

Setting up Dell[™] vRanger[™] on the Dell DR Series System

Dell Engineering April 2015

Revisions

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Executive summary

This whitepaper provides information about how to set up the Dell DR Series system as a backup to disk target for Dell vRanger backup software. This paper 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 the vRanger build version and screen shots used for this whitepaper may vary slightly, depending on the version of the DR Series system or vRanger software version you are using.

1 Installing and configuring the DR Series system

- 1. Rack and cable the DR Series system appliance, and power it on.
- 2. Log onto iDRAC using the default address, **192.168.0.1**, with the username: **root** and password: **Calvin**.



3. Launch the virtual console.



X¢LI

4. 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.cl5 on an x86_64 localhost login: administrator Password: StOr@ge!

5. Set the user-defined networking preferences as needed.

Would you like to use DHCP (yes∕no) ?
Please enter an IP address:
Please enter a subnet mask:
Please enter a default gateway address:
Please enter a DNS Suffix (example: abc.com):
Please enter primary DNS server IP address:
Would you like to define a secondary DNS server (yes/no) ?
Please enter secondary DNS server IP address:

6. View the summary of preferences and confirm that 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
Are the above settings correct	(yes/no) ? _

 Log on to the DR Series system administrator console, using the IP address you just provided for the DR Series system as: user: administrator, password St0r@ge!

ogin		Reset Password
	Please enter your password:	
	Username: administrator	
	Password: Stor@gel	

8. Join the DR Series system to Active Directory as described below.

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

a. Click **System Configuration** > **Active Directory** in the left navigation area of the DR Series system GUI.



→ C 🕑 🖉	0.250.240.170/ad_add.cgi		\$
DR4000			
swsys-f	63		
	Active Directory Configuration		
Dashboard	·······		Join
Evente	Demain Name (EODN)*	* = fields are required.	
Health			
Usage	Username":		
Statistics: Container	Password*:		
Statistics: Replication	Org Unit:		
Storage			
		Cancel Join Domain	
Replication	wio.230.240.170wackupi		
Compression Level	1)10.250.240.170(sample)		
Schedules Deplication Pahadula			
Cleaner Schedule			
System Configuration			
Networking			
Active Directory			
Local Workgroup Users			
-Email Alerts			
Admin Contact Info			
Email Relay Host			
Date and Time			
Diagnostice			
Ordenova Unavada			
Summare Limitane			

b. Enter your Active Directory credentials and click Join Domain.

9. Select **Containers** on the left navigation area, and then click the **Create** link at the top of the page.

Alerts Events	Containers				Create	e dit Delete Di	isplay Statist
Health	Number of Containers: 2					Container P	ath: /containe
Usage Statistics: Container	Containers	Files	NFS	CIFS	OST	Replication	Select
Statistics: Renlication	1						
Storage							
Containers							
Replication							
Compression Level							
Clients							
Schedules							
Replication Schedule							
Cleaner Schedule							
System Configuration							
Networking							
Active Directory							
Email Alens							
-Email Relay Host							
Date and Time							
Bate and mine							
Support							
Support Diagnostics							

8

10. Enter a Container Name and click **Next**.

tor (Log c	ut) Help
Displa	
r Path: /	containers
he	0
50	

11. For the Storage Access Protocol, select NAS (NFS, CIFS) and click Next.

> C & https://10.250.241.80)/container_wizard.cgi					\$
D¢	DR4000			administ	rator (Log out) Help	
swsys-3.	Container Wizard - Create N	lew Container			Deglay manages	
■ Cuto Auto Eve Heas Con Reg Enco Citio Syst Net Syst Syst	an ver Select Access Protocols	 Deil Rapid Data Storage (RDS) Symante: OpenStorage (OST) NAS (NFS, CIFS) 	3	* • required fields Container Name and Type sample	r Path: /containers	
Loc Emi Adm Base Data Sob Sub	III Non III Non Second Second Secon		< 1	iack Cancel Next >		

12. Select **NFS** and **CIFS** as appropriate. (vRanger supports both CIFS and NFS protocols.)

Exerce-33 step Container Waxed. Create New Cottainer ***ec/exe feat ***ec/exe feat Container Name Container New Cottainer ***ec/exe feat ***ec/exe feat Container New Cottainer Container New Cottainer ***ec/exe feat ***ec/exe feat Container New Cottainer Container New Cottainer ***ec/exe feat ***ec/exe feat Container Container ***ec/exe feat ***ec/exe feat ***ec/exe feat Container Container ***ec/exe feat ***ec/exe feat ***ec/exe feat ****ec/exe feat ************************************	DELL DR4000						out) Help	
Contrainer	swsys-33.testar Container Wizard - Creat	e New Container	-			Deat	We Whatterberr	
Ardis Enable Access Protocols: ▲ hss. (the HP5 to backup UBIX or UBIX) stemp) Cradition: Hame and Type Pradic Containers Usage Container Creation: Family Adds Creation: Family Adds Seried Access Photocols: Not S(MS) (DS) (DS) (DS) Mater Type: None ① Not S(MS) (DS) (DS) Seried Access Photocols: Not S(MS) (DS) (DS) Container Container Container Container Seried Not S(MS) (DS) OF Container Container Dispetiad Dispetiad Tmm Navigabor Not S(MS) (DS) OF Not S(MS) (DS) OF Vision Container Dispetiad Tmm Navigabor Tmm Navigabor Keacon Next > OF Paceword Enail Aday Hout Container Cancel Next > OF Enail Aday Hout Container Container Container OF OF OF Classical Time Navigabor Mater Type: Reacond Next > OF OF OF Classical Container Container Container Container OF OF OF OF	Gooder Vie Oashboar Configure NAS Access			(= 1950)	ed fields			
Houbh Usage Centainer Registator Image MarkerType ¹ Note Image MarkerType ¹ Note MarkerType ¹ Note Image MarkerType ¹ Note MarkerType ¹ Note Image MarkerType ¹ Note Container Registator Nakastarer Ustrator Image MarkerType ¹ Note Cutobal Image MarkerType ¹ Note Image MarkerType ¹ Cutobal Image MarkerType ¹ Note Cutobal Image MarkerType ¹ Image MarkerType ¹ Cutobal Image MarkerType ¹ Cutobal <th>Alarts Enable Access Protocols</th> <th>NFS (Use NFS to backup UNIX or UNIX clients)</th> <th></th> <th>Container Name and Type</th> <th></th> <th>r Patro</th> <th>containers</th> <th></th>	Alarts Enable Access Protocols	NFS (Use NFS to backup UNIX or UNIX clients)		Container Name and Type		r Patro	containers	
Access Protocols Continer Repricato Strange Container Repricato Strange Container Repricato Strange Container Repricato Strange Container Repricato Strange Container Container Container Strange Container Container Strange Container Container Strange Container Container Container Strange Strange Strange Strange Strange Container Strange Strange Strange Strange Strange Strange Strange Strange Strange Strange Repricato Strange Stran	Health	CIES (the CIES in backup MS Washing Sector)		sample		1	Select	
Container Replicato Strater Container	Usage	we off a loss of a warray warray warray		Access Protocols NAS (NFS, CIFS)		10		
Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Storage Sto	Replicator Marker Type	· O None	(?)					
Constance On Nation of Program On Nation of Program On Nation of One Constant	Storage	I Auto						
Exception Classifier Schedule Sch	Recipier	Networker						
Clanta Glada Gladare Clanta Cl	Encryption	C Unix Dump						
Subsetion	Clients Schednier	BridgeHead						
Networking Active Dire Local Work E-mail Aler Password E-mail Relay Host Data and Time	System C	Time Navigator						
Local Mont E-mail Aler Admin Co Password E-mail Relay Host Data and Time	Networking Active Old							
Email Adv Password Email Relay Hold Dube soft Time	Local Worl							
Password Email Relay Host Date and Time	Email Alen		< Back	Cancel Next	>			
Email Retay Host Date and Time	Password							
Date and Time	Email Relay Host							
E Superit	Date and Time							
Dispositor	Diagnostics							

13. For NFS, set the client access credentials and click Next.

sws	Global Vie	ntainer Wizard - Create New	Container			Displ	
-	Dashboar C	onfigure NFS Access			* = required fields		
-	Alerts Events	NFS Options *:	Read Write Access	Insecure	Container Name and Type sample	r Path:	: /contair Selee
	Health Usage		Read Only Access		Access Protocols	ed	
	Container Replication	Map root to :	-select-		Auto		
	-Storage -Container Replication	Client Access :	 Open (allow all clients) Create Client Access List 				
	Encryption	Client FQDN or IP :		Add			
	Clients	allow access client(s)		Remove			
+	Schedules						
	System Co						
	Networking			*			
	Active Dire						
	Local worl					í	
	Admin Cor			< Bac	k Cancel Next >		
	Paceword						
	Email Rolay H	net					
	Date and Time	551					
	Support						
-	Diagnostics						
	Software Upgra	ade					
	Lisonso						

14. For CIFS, set the client access credentials and click Next.

Glob	Container Wizard - Create New	Container	E)(sp)	
Das	hboar Configure CIFS Client Access -	. = required tields	Dath	la en la in e re
Alert	S Client Access :	Open (allow all clients) Container Name and Type	и наш.	rcontainen
Ever	its	sample	1	Select
Heal	in	Create Client Access List Access Protocols	ed	
Cont	Client FQDN or IP :	Add NAS (NFS, CIFS)		
Repl	lication allow access client(s)	Auto Auto		
Stor	age	NFSAccess		
Cont	tainer	Read Write Access		
Repi	lication	insecure Open (allow all alignts)		
Encr	yption	Open (anow an clients)		
Clier	nts			
SCIR	eaules			
Svet	tem C			
Syst Netw	tem C vorking			
Syst Netw Activ	tem C vorking re Dire			
Syst Netw Activ	tem C vorking ve Dire Il Worl			
Syst Netw Activ Loca Ema	tem C vorkini ve Dire il Nort il Aler	< Back Cancel Next >	1	
Syst Netw Activ Loca Ema Adm	tem C vorkin re Dire II Wort II Aler in Cor	< Back Cancel Next >		
Syst Netw Activ Loca Ema Adm Pass	tem C vorkini ie Dire Il Wort il Aler in Cor	< Back Cancel Next >		
Syst Netw Activ Loca Ema Adm Pass Ema	tem C vorking ie Dire il Wort il Aler in Cor word il Relay Host used Time	< Back Cancel Next >		
Syst Netw Activ Loca Ema Adm Pass Ema Date	tem C vorkiny ie Dire II Wori il Wori in Cor in Cor in Relay Host il Relay Host i and Time port	< Back Cancel Next >		
Syst Netw Activ Loca Ema Adm Pass Ema Date Supp Diao	tem C vorkin e Dire il Wort il Aler word il Relay Host and Time port rostirs	< Back Cancel Next >	Ĵ	
Syst Netw Activ Loca Ema Adm Pass Ema Date Supj Diag Soft	tem C vorkin e Dire il Nort il Aler word il Relay Host e and Time port inostics ware Upgrade	< Back Cancel Next >	Ĵ	

NOTE: For improved security, Dell recommends adding IP addresses for the following components (Not all environments will have all components):

- Backup console (vRanger Server)
- ESXi hosts (as vRanger backs up these VMs)
- Backup proxies (for vSphere environments)

15. Click Create a New Container, and then confirm that the container was added.

Swsys-6	3					Н	elp Log ou
Dashboard Alerts Events	Containers				Crea	te Edit Delete Dis	
-Statistics: Container -Statistics: Replication -Storage -Containers -Replication	Successfully adde Successfully enab "Auto". Successfully adde Successfully adde	d container "sample". led container "sample" wi d CIFS connection for cont	th the followi ainer "sampl	ng markeri Ie".	(5)	Container Pa	ath: (containe)
Compression Level	Containers	Files	NFS	CIFS	OST	Replication	Select
Schedules Replication Schedule -Cleaner Schedule System Configuration -Networking	backup sample	19 0	*	1		Not Configured Not Configured	0
Active Directory Local Workgroup Users Email Alerts Admin Contact Info Email Relay Host Date and Time Support							



16. Select the container and then click **Edit**. Reconfigure client access permissions, if required, and click **Next**. Make a note of the container path, which you will use later to target the DR Series system.

(m) 10	Global Vie				Displ	ay Statistic:
	Dashboar Configure CIFS Client Access			* = required fields	r Doth	loontninon
	Alerts Client Access :	Open (allow all clients)		Container Name and Type	r raui.	/container
	Health	Create Client Assess List		раскир		Select
	Usage Client EODN or IP	10.250.241.5	Add	Access Protocols		0
	Container Replication allow access client(s)	10.230.241.3	Remove	Auto		
	Storage	A	Itemove		ed.	
	Container					
	Replication	*			ed	
	Clients					
3	Schedules					
	System C					
	Local Worl					
			< Ba	ack Cancel Next >		
	Email Aler					
	Email Aler Admin Cor					
	Email Aler Admin Col Password Email Relay Host					
	Email Aler Admin Cor Password Email Relay Host Date and Time					
	Email Aler Admin Cor Password Email Relay Host Date and Time Support					
	Email Aler Admin Cor Password Email Relay Host Date and Time Support Diagnosics Software Legande					

17. Click **Modify this container** to save any changes you made, or click **Cancel** to exit.

2 Configuring an NFS share for backup using vRanger

For NFS backup using vRanger, you need to create a target folder under the NFS share directory. This folder is a subdirectory of the NFS Export directory and is the location to which save points will be written. (This configuration is not required when adding a CIFS share.)

- 1. Mount the NFS share onto any of the NFS clients available in the environment.
- 2. Create a directory by using the mkdir command inside the mounted directory.



3 Configuring an RDA container for backup

3.1 Create an RDS container

1. Select **Containers** in the left side of the DR Series system GUI, and then click **Create**.



2. Enter a container name and then click Next.

SW	sys-33 testar	Container Wizard - Create N	ew Container	Displ	ay Statistic:
	Global Vie Dashboar	- Container Name	* = required fields		
	Alerts		Max 32 characters, including only letters, numbers, hyphen, and underscore. Name must start with a letter.	ir Path	/container
	Health	Container Name*:	RDS		Select
	-Container	Virtual Tape Library (VTL):	8		
	Storage			≥d	
	Replication			red	
Ð	Clients Schedules				
	System C Networking				
	Local Worl				
	Email Aler Admin Cor		< Back Cancel Next >		
	Password				
	Date and Ti	/ Host me			
3	Support Diagnostics				
	Software Up	ograde			
	License	1000			

3. For the Storage Access Protocol, select Dell Rapid Data Storage (RDS).





4. LSU capacity is set as **Unlimited**. Click **Next**.

swsys-33.tes	Container Wizard - Create New Container		Displ	ay Statistic
Biobal v Dashbo	an Configure OpenStorage	* = required fields		
Alerts	I SLI Capacity : 💽 Unlimited	Container Name and Type	ir Path:	<i>I</i> containe
Events	Loo capacity . 🕑 Oninnited	RDS	1	Select
Health		Access Protocols and Marker Type	nt.	0
Contain	pr.	Dell Rapid Data Storage (RDS)		0
Replicat	ioi			
Storage			ed	
Contain	er			
Replicat			ed	
Clients	on			
Schedul	les			
System	C			
Network	ing			
Active D	ire:			
Email Al	er	< Back Cancel Next >		
Admin C	tor	Concer nexts		
Passwor	rd			
Email R	elay Host			
Date and Support	a lime			
Diagnos	tics			
Software	e Upgrade			
Linonen				

5. Click Create New Container, and then confirm that the container was added.



	Dashboard Alerts Events	Containers				Crea	te Edit Delete Ote	piny Statutics
	Health Usage Statistics: Container Statistics: Replication	Message Successfully adde - Container 'RDS' ha None.	d container "RDS" s the following marker(s)					
1	-Containers	Number of Containers: 2					Container Pa	th: /containers
	Replication	Containers	Files	NF 5	CIFS	RDA	Replication	Select
	Compression Level	backup	0	-	~		Not Configured	0
	Schedules Replication Schedule	RDS	0			RDS	N/A	0
	System Configuration Networking Adive Directory Local Workgroup Users Email Nerts Admin Contact Info Paseword							

3.2 Configure the Dell RDA device in vRanger

Configure the Dell RDA device in vRanger as follows:

1. Navigate to My Repository > Dell Rapid Access (RDA).

Repositories		Dell Rapid Data Acce	ss repository becaus		
	Date Range Last Month Gro	Provide Dell Rapid Data Acce	ss details for the repository.		
Windows Share (CIFS)	Host Name	Describer Mana		/ Original Size (MB)	Data Written (MB)
CIFS1	InventoryType : VMware (1 item)	heposioly wante	HUA_Hepository		
1 SFTP	Repository Name : phani1 (3 items)	Description	Uptional description		
1 FTP	Machine Name : RHEL65-01-p	DNS Name or IP	10.250.241.54		
NetVoult SmartDick (NUSD)	r620-system-05.ocarina.local	RDA Username	backup_user	102,400	9,134
EMC Data Domain Boost (008)	Machine Name : RHEL65-01-p	RDA Password	XEDOCEDOCE		
Dell Rapid Data Access (854)	r620-system-05.ocarina.local	Logical Storage Unit	RDS	102,400	9,134
cheruku1 🔊 Add 🕨 a	Windows Share (CIFS)			102,400	9,134
hanii 💼 Properties	SFTP 5-00	Free Space			
rda_srin Bemove	IF ETD	Replication Repository		102,400	11,563
-rda_srin1	ALC:			102,400	11,963
C new modely	in in s	Encrypt all backups to the	is repository		
Refresh	NetVault SmartDisk (NVSD) iten	Password	Password for the repository		
2	EMC Data Domain Boost (DDB) 43.1	Confirm	Confirm the Password		
	Dell Rapid Data Access (RDA)	Encryption is not supported	on this repository type.	102,400	13,067
				102,400	13,099
	Repository Name : phani1 (1 item)				
	Machine Name : 10.250.224.2		OK Cancel		
	10.250.224.225			122,880	94,853
	10.250.224.225	Full	0672972014 10:59 PM	122,880	94,849

2. Confirm that the RDA devices are added.



3. In the DR Series system GUI, navigate to **Storage > Client** and click the **RDA** tab to review the configured RDA device details.





4 Setting up vRanger

NOTES:

- To maximize DR Series system vRanger storage capacity savings, Dell recommends that you adhere exactly to the following setup settings.
- The backup formats differ completely when setup settings are changed. Hence, all savings on vRanger installations that had settings changed in between are null and void.
- 1. Open the vRanger Backup and Replication Console.
- 2. Go to **My Inventory > Virtual > Add** and add either your vCenter or ESX host.

💷 vRanger Dackup & Replication				
File Tools Help				
Add - C Remove C Edit C Run C	Falover	A Test Fallov	er 💮 Enable	
My Inventory				Working Inventory
My inventory	Type	Name	Schedule	Next Run
Virtual Center Virtual Center EX Host Backup Group			1	
Backup Groups 5 sile My Inventory Thy Jobs				

Adding ESX host

For ESX, you need to add the ESX host with root credentials.

ly Inventory		100			Working In	wentory
rtual Physical	Туре	Name	Schedule		Next Run	
5 # # # # B						
, viela,						
				Add Host Credentials		
				Host Credentials		0
				Please provide credentials /		
I				DNS Name or IP	1	2
				User Name		
				User Password		
					Add user if user does not exist	17
				Port Number	22	
					Connect	ance
Backup LPoups o						
a My Inventory						
O My Jobs						

• Adding Virtual Center

When adding the vCenter host you need to provide the IP/Hostname and the logon credentials of the Virtual Center.

ly inventory					Working Inventory
iy inventory	Type	Name	Schedule		Next Pun
S - 20 25 26 20 - 20			Add V	rtualCenter Crede GalCenter Crede	initials
			Float	e provide credentials IS Name or IP	for the following connection.
			U. Pr	er Name er Password rt Number	443
					Connect Cancel
Backup Groups ¥					
My Inventory					
) My Jobs					
My Repositories					
and and a second s					

3. To add the physical server, go to **My Inventory > Physical > Add**, and then select the option, **Install physical client on machine?**. By default, the physical client is installed on the physical machine at *C:*|*Program Files*|*Quest Software*|.

My Inventory			Working Inv	ventory
Virtual Physical	Type	Name	Schedule	Next Run
න් - ක් ක් ක් There are no inventory teens to show in vriews	the	Add Physical Machin Physical Machine	e Credeniials Credeniials	
		Please provide creden DNS Name or IP User Name User Password	Lials for the following connection:	
		Agent Location Port Number	Install Physical Client on mach Spagner Free Statuent Son 51000	ino?
			Connect Ca	incet
Backup Groups	¥			
. My Inventory				
My Jobs				
🕑 My Jobs 📰 My Repositories				

- 4. You need to map the CIFS/NFS share to vRanger. (vRanger supports both CIFS and NFS protocols).
 - Mapping a CIFS share

To map a CIFS share, go to **My repository > Add > Windows Share (CIFS)**, enter the required details, and then click **OK**.

Note: Dell recommends that you do not enable encryption.

ly Repositories	Date Range Last Month	Group By 📷 Rep	Working Repository ositories & Machines	-	
経動 GYTIP 壁 GYTIP 壁 FTP 塑 FTP 塑 FTP 塑 FTP 塑 FTP 塑 FTP 塑 MetVaut_ShartDisk.(NVSD) 健健 DAC Data Domain Boost (CC6)	Host Name Add Windows New Windows New Provides Windows Ne Provides Windows Ne Provides Windows Ne Provides Windows Repository Na Description User Name Password Server Free Space Encept all ba Password Contine	Type Avourt: Share Repository Avourt: Share Repository Avourd: Chare Repository Introvol: Share Repository avourt: Share details for the avourt avourt: Share details for the Advantation Advantation Advantation Avourted Strangel Avourted Strangel Advantation Avourted Strangel Advantation Avourted Strangel Advantation Avourted Strangel Advantation Avourted Strangel Avourted Strange	Created v Dotalis repository Drowse	2 Original Stee (M	0) Data Written (Hd
My Inventory				1	
My Jobs					
My Repositories					

• Mapping an NFS share

To map an NFS share, go to **My repository > Add > NFS**, enter the required credentials, and then click **OK**.

My Repositories	Date Rang	Last Month	Group By 😹 Repositori	Working Repository es & Machines		
EPS Mirchard Share (*1855)	Host Nam		Туре	Created	/ Original Size (M8)	Data Written
SFTP	_1 Reposit	ory Name : backup_63	(1 item)			
ARE FTP		dd Network File Shar	re Repository			
D MM NFS		vetwork file Shar	e Repository Details		204,800	36,330
HIR NATVAUT STATEDIT (NUSD)	R R				204,000	6,002
EMC Data Domar Boost (DDB)	re				204,800	4,504
	re	Repositors Mane	[]	204,800	4,860
	re	The polarity real to	backup_6		204,800	37,498
		Description	Folder for NFS share			
		DNS Name or IP	swsys-63.ocarina.local			
		Export Directory Yarget Directory	/containers/backup/			
			ы			
	2	Encount all backups	to this separation			
		Patteriora	r annound for the repository			
		Contem	Confirm the Password			
	6					
	-					
				OK. Cance		
			10-10-10-10-10-10-10-10-10-10-10-10-10-1			
My Inventory						
) My Jobs						
My Repositories						

Note: Export Directory lists the export directory but not the complete share path (that is, it does not provide IP/hostname of the DR Series system). **Target Directory** lists the target directory name that was created under the share directory [Mentioned above in section <u>2</u>].

• For RDA, select the RDA device configured in the previous section, "*Configure the Dell RDA device in vRanger*."



5. Right-click and enable change tracking (**Change Block Tracking**) on the VM you want to back up.



6. Select a virtual machine for backup, and right-click **Backup**, which opens the backup wizard.



My Inventory		1	1	
Virtual Physical	Туре	Name	Schedule	
Image: Source of the state of the				
Add Host Crede	ntials erties tials			
Backup W2K8-8	ase			
Replicate w2x8 Disable Change View History Perfect Inventi	Tracking			
Refresh invento				
Backup Groups	8			
🛼 My Inventory				
My Jobs				

7. Select disks to back up, and then select the repository to which the VM is to be backed up.

in Tools Help				
	and the second second second second			
G Add • G Remove G Ede	Run ap Pakover CO Test Polover	Enable		
My Inventory	Backup Wizard			
Virtual Physical	Repository Selection			
ನ-ಸ್ನ ಸ ಜಾ.	Select the repository to use with this job.		Superior and a second	
🗉 🗒 🔬 r620-system-50.ocarine	, Repositories	Selected Repository		
Bare-W2K0R2	ad • ad ad	Name	sample	
r620-system-50-vRange	E Mindows Share (CIFS)	Туря	Windows Share (CIFS)	
A RHEL60-Base	sample	Location	swoys-63/sample/	
SUSE 11-Base	- AND FTP	Description	Sample CIFS backup folder	
4 Test-Win2K8	E ME NFS			
😂 📥 W2X0-Base	backup_63	ana and a second		
	FMC Data Domain Boost (DOB)	Free Space	2184 GB	
			06	
		Encoret at bac	Aups to this repository	
		Password		
		Confirm	Comment of the Processing of t	
Backup Groups				
the My Inventory				
My Jobs		2.0		
My Repositories			< Back Next > Cancel	
My Reports				

8. Select the appropriate Transport type according to the setup. If you are unsure, click **Automatic Transport Selection**.

My Inventory	Backup Wizard
Virtual Physical	Transport Selection
8-26 26 20-	Specify how to determine which transports to use for this job
ID ID C620-system 50.0ccnth C0 And Date Work C0 And Date Work	Automatic transport selection Whanger will select the transport types based on the current configuration and system state Caution assumption telection Outons assumption telection Outons and use them self-rank to detensine which transport to use When every set at this do to the way? On the Vinger machine Outon self-rank association Outon association Outo
Backup Groups	
h My Inventory	Une or more hosts in this job do not have a vHanger virtual appliance Configure Virtual Appliance
🕑 My Jobs	
My Repositories	< Back Next > Cancel

9. Select backup options for the VM.

NOTES:

- Always Disable 'Check destination for free space' since the DR Series system supports deduplication and so the overall space that is occupied is less.
- Always enable ABM (Active Block Mapping) for better overall results from both vRanger and DR.
- vRanger recommends enabling 'Guest quiescing' in case of backing up a database (Example: Exchange server).
- Disable 'compress backed up files' for better savings.



10. Select backup options for the physical machine.



11. For the Retention Policy, select the type of backup technology as either **None** (which completes a Full backup), **Incremental**, or **Differential**.

Backup Wizard			
Retention Policy Selection			EZ.
Specify the retention policy and space saving settings for this job.			Step 6 of 9
Retention Policy Savepoint Count [7] 🛨 The minimum number of savepoints that will be stored.			
Space Saving Technology			
 None Perform a full backup each time this job is run. 			
 Incremental Perform an incremental backup unless the threshold count has been 	n exceeded.		
Perform a differential backup unless the count threshold or the size	threshold has bee	n exceeded.	
	< Back	Next >	Cancel

12. Schedule the backup and then provide the mail server details for sending mail.

The following example shows a backup summary page that opens when the target is a CIFS repository.

	Backup W2K8-Base	
- Description		
 Inventory Node 	W2K8-Base	
 Repositories 	sample	
Туре	Windows Share (CIFS)	
Location	\\swsys-63\sample\	
Retention Policy	Retain 7 savepoints	
Space Saving Technology	None (Only full backups will be performed)	
Recurrence Schedule	Scheduled	
Frequency	Uccurs every day effective 5///2013 at 12:29 AM	
- I ransport Selection	Automatic	
· Uption Flags	2 options set	
	Enable Active block mapping (Abm).	

The following example shows a backup summary page that opens when the target is a RDA repository.

ummarv	M
	\sim
	below and confirm your selections before clicking Finish. Step 9 of 9
- Name	Backup 'pravin-win2k8r2'
- Description	
Inventoru Node	nravin-win2k8r2
 Repositories 	RDA_Repository
Туре	Dell Rapid Data Access
Location	10.250.241.54:0:RDS:/
 Retention Policy 	Hetain / savepoints
 Space Saving Technology 	None (Only full backups will be performed)
 Recurrence Schedule 	Scheduled
Frequency	Occurs every day effective 7/28/2014 at 11:46 PM
Transport Selection	Automatic
 Option Flags 	2 options set
	Update notes with the latest backup results.
	Enable Active Block Mapping''' (ABM).
	ABM option: Do not include the Windows page file and hibernation file.
Run the job after Finish is click	.ed.

5 Viewing a history of optimized copies in the DR Series system GUI

In the DR Series system GUI, go to the **Container Statistics > Duplication** tab to view a history of optimized VM copies, as shown in the following example.

arker Ty S Login En	/pe: No try User: b	o ne ackup_user			Conne	ction Typ	e: RDS		
Capacity	Duplicat	tion Clien	t Statistics						
Duplication	Statistics								
Inbound					Outbou	und			
Bytes Copie	ed (logical)	¢		0 bytes	Bytes C	Copied (logical):		8.9 GiB
Bytes Trans	sferred (ac	tual):		0 bytes	Bytes Transferred (actual):			938 KiB	
Network Ba	ndwidth Sa	avings:		0.00 %	Network	k Bandwidth S	avings:		99.99 %
Current Count Of Active Files:				0	Current	t Count Of Act	ve Files:		4
Replication Errors:			0	Replica	tion Errors:			0	
ctive Optim	ized Copi	es		Peer IP	Pee	r ID By	rtes Sent	Per	nding Bytes
tive Optimi File Name story of Op	ized Copie timized C	opies Peer IP	Peer ID	Peer IP	Peer es to Send	r ID By Rep. Rate	vtes Sent Savings	Per Replicated at	Encryption
tive Optim File Name story of Op File Name thel65-01-s- orig_42016a thb4-5fac4 2934c/thel60 ar2_orig_2 a-33b0-41df 37939ac45c 01-sekhar2 0140728_23 1140728_23	timized Copie ethar2_0 #t2-bc2_0 8e7099 5-01-sek 014072 15a188b 1-ada3-5 3/rhel65 _orig_2 12917_F 1-sekha	opies Peer IP 10.250.241. 54	Peer ID 5	Peer IP Logical Byb 957871965	Pee es to Send 6Bytes	Rep. Rate 7806617Ki B/s	Savings 99.99%	Per Replicated at 2014-07-28 2 3:38:51	Encryption None



6 Configuring replication at the source

This configuration enables source-side deduplication to reduce the amount of data moved over the network to the appliance.

6.1 Create an RDS container in the Dell DR Series system for the replication target

1. Select **Containers** in the left navigation area of the DR Series system GUI, and then click the **Create** link at the top of the page.

-	Dashboard - Alerts - Events	Containers				Creat	e dit Delete D	isplay Statisti
	Health	Number of Containers: 2					Container P	ath: /containe
	Statistics: Container Statistics: Replication	Containers	Files	NFS	CIFS	OST	Replication	Select
	Storage Containers							
	-Replication -Compression Level -Clients							
	Schedules Replication Schedule Cleaner Schedule							
	System Configuration Networking							
	Email Aerts Admin Contact Info							
	Email Relay Host Date and Time							
	Support Diagnostics							
	Software Upgrade							

- 2. Enter a Container Name, and then click Next.
- 3. For Storage Access Protocol, **select Dell Rapid Data Storage (RDS)**. Follow the steps described in the previous section to create a container. Confirm the container details and click **Create a New Container**.

-	sys-33.testar Container Wizard - Create New Container		Displ	ay Statistic
	Global Vie	" = required fields		
	Alorts		r Path	: /containe
	Events Container Name and Type	OpenStorage - Dell Rapid Data Storage (RDS)	,	Select
	Health Container Name, RDA_Replica	ESO Capacity. Onlinited	be	•
	Usage Access Protocols	(22.0)		0
	Container Access Protocol: Dell Rapid Data Storag	e (RDS)		
			bd	
	-Container		eu	
	Replication			
	Encryption		red	
	Clients			
	Schedules			
	System C			
	Networking			
	- Active Dire			
	- Local Worl			
	- Email Aler	< Back Cancel Create a New Container		
	Recoverd	· · · · · · · · · · · · · · · · · · ·		
	Email Rolay Host			
	Date and Time			
_	- Support			
1.17	Diagnostics			
	Software Upgrade			

6.2 Configure replication at the target container in vRanger

1. Select the RDA device, right-click **Configure Replication**, and then enter the DR Series server and target container details.



2. Confirm the replication configuration by right-clicking the RDA repository and clicking **Properties**.

ovide Dell Rapid Data Acce	ss details for the repository.			
Repository Name	RDA_Repository			
Description	Optional description			
DNS Name or IP	10.250.241.54			
RDA Username	backup_user			
RDA Password				
Logical Storage Unit	RDS			
Free Space	11987 GB			
Replication Repository	10.250.241.54:0:RDA_Replica:/			
Encrypt all backups to this	stepository			
Password	Password for the repository			
Confirm	Confirm the Password			
cryption is not supported a	on this repository type.			

7 Setting up the DR Series system cleaner

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

The system 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 example 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.

DELL DR4100 EdwinZ-S	W-01			Help Log out
Dashboard Alerts Evente	Cleaner Scheo	lule	Schedule Cleaner	Edit Schedule
Events Health Usage Statistics: Container	System time zone: US/P Note: When no schedul	acific, Fri Jul 5 05:00:41 2013 e is set, the cleaner will run as needed	L	
Statistics: Replication	Day	Start Time	Stop T	ime
- Storage	Sun			
Containers	Mon	-		
Compression Level	Tue			
Clients	Wed			
Schedules	Thu			
Replication Schedule	Fri			
Cleaner Schedule	Sat	-	-	
System Contiguration Networking Active Directory Local Workgroup Users Email Alerts Admin Contact Info Password Email Relay Host Date and Time Support Diagnostics Software Upgrade License				

Monitoring deduplication, compression, and performance

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.



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