

Setting Up the Dell[™] DR Series System as a CIFS Backup Target on EMC Networker

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Revisions

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Executive summary

This paper provides information about how to set up the Dell DR Series Deduplication Appliance as a backup target for EMC Networker[™] software. This document is a quick reference guide and does not include all DR Series system deployment best practices.

For additional data management application (DMA) best practice whitepapers, see the DR Series system documentation at <u>http://www.dell.com/support/Manuals/us/en/19/Product/powervault-dr4100</u>.

Note: The DR Series system and Networker screenshots used in this document may vary slightly, depending on the DR Series system firmware version and Networker version used.



1 Install and configure the DR system

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

	TED DELL REMOTE CONTROLLER 6 - ENTER	PRISE		Support About Logout
System Dell DR4000 root , Admin	Properties Setup System Summary St	Power Logs Alerts Console/Media stem Details System Inventory	vFlash Remote File Share	
System IDRAC Settings	System Summary	1		• C ?
Fans	Server Health			
Power Supplies	Status Component		Virtual Console Preview	
Removable Flash Media Temperatures	Batteries		Options : Settings	
Voltages	🖾 Fana			
Power Monitoring	Manuaton Sala			
	Power Supp	Ses.		
	Removable	Flash Media		
	Marriperature			-
	Vuttages		Rekey	Launch
	Server Information		Guick Launch Tasks	
	Power State	ON	Power Off / OFF	
	Oystem Model	Dell DR4000	Power Cycle System (cold boot)	
	System Revision	и	Lounch Virtual 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) Kemel 2.6.18-164.e	Update Firmware	
	Service Tag	DKCV6S1	ResetioRAC	
	Express Denice Cod	e 29529104401		
	BIOS Version	1.9.0		
	Firmware Version	1.80 (Build 17)		

4. Launch the virtual console.





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



6. Set the user-defined networking preferences.



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

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



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

			Reset Password
isword:			
word: St0r@cre1			
Log in	1		
	name: administrator word: St0r@gel tog In	ssword: name: administrator word: St0r@gel Log In	ssword: name: administrator word: Stor@ge! Log in

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 panel on the left side of the management interface (also known as the dashboard).



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b. Enter your Active Directory credentials.

80	Global View	Active Directory	not
=	Dashboard	Settings	
	Events Health Usinge	The Active Directory settings have not been con	régured. Click on the John link to configure them
	Statistics: Container	Active Directory Configuration	
-	Storage Containers Replication	Domain Name (FGDN)*	* = fields are required.
-	Compression Level Clients Schedules	Password* Org Unit	Enter Active Directory Info
-	Replication Schedule Cleaner Schedule System Configuration		Cancel Join Domain
-	Local Workgroup Usera Email Adria Adrein Contactiofo Paissword Email Relay Host Cale and Time Support Dialphostics Software Upgrade License		

- 10. Create and mount the container.
 - a. Select **Containers** in the navigation panel on the left side of the dashboard, and then click the **Create** at the top of the page.

	DR4100	g-01					Н	elp Log out
	Dashboard Alerts Events	Containers				Crea	te Edit Delete Dis	play Statistics
	Health	Number of Containers: 7					Container Pa	th: /containers
	-Usage Statistics: Container	Containers	Files	NFS	CIFS	OST	Replication	Select
	-Statistics: Container	backup	58	~	~		Not Configured	0
-	Storage	d2d2t	2			~	N/A	0
	Containers	DDTest	0	~	~		Online	0
	Replication	demo2Zhuhai	22	1	~		Not Configured	0
	-Clients	My Container Backup	27		1		Not Configured	0
	Schedules	nfs	44	-	•		Not Configured	0
	Replication Schedule	asth est test	44	¢.			N/A	
	Cleaner Schedule	ootb-ost-test	204			~	N/A	
	Active Directory							
	Local Workgroup Users							
	Email Alerts							
	Admin Contact Info							
	Email Relay Host							
-	Support							
	Diagnostics							
	Software Upgrade							
	License							
Copy	right © 2011 - 2013 Dell Inc. All rig	ghts reserved.						



b. Enter a Container Name, select Networker as Marker Type, and select the NFS/CIFS check box for Connection Type.



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

oroute new containen	
Choose the type of container to create ((NFS and/or CIFS) or O Container Name*: [My_Container_Backup	* = required fields * = required fields Max 32 characters and only letters, numbers, - and _ characters.
Marker Type : None Auto CommYault Networker Connection Type : None NFS/CIFS OST NFS Access path: 10.250.242.206/containers/My_Container_Backup Use NFS to backup UNIX or LINUX clients. Enable NFS	CIFS CIFS CIFS CIFS to hackup MS Windows clients. CIFS Cient Access: Open Access (all clients have access) Add clients (IP or FODN Hostname) Add Clients: Remove
	Cancer Create a New Container

Create 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.)

- d. Click Create a New Container.
- e. Confirm that the container is added.



2 Configure the Networker storage node

1. Log into the storage node and click **Start→My Computer**.

2. Click Map network drive.



3. For Folder, enter the path to the container on the DR Series system.

🕞 🤏 Map Na	etwork Drive
What ne	etwork folder would you like to map?
Specify the	e drive letter for the connection and the folder that you want to connect to:
Drive:	S:
Folder:	V10.10.112.115VMy_Container_Backup Browse Example: \\server\share Reconnect at logon Connect using different credentials Connect to a Web site that you can use to store your documents and pictures.
	Finish Cancel



- 4. Select the **Reconnect at logon** checkbox.
- 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 will be used, make sure all of the clients can access the same DR container share using this path. Otherwise separate **Client Direct Paths** will need to be filled in 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**)

Note: On DR4x00 systems, the maximum supported CIFS connections per appliance is 32; on the DR6000 system the maximum is 64. Therefore, there should not be more than 32 and 64 corresponding clients connected/mapped to a single DR Series system for backup at the same time. For details, see the *Dell DR Series System Interoperability Guide*.



3 Set up Networker

- 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 on the host and click **New** > **Managed Application**.

🗊 EMC Net \	Worker I	Management	Console ¥8.0	- 127.0.0.1			
Events) Enterpi	rise Librarie	s Reports	s Setup		User:	administrator
File Edit	View	Enterprise S	tart Window	Help			
+ 🛛 🗙	0 🔦	3					
Enterp	orise D03	50		🔰 Host	r310-sys-	-150	
	010-8y8	New	•	Managed App	lication	on Features	a Data
	- F	Properties	Ctrl-O			Events, Gather Reporting	y Data
		Delete	Delete				
		Copy Move	Ctrl-C				
	Ľ	Refresh	F5				

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

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



4. Click Finish.

Configure Console to monitor managed application activities on the host Managed Application Name: Net/Worker Description: Backup and recover for the department and enterprise Vendor Name: EMC Corporation Features © Capture Events Image: Gather Reporting Data	Manage NetWorker	r
Managed Application Name: NetWorker Description: Backup and recover for the department and enterprise Vendor Name: EMC Corporation Features ✓ Capture Events ✓ Capture Events ✓ Gather Reporting Data	Configure Console to mon	itor managed application activities on the host
Managed Application Name: NetWorker Description: Backup and recover for the department and enterprise Vendor Name: EMC Corporation Features Gapture Events Gather Reporting Data		
Managed Application Name: NetWorker		
Description: Backup and recover for the department and enterprise /endor Name: EMC Corporation Features ✓ Capture Events ✓ Gather Reporting Data	Managed Application Name:	NetWorker
/endor Name: EMC Corporation Features ✓ Capture Events ✓ Gather Reporting Data	Description:	Backup and recover for the department and enterprise
Features Capture Events Cather Reporting Data	/endor Name:	EMC Corporation
Capture Events Gather Reporting Data	Features	
Gather Reporting Data	Z Capture Events	
	Gather Reporting Data	

5. Select the newly created Networker application, right-click on the application, and click **Launch Application**.

BMC Net	Worker Mana	igement Con	sole ¥8.0 -	127.0.0.1	·		
Events) Enterprise	Dibraries	E Reports	Setup		User:	administrator
File Edit	View Enter	rprise Start	Window	Help			
+ 🛭 🗙	0 🔍 🌖						
Enter;	orise D03			🔰 Host	: r310-sys-150		
	310-sys-150			Managed Ap	💌 Application Feat	tures	
				🚴 NetW	Launch Application	Ctrl+Alt-L	g Data
					New	•	
					Properties	Ctrl-O	
					Delete	Delete	
					Refresh	F5	
				_			
				1			



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

💑 EMC NetWor	ker Administration	¥8.0 - r310-sys-1	50 (NetWorker 8.0	.0.1.Build.153 Eval - Wi	ndows NT Server on Intel)	_ 🗆 ×
3 Monitoring	Configuration	Evices	edia 🛛			User: administrator
File Edit Vie	w Devices Reco	ver Window H	elp			
+ 🙃 🗙 🕝	🔩 🌖 📰 💬	물질법	P P D Y 4			18
B-B r310-sys- B-B Librar	150 es	尾 Devices	(0)			
E G Stora	New	Ctrl-N	Parent jukebox	Description Vo	lume name M Enabled	
E 🔓 Data	New Device Wize	ard				
	Refresh	F5				
	Scan for Devices					
	Configure All Libr	aries				
				Alerte		
Log Priority Time ▼	Source	Category	Message	Priority Time	Category Message	
Friday 3:1	7:57 AM event	server	Started A	Friday 3:18:34 AM	A registr NetWorker evaluation mod	le will expire in 30 days and the se
Friday 3:1	8:04 AM event	index	Checking ind	_ ,	-	
			0.00 m 🖸			

7. Select Advanced File Type Device (AFTD).

Device Configuration Wizard		×
Select the Device Type		
Select the type of stand alone device to cor	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 creater. This option requires a NetWorker DD Boost license.	
Configure Attributes		
Abel and Mount Devices	Operation of the second sec	
Review Configuration Settings	on a non DD Boost enabled Data Domain system.	
Oheck Results	Avamar Dedupication Node	
0	< Back	Next > Cancel
-		



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 in the CIFS credentials to access the DR Series system share. Click **Next**.

Device Configuration Wizard			2
Select Storage Node			
Select the storage node to place this AFT and password to browse the storage an	"D on. If the storage t d select device paths	o be configured is remote to that storage node, enter a network path to the st s, or manually enter the paths.	orage. Supply a username
Select the Device Type	Storage Node:	r310-sys-150]
Select Storage Node			
Select Device Path		prage Node	
Configure Attributes	🗹 Device storaç	ge is remote from this Storage Node.	
Label and Mount Devices	National Data	VID 250 242 205Way Container Beckup	1
Review Configuration Settings	Not Work Fouri.	who.200242.200wy_containor_bookep	
Oheck Results	Browse or Ma	anual	
	 Browse st 	orage node or network path	
	Manually er	nter local or remote device paths	
	Authenticatio	n	
	Username:	testad\administrator	
	Deceword		
	Tussmoru.		
0			< Back Next > Cancel
-			

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

💑 Device Configuration Wizard	X
Select the Device Path	
Select one or more device paths from this	network path to create devices on.
Select the Device Type	Naus Ender
Select Storage Node	
Select Device Path	E → C C C C C C C C C C C C C C C C C C
O Configure Attributes	
O Label and Mount Devices	
Review Configuration Settings	
O Check Results	
	Selected Device Paths
0	«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	😐 – 🗹 🗭 Networker/AFTD	
Configure Attributes		
Label and Mount Devices		
Review Configuration Settings		
Oheck Results		
	Selected Device Paths V(10.250.242.206Wty. Container: Backup/NetworkerAFTD	
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 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 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 de OFS or Unix Automounter paths.	vice a unique name. If clients	will backup directly to this stora	ge (Client Direct), then enter those	access paths in the form of
 Select the Device Type Select Storage Node Select Device Path Configure Attributes Label and Mount Devices Review Configuration Settings Check Results 	NetWorker D A Con	ment Device Path Vi 0 250 242 209Wy	Client Direct Paths	Target Max Sessions
	NetWorker Device Name: Comment: Device Path: Clent Direct Paths: Target Sessions: Max Sessions:	DR.AFTC [100.250.242.206My_Contain [110.250.242.206My_Contain	4 (
Ø				< Back Next > Cancel

Note: On DR4x00 systems, the maximum supported CIFS connections per appliance is 32; on the DR6000 system the maximum is 64. Therefore, there should not be more than 32 and 64 corresponding clients connected/mapped to a single DR Series system for backup at the same time. For details, see the *Dell DR Series System Interoperability Guide*.

	superatuurinay take arresteriueu ar	iount of time. Only	uevices who s si	orage nas nor veer nave	eu appear seiow.
Select the Device Type	NetWorker Device Name	Label	Pool Type	Disk Pool	
Select Storage Node	DR_AFTD	×	Backup	Default	
Select Device Path					
Configure Attributes					
Label and Mount Devices					
Review Configuration Settings					
Check Results					
	Label and Mount device after	creation deulee energiae m	outoko on outon	ind once and of time	
	Pool Type	device operation in	ay take an exten	aed aniounit of time.	
	Backup				
	O Backup Clone				
	Pool				
	Default			-	

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

12. Review the configuration and then click Configure.

enere alle de nee connigar daen aanmen y.	To mouny the comparation, click back. To	accept and create the configuration, click Configure.	
Select the Device Type		N 1 010 170	
Select Storage Node	Adding new directory on Stora	age Node r310-sys-150	
Select Device Path	New Directory. 1010.250.24	2.200 wy_collitailler_backup/wetworkerAPTD	
Configure Attributes	Adding new AFTD "DR_AFTD"		
Label and Mount Devices	AFTD Name: Device Access Information:	DR_AFTD W10.250.242.206W/v Container BackupWetworkerAFTD	
Review Configuration Settings	Target Sessions:	4	
Check Results	Max Sessions: Remote User: Password:	32 testadiadministrator	
	Labeling device "DR AFTD"		
	Device Name: DR_AFTD Pool Name: Derisut		



13. Click Finish.

sults of device configuration.		
Select the Device Type	Adding new directory on Storage Node (310 sec 150	
Select Storage Node	Successfully added directory "\n0.250.242.206Wy Container Backup/NetworkerAFTD"	
Select Device Path	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 on the client that will be backed up, select **Client Backup Configuration**, and then click **New**.





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

Specify the Client Name and		
Type Specify the Backup	Client Name: 1910-sys-190	
Configuration Type	(a) Traditional Net-Morker client	
Specify the VMware Backup	Configure a backup usin	g the NetWorker client host software. Hot for VMware clients.
Select the VCB Options	O VMware client	
Select the Client Properties	Configure a VMware clis for proxy based backups	nt for traditional backup using the NetWorker stient software (if installed) or s using a proxy host (VCB or VADP).
Choose the Backup Group	O VMware proxy host	
Specity the Storage Node Options	Configure a VMware VA	DP proxy host to back up virtual machines,
Specify the Client Backup Options		
Specify the Proxy Backup Options		
Specify the vCenter and Tilesystem Mount Point		
Specify the Retry, Lookup		
Specify the Proxy Host		
Security the Security Delice		
shored the standard court		
Backup Configuration		
Backup Configuration Summary Chack Results		
Specify Configuration Summary Check Results	ion Type	Cen
Specify Configuration Summary Check Results	Ion Type	lable applications represent which NetWorker modules are installed on the client.
Encloy Configuration Summary Check Results and Backup Configuration ect the Backup Configuration the backup configuration type from Specify the Client Name and	ion Type the evailable applications. The ava Client Operation Contern	Idole applications represent which NetWorker modules are installed on the client.
Eackup Configuration Summary Check Results ant Backup Configuration ect the Backup Configuration the backup configuration type from Specify the Client Name and Type	ion Type 1 the evailable applications. The ava Client Operating System:	Ideble applications represent which NetWorker modules are installed on the client.
Eackup Configuration Summary Check Results Check Results	Ion Type In the evailable applications. The ava Client Operating System: NetWorker Version:	Next Com
Eackup Configuration Summary Check Results Check Results C	on Type Ithe evailable applications. The ava Client Operating System: Net/Worker Version: Available Applications ▼	Ideble applications represent which NetWorker modules are installed on the clert. Mindows Server 2008 R2 6.1 8.0.1
Specify the Client Name and Type Specify the Client Name and Type Specify the Client Name and Type Specify the Client Name and Type Specify the Client Backup Configuration Type Specify the Client Backup Options	Ion Type The evaluable applications. The eva Client Operating System: NetWorker Version: Available Applications ▼ Filesystem	Ideble applications represent which NetWorker modules are installed on the clent. Mindows Server 2008 R2 6.1 8 0.01
Specify the Client Backup Specify the Client Backup	Ion Type the evailable applications. The ava Client Operating System: NetWorker Version: Available Applications 💌 Filesystem	Ideale applications represent which NetWorker modules are installed on the client.
Specify the Client Name and Specify the Specify the Specify the Specify Specify the Specify the Specify the Specify the Specify Specify the Client Backup Specify the Client Properties Specify the Client Properties Specify the Specify Croup	Ion Type the available applications. The available applications are available applications. The available applications are filesystem. Available Applications are filesystem.	Ideale applications represent which NetWorker modules are installed on the client.
Specify the Client Name and Type Specify the Shape Note Specify the Client Backup Options Select the Client Properties Choose the Backup Group Specify the Shapeshot Policy Specify the Shapeshot Policy	Ion Type the available applications. The available applications. The available applications of t	Ideale applications represent which NetWorker modules are installed on the client.
Specify the Client Name and Type Specify the Client Name and Specify the Client Sackup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Group Specify the Storage Node Options	Ion Type the evailable applications. The ava Client Operating System: NetWorker Version: Available Applications 💌 Filesystem	Ideble applications represent which NetWorker modules are installed on the client.
Specify the Client Name and Specify the Client Sockup Configuration Type Specify the Client Backup Specify the Client Backup Specify the Client Backup Specify the Client Backup Specify the Storage Node Options Sackup Configuration Sammary	Ion Type the evaluable applications. The ava Client Operating System: NetWorker Version: Available Applications	Ideble applications represent which NetWorker modules are installed on the client.
Specify the Client Name and Specify the Client Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Group Specify the Storage Node Options Specify the Storage Node Options Seckup Configuration Summary	Ion Type Ithe available applications. The available applications. The available applications with a state of t	Ideale applications represent which NetWorker modules are installed on the client.
Specify the Client Name and Cype Specify the Client Name and Cype Specify the Client Name and Cype Specify the Client Rackup Configuration type Configuration Type Specify the Stackup Configuration Type Specify the Stackup Configuration Specify the Stackup Specify the Stackup	Ion Type the available applications. The available applications. The available applications with a state of the available applications with the available app	Idele applications represent which NetWorker modules are installed on the client.
Eackup Configuration Barrmary Check Results and Backup Configuration ect the Backup Configuration the backup configuration type from Specify the Client Name and Type Specify the Client Name and Type Specify the Client Backup Configuration Type Specify the Client Backup Options Select the Client Properties Choose the Backup Group Specify the Storage Node Options Backup Configuration Summary Check Results	In Type Ithe evailable applications. The available applications is the available applications of the available applications o	INVIANDOUS Server 2008 R2 8.1

- 16. In Specify the Client Backup Options, pay special attention to the following settings:
 - a. **Deduplication** should be set as **None**;
 - b. **Target Pool** should be set as the pool that has DR Series Deduplication Appliance device included;
 - c. **Client Direct** can be enabled if client directly backing up data to DR is preferred, thus bypassing the storage node 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 with (please refer to step 6 in the last section **Configure the Networker Storage Node**, and step 10 in this section).

Specify backup options. Data dedupilcation	n requires either a Data Domain or Avamar storage server to be configured on the NetWorker server. By default, NetWorker
vill choose a target pool for the backups. ypassing the NetWorker storage node, w	Cient Direct, supported for Usta Domain and AF ID storage only, sends backups directly to the storage devices, here possible. The Checkpoint Restart option enables failed scheduled backups to restart from the point of interruption.
Specify the Client Name and	
Type	
Specify the Backup	Vone
Configuration Type	O Data Domain backup
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17. After the backup group is successfully created, start the backup.

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

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4 Set up the DR replication and restore from the replication target

4.1 Create a replication relationship between two DR systems

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

Global View	Containers				Crea	te Edit Delete Dis	play Statisti
Dashboard Alerts	Number of Containers: 10					Container Pa	ith: /containe
- Events	Containers	Files	NFS	CIFS	RDA	Replication	Select
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Ontainer 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
Replication Schedule	pw.cife.01					Not Configured	0
Cleaner Schedule	IIW-CIIS-01	21				Not Configured	
System Configuration	rep-source	0				Not Conligured	•
Active Directory	sample	12		~		Not Configured	0
Local Workgroup Users Email Alerts Admin Contact Info Password Email Relay Host Date and Time Support							

2. Create a target container on the target DR system.

ivar	w-sw-01.testad.ocarina.lc 💌 Global View	Containers				Crea	ite Edit Delete Dis	play Statistic
1	Dashboard Alerts	Number of Containers: 10					Container Pa	th: /container
	-Events	Containers	Files	NFS	CIFS	RDA	Replication	Select
	Health	backup	0	~	~		Not Configured	0
		cifs1	11		~		Not Configured	0
	Replication Statistics	cifs2	0		~		Not Configured	0
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	Containers	kknfs2	0	~			Not Configured	0
	- Replication	nfs-01	0	~			Not Configured	0
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3. On the source DR system, go to the **Replication** menu and then click **Create**.

Global View	Replication		Create Edit	Delete Stop Start	Bandwidth Disp	lay Statis
Dashboard	Number of Source Replicatio	ns: 2				
Events	Local Container Name	Role	Remote Container Name	Peer State	Bandwidth	Select
- Health - Usage	nvbu	source	10.250.243.18 pybu	Stopped	Default	0
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Schedules Replication Schedule Cleaner Schedule System Configuration Networking Active Directory Local Workgroup Users Email Alerts Admin Contact Info Password Email Relay Host						

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

Step 2: Select Encryption	Step 3: Select a role *	* = require Step 4: Remote container settings Create container on remote system Map to container on remote system Username*: administrator Password* Peer System*: [10.250.242.133 Remote Container: Retrieve Containers(s)
Password Email Relay Host Date and Time Support		Cancel Create Repli



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

Step 1: Select a local container * backup cifs1 cifs1 cifs1 nbu-cifs-01 mv-cifs-01 rep=source sample Step 2: Select Encryption ● None 128 bit 256 bit	Step 3: Select a role * Source Target	* = required fit Step 4: Remote container settings Create container on remote system Map to container on remote system Username* administrator Password* Peer System*: 10 250 242 133 Remote Container: Retrieve Containers(s) backup cifs1 cifs2 cifs2 kknfs kknfs2 nfs-01 nfs1 ms-61-01 rep-target sample *
Palssword Email Relay Host Date and Time		Cancel Create Replicat

6. Click Create Replication.

		1=	required f
Step 1: Select a local container*	Step 3: Select a role	Step 4: Remote container settings	
backup cifs1	Source V Target	Create container on remote system Map to container on remote system	
cifs11		Map to container on remote system	
nbu-cifs-01	Source	Username*: administrator	
nw-cifs-01		Password*:	
sample		Peer System*: 10.250.242.133	
	-		
		Remote Container: Retrieve Containers(s)	
*		cifs1	
Step 2: Select Encryption None 128 bit 256 bit		ctts2 kknfs	
		kknfs2	
		nfs1	
		nw-cifs-01	_
		sample	
		Cancel Create	Replica
Password			
Email Relay Host			



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

Ľ		Λ				administrator (Lo	g out) Help
ivar	n-sw-03.ocarina.local 💽	Replication		Create Edit	Delete Stop Start	Bandwidth Disp	ay Statistics
-	- 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	0
-	Replication Clients Schedules Replication Schedule Cleaner Schedule System Configuration Networking Active Directory Local Workgroup Users Email Alerts Admin Contact Info Password Email Relay Host Date and Time Support						

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4.2 Restore from the replication target container

1. Add the target container onto the Networker storage node (right-Click **Device** -> **New Device Properties**, and then fill in necessary information for the target device). When complete, mount the device.

	X .	EN	AC NetWorker Adr	inistration 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
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Note: Don't label the target device.

2. Unmount the source container.

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

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		Recover Configuration	on 🔽	
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I Recovers	Spinot the source host the destination by	at and the recovery type. The Recovery Witnerd queries the source to	at and the destination bost. Then displays the recovery bosts that are supported by effect	
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us Name Source Client Destination C	34			
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4. Select the data set to recover, click **Versions** to view the **Select Versions** window, make selection on the data, and then click **OK**.

📜 EN	etWorker Administration 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
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5. Select the **Recovery Options**, choose **Original path** or enter a new destination path to recover data to, and then click **Next**.

EN	C NetWorker Administration V8.1	- zhuhai-2012-02 (NetWorker 8.1.0.1.Build.199 NetWorker Source Capacity Data Zone Enabler - Windows NT S	Server on Intel)
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tal Recovers note antigued Recovers tatus (Name Source Client Destination Clie	Select the Recovery Options Specify the original path or a new path or	The destination host for the recovered data. You can also specify how to handle duplicate files on the destination host and other advanced recovery	y options.
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y The Source Celegory Messag Waterware 2013 data 2013 each Duran Waterware 2014 each Duran Waterware 2014 each Duran Duran	©	- East	0 e -

6. Specify a **Recover name**, and then click **Run Recovery**.

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7. Check the **Recovery Results**.

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Status Name Source Client Destination Clie Root Strume-2012- Strume-2012					
	O Select the Recovery Hosts	Recover Name: RC01	Size: 1873 MB	Succeeded	
	Select the Date to Recover	Source Client zhuhai-2012-02 testad ocarina local	Completed: 1873 MB	Calcult Recovery	
	Select the Recovery Options	Start time: Dec 5, 2013 1:20:01 AM			
	O Obtain the Volume Information	Duratives 00.01.26			
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		Volumes used: zhuhai_2012_02.testad.ocarna.local.003			
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Set 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 were deleted as a result of deduplication.

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

If necessary, you can perform the procedure shown in the following screenshot to force the cleaner to run. After all of the backup jobs are set up, the DR Series system cleaner can be scheduled. The DR Series system cleaner should run at least six hours per week when backups are not taking place, and generally after a backup job has completed.

		OKCV6S1			Help Log out
-	Dashboard Alerts Events Health	Cleaner Sched	ule entral, Mon Jan 23 15:18:49 2012	Schedule Cleaner	Schedule
	Statistics: Container	Day	Start Time	Stop Time	•
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-	Storage	Mon	-		
	Containers	Tue	-		
	Replication	Wed	-		
	Schedule	Thu	-		
	Replication.	Fri	-		
7	Cleaner	Sat	-		
	System Configuration Networking Active Directory Email Alerts Date & Time Support Diagnostics Software Upgrade	Note: When no schedule	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.



