place them in their respective media pools for use.

4 Creating and configuring NDMP target container(s) for Networker

4.1 Creating the NDMP VTL container for Networker use

1. Create and export the iSCSI container by selecting **Containers** in the navigation area of the GUI, and then clicking **Create** at the top of the page.



2. In the **Create New Container** wizard, enter the container name, select the **Virtual Tape Library** (VTL) container option, and click **Next**.

Container Wizard - Create N	ew Container	
- Container Name		* = required fields
Container Name*:	Max 32 characters, including only letters, numbers, hyphen, and underscore. Name must start with a letter. System_A3_VTL1	
Virtual Tape Library (VTL) :	₩ 2	
	Cancel	Next >



3. Select the NDMP **Access Protocol**. Specify the DMA **Access Control** information by providing the storage node or, media node IP Address or FQDN. Select the Marker Type as **Unix Dump** and click **Next**.

Container Wizard - Create New	Container					
Configure Virtual Tape Library						* = required fields
Is OEM:					Container Name an System_A3_VTL1	d Type
Tape Size:	800GB	O 400GB	O 200GB		VTL	
	O 100GB	O 50GB	O 10GB			
Access Protocol:	NDMP		O No Access			
Access Control:	FQDN or IP)2		
Marker Type:	Unix Dump	3				
	None					
				< Back	Cancel	Next >

4. Finalize the VTL creation request by clicking **Create a New Container**.

nfiguration Summary	* = required field
Container Name and Type Container Name: System_A3_VTL1 Connection Type: VTL	Virtual Tape Library OEM: no Tape Size: 10gb Access Protocol: NDMP Access Control: ign.1991-05.com.microsoft:2k8r2intvm0 Marker Type: Networker
	< Back Cancel Create a New Container





4.2 Configuring Networker to use the newly created NDMP VTL

- 1. Add the DR Series system as a storage node via NDMP.
 - a. Navigate to the Devices menu, select the **Storage Nodes** Sub-Tree object within the EMC Networker navigation pane, and add a new storage node.
 - b. In the **Create Storage Node** window enter the name of the node (this must be resolvable via DNS or host file resolution). Provide the logon credentials for the ndmp user account on the DR Series system.

🚴 EMC NetWorker Administration ¥8.1.2.0 - 2k8r2intv	m05 (NetWorker 8.1.2.0.Build.405 Eval - Windows NT Server on I	ntel)
Source Configuration	es 🛃 Media 😥 Recover	
File Edit View Devices Window Help		
+ () 🗙 🕑 🔍 🌖 🖙 🕾 🖄 🗄 🖽 🕾		
□	Storage No 🚜 Create Storage Node	× ×
	General Configuration Device Scan Library Scan ST	L) 🕗
2 TO 184 m 4/4		
- 2K0	2intym05 Identity	Device Management
LTO Ultrium-4(2)	Name:	AFTD allowed directories:
LTO Ultrium-4(3)	Comment:	
TTO Ultrium-4(5)	Type of storage node: Scsi	
LTO Ultrium-4(6)		
TO Ultrium-4(7)	<u></u>	
LTO Ultrium-4(6)	Status	
Devices	Storage node is configured:	Mmds for disabled devices: 🔿 Yes 💿 No
Storage Node	Last error number: 0	Dynamic nsrmmds: 🗹 👩 🍬
	Last error message:	
Refresh F5	Last error message.	
Scan for Devices		Remote Host
Configure All Libraries		Remote user:
LTO Ultrium-4(4)	Enabled: Ves No	Password:
LTO Ultrium-4(5)		
LTO Ultrium-4(6)		
LTO Ultrium-4(7)		
LTO Ultrium-4(9)		
🗷 🙀 Data Domain Systems		· · · · · · · · · · · · · · · · · · ·
- Karanar Deduplication Nodes		
Log		
Priority Time Source Category M	econe	
	-	K Reset Cancel walue
	VTape5 eject	
	Tape5 Verify label operation in progress	/
-	ukebox `STK@3.0.1' Hardware status of jukebox 'STK@3.0.1' changed fro	
Wednesday 8:39:56 event media J	ukebox `STK@3.0.1' Hardware status of jukebox 'STK@3.0.1' changed fro	om 'ready' to 'cannot a 🗨
灯 Start 🔣 🛜 🚞	Cox	
		1

2. Access the **Devices** menu within the Networker Administration interface. Select the Storage Node that has the NDMP VTL configured for access. Select to **Scan for Devices**.



Monitoring Configuration Devices Media Recover File Edt View Devices Window Heip Image: Storage Nodes Storage Node: Storage Node: Comment Description Devices Image: Storage Node: Image: Storage Node: Devices Comment Description Image: Storage Node: Image: Storage Node: Devices Devices Devices Devices Image: Storage Node: Image: Storage Node: Devices Devices Devices Devices Image: Storage Node: Devices	on Int
Skorzetwno5 Storage Node: Storage Node: Comment Description Description Description Description Description Description Description	
2k8/2intvm05 Storage Node: 2k8/2intvm05 (0) Storage Node: 2k8/2intvm05 (0) Name Comment Description Comment Description Control Avanar Description Score for Devices	
Storage Node: 2 korzentymus (U) Name ▼ Comment Description 10.8.20.108 Data Domain S Frogerties Ctri-O Delete Delete Refresh F5 Enable Disable Scan for Devices 3	
Name Comment Description Name Comment Description Comment Comment Description Comment Description Comment Comment Description Comment Comment Description Comment Comment Comment Description Comment Comment Comment Description Comment	
10.8.220.108 Scholardymers Scholardymers Properties Other Detaboration S Properties Other Detaboration Scan for Devices	
Data Domain S Properties Ctrl-O Delete Delete Refresh F5 Enable/Disable Scan for Devices 3	
Refresh FS Enable/Disable Scan for Devices 3	
Enable:Disable Scan for Devices 3	
Scan for Devices 3	
Configure All Libraries	
Log D P P	×
viority Time 🕶 Source Category Message	
Monday 10:22:39 AM 2k8r2intvm05 media 2k8r2intvm05:bootstrap saving to pool 'Default' (QEBDR100A)	A
Monday 10:22:41 AM 2k8r/2intvm05 media 2k8r/2intvm05:bootstrap done saving to pool 'Defautt' (QEBDR100A) 172 Monday 10:22:44 AM event savegr Defautt completed, Total 1 client(s), 1 Succeeded. See group completion	

3. In the Scan for Device dialog box select the appropriate storage node with the settings to Search all LUNs, Use Persistent Names and Device Scan Type of ndmp.

🛃 Scan for Devices	×
Select existing or cro	eate new storage nodes to scan
Create a new Storag	e Node
Scan Storage Node	Name Search Use Persiste Exclude SCSI Paths
10.8 230 108	Vec Vec
2k8r2intvm05	Yes Yes
•	
Update storage node	properties if required
Storage Node Name:	2k8r2intvm05 Exclude SCSI Paths:
Search all LUNs:	Yes
U Development Newser	
Use Persistent Names:	Yes 3
Device Scan Type:	🔿 scśj 💿 ndmp
	backup_user
NDMP Password:	•••••
	Start Scan Cancel



4. After the device scan, the NDMP VTL should now appear and can be configured for use. Select the library within the storage nodes navigation tree and proceed with the **Configure Library** option. In the **Configure Library** dialog box, **Check All** drives and click the **Start Configuration** button.

EMC NetWorker Administration ¥8.1.2.	0 - 2k8r2intvm05 (NetWorker 8	3.1.2.0.Build.405 Eval - Windows N	T Server on Inte				
Monitoring Configuration	Sevices 🔬 M	edia 🔂 Recover					
ile Edit View Devices Window H	lelp						
- 0 X 🛛 🔍 I 🔰 🗖 🛱 🖻							
- 🔰 2k8r2intvm05	S Library: STK@3.0.1						
⊨ 🙀 Libraries ⊨ 💊 STK@3.0.1	· · ·						
STR03.0.1	Name 🔻	Drive Serial Number	Drive Number				
S LTO Ultrium-4(10)	S LTO Ultrium-4(1) LTO Ultrium-4(10)	Serial Numbers:VW/NN=502.					
- S LTO Ultrium-4(2)	LTO Utrium-4(10)	Serial Numbers:VW/NN=502.					
- S LTO Ultrium-4(3)		Serial Numbers:VW/NN=502.					
-S LTO Ultrium-4(4)	S LTO Ultrium-4(3)	Serial Numbers:WWNN=502 Serial Numbers:WWNN=502.					
-S LTO Ultrium-4(5)							
-S LTO Ultrium-4(6)	S LTO Ultrium-4(5)	Serial Numbers:////NN=502.					
-S LTO Ultrium-4(7)	S LTO Ultrium-4(6) LTO Ultrium-4(7)	Serial Numbers:WWNN=502 Serial Numbers:WWNN=502					
LTO Ultrium-4(8)	S LTO Utrium-4(7)	Serial Numbers://///NN=502 Serial Numbers://///NN=502					
LTO Ultrium-4(9)	LTO Ultrium-4(8)	Serial Numbers:VWVNN=502					
Devices	ETO Ounami-a(a)	Senai Numbers.vvvviiii So2					
Storage Nodes 10.8.230.108							
= 10.8.230.108							
S LTC Refresh	F5						
	Configure	Library					
-Onfigure Libra	Bry Libraryto c	onligure					
Scan for Devic	Storage nod	e name: 2k9r2ntve05					
	Library.name	6. STK#3.0.1					
S LTC Configure All L	ibraries						
S LTO Ultrium-4(6)	Configure of	devices on various storage nodes using existing drive co	nnectivity				
S LTO Ultrium-4(7)	storage not		LTO Utrium-4(8) LTO Utrium-4(7		LTO Utrium-4(5)	LTO Ubrium-4(4) LTO Ubrium	
LTO Uttrium-4(8)	2020	tvm05 🗹 11.17ape9 🕑 11.17ape8 🕑 11	1.\Tape? 💽 11.\Tape6	▼ 0.1Tape5	🗹 U.Uape4 🗹	N/Tape3 🕑 N/Tape2	V U/Tapet V
LTO Ultrium-4(9)							
Data Domain Systems		This store	age node's configuration may not be up-to-	data. A sa anna annaitina in	constants are seen the second	la sufficie la sumant	
-6 Avamar Deduplication Nodes		1 - 114 464	ge noue a contigar accinitaly not be apro-	ale. Anote an approximation	aggested to ensure the com	garatori i caricit.	
			3 (
				Start Configuration	Cancel		
A T							
_og			0 8 9 ×				
riority Time Source	Category Message						
Monday 10:22:39 AM 2k8r2intvm05		p saving to pool "Default' (QEBDR100A	100				
Monday 10:22:41 AM 2k8r2intvm05		p done saving to pool 'Default' (QEBDR					
Monday 10:22:44 AM event	savegr Default completed, Tot	al 1 client(s), 1 Succeeded. See group	completion				

5. The VTL should now appear ready for use. By default, the cleaning option is enabled, and it must be disabled. Within the navigation tree, select the Library, and then select the **Properties** option. In the dialog box, disable the **Auto-clean** option and omit the default slot and cleanings settings. Click **OK** to save the changes.



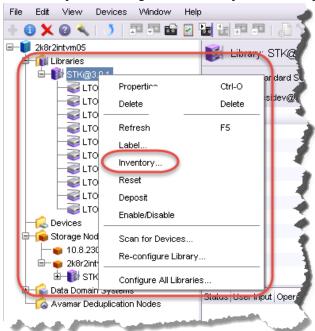
File	Edit View D	evices Window He	lp							
+ 0	🗙 🙆 🔧 🛛	🌖 🕾 🕾 🖻		$0 \mathbf{X} 0 \mathbf{Q}$						
	2de 2nt m05 La provise Carton 105 La provise La provise La provise La provise La provise Storage Nod O La provise O La provise Storage Nod O La provise Storage Nod Nod Nod Nod Storage Nod Nod Nod Nod Storage Nod Storage No	Properties Delete Refresh Label Invertory Reset Deposit Enable/Disable Scan for Devices Reconfigure Librar Configure All Librari	Ctri-O Delete F5	@3.0.1 CSI Jukebox w@3.0.1 Volume P Libeary Properties - :	NDMP \STL \RSM \AlphaStor STK(23.0.1 <stk 0104="" 5<br="" at="" l700="">Standard SCSI Jukebox acsidev(23.0.1 GJCF2Q_00</stk>		Volume I 	Barcode GJCF2G001 GJCF2G002 Versoons	Pool	Last Access Tint.
				•	ОК	Rese	Cancel			
• •			1 .			1				- ?
Log					084	× ۲	Alerts			
-	Time 🔻	Source	Category Message				Priority Time 🔻		gory Message	
-		9 AM 2k8r2intvm05		05:bootstrap saving to pool		-	🔒 🫕 Saturday (3:17:58 AM regis	tr NetWorker e	evaluation mode will e
-	,	AM 2k8r2intvm05			pool 'Default' (QEBDR100A) 17:		1			
-	Monday 10:22:44				Succeeded. See group completio	n				
-	Monday 10:23:12			volume QEBDR100A complet	tea					
0	Monday 10:33:57	AW WWape/	media \\.\Tape7 e	jected QEBDR100A			·			

6. After the library has been configured, the individual tape drives must be configured so that they service only one target session at any given time. Multiplexing to virtual tape drives has an adverse effect on deduplication and thus requires that each drive only handle a single target session.

Bit Mere Perces Were Perces </th
Data Downie Southern Configure All Ukraries



7. Proceed by conducting a full inventory of the library.



8. Label all the media and place them in their respective media pools for use.

Aonitoring TConfiguration	Sevices 👔	🕻 Media 🛛 🔓	Recover							
dit View Devices Window Help		💑 Label Library Mee	dia	X						
k8r2intvm05	関 Libraries (1)	Selected Slots		3						
🗄 🚯 STK@3.0.1 🛛 🚺 💧	Model: Standar	Slot 🔻	Volume	Pool						
LTO Utrium-4(1)	Control Port: scsidev	■ 1 ■ 2	4NSXAF001 4NSXAF002	SpaceSavi SpaceSavi						
- Stro Ultrium-4(2)	Device 💌	B 3	4NSXAF003	Default	slot 🔻	Volume	Barcode	Last Access Time Pool	% Use	ed Mode
LTO Utrium-4(3)	🥪 II. \Tape0	a 4	4NSXAF004	Default	1	4NSXAF001	4NSXAF001	2/4/15 9:57:40 AM SpaceSavings/SCSI	3% 🔤	appendable
LTO Ultrium-4(4)	🥯 \\.\Tape1	5	4NSXAF005	Default	Ø 2	4NSXAF002	4NSXAF002	2/4/15 9:52:08 AM SpaceSavings/SCSI	0%	appendable
LTO Ultrium-4(5)	🥪 W.\Tape2	6	4NSXAF006	Default	🗭 3	4NSXAF003	4NSXAF003	2/4/15 9:47:26 AM Default	0%	appendable
- VITO Ultrium-4(6) - VITO Ultrium-4(7)	🥪 IL\Tape3	1 7	4NSXAF007	Default	5 4	4NSXAF004	4NSXAF004	2/4/15 9:46:53 AM Default	0%	appendable
	🥯 \\.\Tape4	B 8	4NSXAF008	Default	5	4NSXAF005	4NSXAF005	2/4/15 10:01:11 Default	0%	appendable
LTO Ultrium-4(9)	🥪 II.\Tape5	1 9	4NSXAF009	Default	6	4NSXAF006	4NSXAF006	2/4/15 9:47:18 AM Default	0%	appendable
Devices	🥯 \L\Tape6	1 0	4NSXAF00A	Default	1 7	4NSXAF007	4NSXAF007	2/4/15 9:47:18 AM Default	0%	appendable
Storage Nodes	🥪 \\.\Tape7				Ø 8	4NSXAF008	4NSXAF008	2/4/15 9:47:35 AM Default	0%	appendable
10.8.230.108	🥪 W.\Tape8	O Slot List			🦻 9	4NSXAF009	4NSXAF009	2/4/15 9:47:57 AM Default	0%	appendable
2k8r2intvm05 =]] STK@3.0.1	🥯 II. ITape9				10	4NSXAF00A	4NSXAF00A	2/4/15 9:48:06 AM Default	0%	appendable

Déil



Setting up the DR Series system cleaner

5

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

Dashboard Alerts Events	Cleaner Sched	ule	Schedule Cleaner	Sched
Health Usage	System time zone: US/C	entral, Mon Jan 23 15:18:49 2012		
Statistics: Container	Day	Start Time	Stop Time	
Statistics: Replication	Sun		-	
Storage	Mon			
Containers Replication	Tue	-	-	
Compression	Wed	-	-	
Schedule	Thu	-	-	
Replication	Fri	-	-	
Cleaner	Sat	-	-	
System Configuration Networking Active Directory Email Alerts Date & Time Support Diagnostics Software Upgrade	Note: When no schedule	e is set, the cleaner will run as needed		

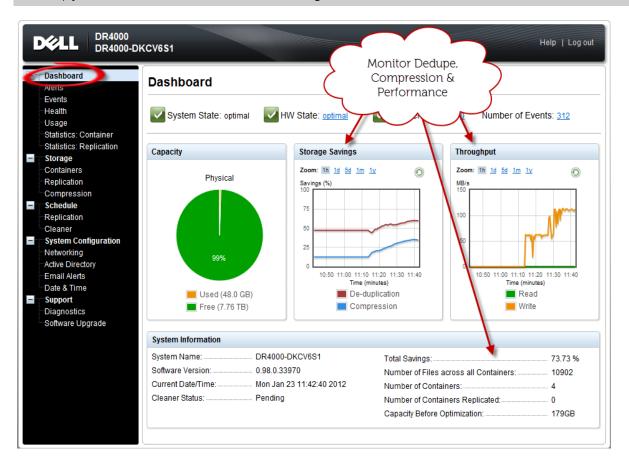


Monitoring deduplication, compression, and performance

6

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

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 Managing VTL protocol accounts and credentials

A.1 iSCSI account details and management

By default the iSCSI Username will be the **hostname** of the DR and can be confirmed by reviewing the output of the iscsi -account --user command. For example:

>iscsi --account --user

user: dr9-interop-a7

The default iSCSI Password is **"St0r@ge!iscsi**". This can be modified by navigating to the **Clients** Navigation option and selecting the **iSCSI** tab under the **Clients** menu. Select the the **Edit CHAP Password** and fill in the new password as needed.

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

ľ									admin	istrator (Log	out) Help
SW:	sys-63.ocarina.local 🔹 🔹	Clients				Update	Client Edit	Password	CHAP Passw	vord Delet	e DR2000v
	Dashboard	Total Number	of Clients: 1							2	
	Events Health	NFS CI	FS RD	A NDMP	iSCSI	DR2000v					
	Usage Container Statistics	Number of Cu			tive: 1						
_	Replication Statistics Storage	ISCSI Current Container Name	Sessions S Container				Initi	iatore Connected			
	Containers Replication	Test-VTL	iqn.			iSC SI sessior	ns will be teri	minated upon sul	bmission.		
+	Encryption Clients Schedules	1		New CHAP	_			3		*All fields a	re required.
+	System Configuration			Confirm New	Password:						
+	Support right © 2011 - 2014 Dell Inc. All rig									Cancel	Submit

Alternatively, you may also use the "iscsi – setpassword" cli tool to change the iSCSI CHAP Password setting as shown in the following example:



A.2 NDMP account details and management

The default username for the NDMP service is "**backup_user**" and can be confirmed using the web UI interface:

	DEL DR4000							administrato	or (Log out) Help
dr9 	P-interop-a7.ocarina.local Global View Dashboard Alerts	Clie	Ints	0			Update Clier	et Edit Password	Delete DR2000v
	-Events -Health -Usage -Container Statistics -Replication Statistics		S CIFS RU per of Current NDM P Current Sessions	AP Sessi		DR2000v			
	Storage Containers Replication Encryption		Duration P Completed Session Duration	State ons Statis State	Source tics Source	Target	Throughput Avg. Throughput	Transfer Size	DMA
+	Clients Scheaures System Configuration Networking Active Directory Local Workgroup Users Email Alerts Admin Contact Info	1	Edit Pass	word Client T	ype: NDMP ame: backup_user		Avy, moughput	All fields are requir	3
	Password Email Relay Host Date and Time Support Diagnostics Software Upgrade			rm passv			Cancel	Change Passwo	rd

Or, by using the following commands:

ndmp -show command:

administrator@dr9-interop-a7 > ndmp --show

NDMP User: backup_user

NDMP Port: 10000

The default password is StOr@ge! and can be modified by running the ndmp -setpassword command:

> ndmp --setpassword

NDMP password successfully updated.

A.3 VTL default account summary table

Service	Account	Default Credentials	CLI Modifier
NDMP	backup_user	St0r@ge!	ndmpsetpassword
iSCSI	<appliance hostname=""></appliance>	St0r@ge!iscsi	iscsi – setpassword



B Adding VTL media

B.1 Adding the VTL media to the container

To add media to an existing VTL container navigate to the **Containers** menu option. Select and edit the target VTL container. Use the resulting dialog box field **Add More Tape (no of Tape)** field to input the number of tapes to add to the VTL container.

Containers	6			Crea	e Edt Delete Disp	ay Statistics
Number of Contai	ners: 5				Container Path	/containers
vents Containers		Files	Marker Type	Access Protocol Enable	d Replication	Select
backup		0	Auto	NFS, CIFS	Not Configured	0
Isage intvm05_ndmp		31	Unix Dump	VTL NDMP	Not Configured	0
replication Statistics		31	Networker	VTL ISCSI	Not Configured	0
intvm05iscsi2		31	Networker	VTL ISCSI	Not Configured	0
containers TEST_VTL_LAL	A	31	None	VTL NDMP	Not Configured	0
y stem Configuration elevoning cellos Directory coal Workgroup trains mail Alerts seal Alerts sealement desavord mail Telay Hont Jaio and Time	IS OEM Tape Size: Access Protocol Access Control	800GB 100GB 100GB NDMP FQDN or IP 108,238,125	C 400GB C 50GB C ISCSI	20038 0 1008 0 No Access	Container Name and T TEST_VTL_LALA VTL	Ab6
Jupport Nagnostics Johnare Upgrade Jacense SL Certificate	Tape (no. of tape): Marker Type:	O Unix Dump		\square		

Alternatively you may also use the "vtl -create_carts" cli command for this operation:

> vtl --create_carts --name TEST_VTL_LALA --tapes 10

Created 10 cartridges

B.1.1 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
LTO-1	50Gib	10000
LTO-1	10GiB	10000



B.2 Updating Networker to identify newly added VTL media

After the VTL media has been added to the target VTL container NetWorker must now be updated to be able to use media. Select the VTL and conduct an inventory update. Input the new range created (e.g. 10 new tapes would result in 20 Slots) and select the option to reinitialize the library.

File Edit View Devices Window Help Image: State State Volume Pool Image: State State State State State State State Image: State State State State State State Automatic Selection Image: State St		🚴 Inventory Library 🛛 🛛 🛛
File Edit View Devices Window Help Volume Propertin Ctrl-O site Volume Properin		Slot Range
File Edit View Devices Window Help Image: State of the state		O Selected Slots
2k8/2 art/m05 Library: ST Crt-O Delete Delete Delete Tro Refresh F5 Library: ST Dro Invertory Devices Stot Lito Reset Devices Scan for Devices Re-configure Library Stotaus Data Domain system Stotaus Avanar Deduplication Nodes Stotaus Verie load and verify labels Force load and verify labels		Slot 🔻 Volume Pool
2k8/2irtym05 Library: ST Propertin CtrL0 Library: ST Side Library: ST Side Library: ST Side Library: ST Delete Library: ST Delete Library: ST Delete Library: Strage Not Scan for Devices Re-configure Library Selected Devices Storage Not Scan for Devices Re-configure All Libraries Deta Domain system Data Domain system Status User Input Avanar Deduplication Nodes Status User Input Proce load and verify labels Proce load and verify labels		
2k8/2 art/m05 Library: ST Crt-O Delete Delete Delete Tro Refresh F5 Library: ST Dro Invertory Devices Stot Lito Reset Devices Scan for Devices Re-configure Library Stotaus Data Domain system Stotaus Avanar Deduplication Nodes Stotaus Verie load and verify labels Force load and verify labels		
2k8/2nt/vm05 Propertin Ctrl-O Itoraries Itoraries Itoraries Itoraries Itor Delete Delete Delete Itor Refresh F5 Itor Itor Reset Devices Storest Itor Enable/Disable Storage Not Scan for Devices Re-configure Library Storage Not Storage Not Scan for Devices Re-configure All Libraries Storage Note Data Domain system Storage Note Avanar Deduplication Nodes Storage Note Proce Ioad and verify labels	File Edit View Devices Window Help	
Libraries Libraries Cirico Propertime Cirico Delete De	+ 🚯 🗙 😰 🔍 📑 💷 💷 📾 🔛 🖬 🗄 💷 🗉	
Ituraries		
Propertime Ctrl-O Delete Delete LTO Refresh F5 Label LTO Inventory Reset Deposit Data Domain systems Stakus (User Input) Avanar Deduptication Nodes Stakus (User Input) Proce load and verify labels	Elibraries	51
Image: State of the state		ar da
June June Line F5 Line Inventory Partice Stotas Uro Reset Devices Enable/Disable Scan for Devices Re-configure Library Data Domain systems Stotas Data Domain systems Stotas Avamar Deduplication Nodes Stotas Stotas Stotas Porce load and verify labels		sixe
Label Inventory Lot Reset Deposit Enable/Disable Storage Nod Scan for Devices Notice Storage Nod Storage Nod Scan for Devices Re-configure Library Selected Devices Data Domain systeme Storage Nod Avamar Deduplication Nodes Storage Nod Porce load and verify labels		
Loo Try Reset Depost Enable/Disable Storage Nod S		 Slot List
Invertory Reset Deposit Enable/Disable Scan for Devices Re-configure Library Deta Domain systems Avamar Deduplication Nodes Nodes Status Idser Input Reinitialize library state before inventory Force load and verify labels		
Devices Devices Configure Library Deta Domain systems Avamar Deduplication Nodes Status (doer hiput Porce load and verify labels		
Enable/Disable Enable/Disable Scan for Devices Re-configure Library Data Domain zwavenis Avamar Deduplication Nodes Status (does hout) Reinitialize library state before inventory Force load and verify labels		Devices to use
Pevices Scan for Devices Scan for Devices Re-configure Library Data Domain-systems Status User input Avamar Deduplication Nodes Status User input Porce load and verify labels		 Automatic Selection
Storage Nod Scan for Devices Re-configure Library Data Domain systems Avamar Deduplication Nodes Status discrimption Porce load and verify labels	Enable())(sable	O Selected Devices
24672nt 2672nt Configure All Libraries Data Domain systems Avamar Deduplication Nodes Status User Input Proce load and verify labels	e-configure Library	
Data Domain Systems Data Domain Systems Avamar Deduplication Nodes Status User input Porce load and verify labels		
Avamar Deduplication Nodes	Configure Air Ellorandes	
Force load and verify labels		put
	A CONTRACT OF A	
OK Cancel		Torce load and verify labels
		OK Cancel

