

# Setting Up the Dell<sup>™</sup> DR Series System on Symantec NetBackup to Use Backup Acceleration

Dell Engineering May 2014

A Dell Technical White Paper

# Revisions

2

Date	Description
February 2014	Initial release
May 2014	Updated policy attributes instructions.

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## Executive summary

This paper provides information about how to set up the Dell DR Series system to run backup acceleration on NetBackup (NBU). 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 <a href="http://www.dell.com/support/Manuals/us/en/19/Product/powervault-dr4100">http://www.dell.com/support/Manuals/us/en/19/Product/powervault-dr4100</a>.

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

#### Terminology

- Backup Accelerator: Inline synthetic creation during backup.
- **Dedupe backup:** In this mode, deduplication is done on the client and then the deduplicated packets are sent to the DR Series system.
- **Optimized duplication:** Optimized duplication allows disk-based backups to be replicated between devices under NBU control. In other words, Optimized duplication enables deduplicated data to be copied directly from one OpenStorage (OST) device to another OST device from the same vendor.
- **Passthrough backup:** In this mode, deduplication is done on the DR Series system after data is transferred from the client.
- RDA: Rapid Data Access, which is Dell's proprietary technology for faster data access.
- **Synthetic backup:** A synthetic backup is identical to a regular full backup in terms of data, but it is created when data is collected from a previous, older full backup and assembled with subsequent incremental backups.



# 1 Install and configure the DR Series system

- 1. Rack and cable the DR Series system and power it on.
- 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**".

	ED DELL REP	MOTE 16 - ENTERPRISE			Support   About	Logout
System Dell DR4000 root , Admin	Properties System Sum	Setup Power	Logs Alerts Console/Media Details System Inventory	vFlash Remote File Share		
System IDRAC Settings Batteries Fans	System Server	Summary Health			C	3
Power Supplies	Status	Component		Virtual Console Preview		
Removable Flash Media Temperatures		Batteries		Options : Settings		
Voltages		Pano			- /	
Power Monitoring		Induston			2	
		Power Supplies				
		Removable Flash I	Media			
		Temperatures			-	
		vortages		Retail	Launch	
	Server Information			Guick Launch Tasks		
	Power \$	Raha	ON	Power Ots / OFF		
	Oystem	Model	Dell DR4000	Power Cycle System (cold boot)		
	System	Revision	н	Launch Virtual Console		
	Dystem	HostName	DR4000-DKCV6S1 asglab.roundrock	View System Event Log		
	Operatio	ng System	CentOS	View IDRAC Log		
	Operator	Operating System Version 2.6.18-164.e	Update Fernware			
	Service	Tag	DKCV6S1	RESEDURING		
	Express	Benice Code	29529104401			
	BIOS W	riston	1.9.0			
	Firmwa	re 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 Ad	=== ldr	ress k
1	IP Address		10.10.86.108
1	letwork Mask		255.255.255.128
г	Default Gateway		10.10.86.126
I	DNS Suffi×		idmdemo.local
I	Primary DNS Server		10.10.86.101
s	Secondary DNS Server		143.166.216.237
ŀ	lost Name		DR4000-5
Are the abov	ve settings correct (	ye	es/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).

Login		Reset Password
	Please enter your password:	
	Username: administrator	
	Password: St0r@gel	
	Log II	

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	Join
-	Dashboard	Settings	
	Events Health Usiage	The Adve Directory settings have not been con	foured. Clics on the Join link to configure them.
	Statistics: Container	Active Directory Configuration	
-	Statistics: Replication Storage Containers Replication	Domain Name (FGDN)*	* = fields are required.
-	Compression Level Clients Schedules	Password*:	Enter Active Directory Info
	Replication Schedule	100 E 2011 B	
-	Active Directory Local Workprop Users		Cancel Join Domain
	Email Alorts Admin Contact into Password Erost Rober Mont		
-	Date and Time Support Diagnostica Software Upgrade		

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

Ŀ	CAL DR4100 edwinz-sw	01					He	lp   Log out
ed\	vinz-sw-01.ocarina.local 🖃	Containers			•	Creat	e   EØ   Delete   Dis	play Statistics
	-Dashboard -Alerts	Number of Containers: 1					Container Pat	h: /containers
	Events	Containers	Files	NFS	CIFS	RDA	Replication	Select
	Health	backup	1	~	~		Not Configured	0
	-Usage	¢						
	-Statistics: Container -Statistics: Replication							
	-Storage							
	Containers							
	Replication							
	-Compression Level							
	Clients							
	- Schedules							
	-Cleaner Schedule							
-	System Configuration							
	Networking							
	Active Directory							
	Local Workgroup Users							
	Email Alerts							
	-Admin Contact Into							
	Email Relay Host							
	Date and Time							
-	Support							
	-Diagnostics							
	Software Upgrade							
	License							
		L						

a. Enter a Container Name and select Connection Type as RDA, and then select RDA Type as Symantec OpenStorage (OST).



#### b. Click Create a New Container and Confirm that the container is added.

DELL DR4000						administrator (L	og out)   Help
swsys-63.ocarina.local 🔹	Containers				Creat	e   Edit   Delete   Dis	
Glubal view							
Alerts	Message						
Events	Successfully adde	d container "OST".					
Health	Container 'OST' ha	s the following marker(s) h	lone.				
Usage							
Container Statistics	Number of Containers: 2					Container Pat	th: /containers
Replication Statistics	0	<b>5</b> 1	1150	0150	004	B	0.1
- Storage	Containers	Files	NFS	CIFS	RUA	Replication	Select
Containers	backup	0	~	~		Not Configured	0
Replication	OST	0			OST	N/A	0
Clients	<i>k</i>						
+ Schedules							
System Configuration							
Networking							
Active Directory							
Local Workgroup Users							
Email Alerts							
Admin Contact Into							
Fassword Email Belay Heet							
Date and Time							
Support							
Support							
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# 2 Set up NBU for backup acceleration on Windows

## 2.1 Prerequisites

### 2.1.1 Install OST plugin

Make sure that the Dell OST plugin is installed on the DMA client that is used for NBU backup.

## 2.1.2 Map external\_robotics and external\_types files

To enable the backup accelerator for DELL DR4x00/DR6X00, the external\_robotics.txt and external\_types.txt files must be mapped.

These instructions assume that NetBackup is installed at the default location of C:\Program Files\VERITAS\. If NetBackup is installed in a different location, substitute that path for C:\Program Files\VERITAS\ in the instructions below.

- 1. Copy the external\_types.txt file from the temporary location to C:\Program Files\VERITAS\NetBackup\var\global\ on the master server or EMM server.
- Copy the external\_robotics.txt file from the temporary location to C:\Program Files\VERITAS\NetBackup\var\global\ on the master server, EMM server, each media server that controls a robot, and each media server from which robot inventories will be run.
- 3. Bring up a command window using Start -> Run. Type "cmd".
- 4. Update the NetBackup Enterprise Media Manager database with the new device mappings version. This only needs to be done once and must be run from the master server or the EMM server. Use the command format below that corresponds to the installed version of NetBackup:

```
NetBackup 6.5/7.0/7.1/7.5: C:\Program Files\VERITAS\Volmgr\bin\tpext - loadEMM
```

NetBackup 6.0: C:\Program Files\VERITAS\Volmgr\bin\tpext

5. For media servers running 6.0\_MP4 and earlier, manually update each media server with the new device mappings. This command must be run on each 6.0\_MP4 and earlier media server that has devices attached. (On media servers running 7.5, 7.1, 7.0, 6.5 or 6.0\_MP5 and later, this command is not needed since is not needed since Device Manager will update the device mappings when it starts.)

C:\Program Files\VERITAS\Volmgr\bin\tpext -get\_dev\_mappings

6. Restart Device Manager on each media server.

7. Verify that the version that is now stored in the Enterprise Media Manager database is the same as what is in the file stored on the media server:

C:\Program Files\VERITAS\volmgr\bin\tpext -get\_dev\_mappings\_ver

## 2.2 Procedure

#### 1. Launch NBU Console

Credentials - ost-w2k8r2-04 - NetBackup Admi	nistration Console		
Eile Edit View Actions Help			
📑 • 🔝 🖨 💥 🗠 🗙 🖒 🛍 🕯	i 🗸 🖉 🔯 📓 📓 📓		
ost-w2k8r2-04	All Storage Servers (0)		
ost-w2ldg2-04       ost-w2ldg2-04       ost-w2ldg2-04       Matchivy Monitor       Matchivy Monitor       Matchivy Monitor       Palotices       Palotices       Palotices       Summary of all Policies       Storage Units       Storage Units       Storage Units       Catalog       Matchian Device Management       Palotices       Matchian Device Management       Polocies       Matchian Device Management       Polocies	All Storage Servers (0) Nome	Server Type	Media Servers Configured for snapshots
Media Servers     Server Group     Toology     Disk Pools     Crodentials     Crodentials     Crodentials     Crodentials     Crodentials     Crodentials     Sorrage Servers     Voult Array Hosts     Sorrage Servers     Woult Management     Crodentials     Server Servers     Sorrage Servers     Sorra	Media Servers (No Credentialed Device Selected) Name		Master Server; ost-wck8z-204 Connected





2. Right-click on Media and Device Management -> Credentials -> Storage Server. Click New.

3. In the **Storage server configuration wizard** dialog box, choose **OpenStorage** from the list.

Add Storage Server Provide details to create storage server	S.
Select the type of disk storage to configure:	
Note:	
Upenstorage is a Symantec technology that lets you use a vendor-provided intelligent disk appliance as disk storage.	
< Back Next > Cancel	Help

- 4. Under Storage server name, enter the DR Series system IP address or hostname. Under Storage server type, enter DELL.
- 5. In the Media server list, select the media server and enter the user name: backup\_user, password: St0r@ge!

Storage Server Configuration Wiz	ard 🛛 🗙
Add Storage Server Provide details to create :	storage server
Storage server details Storage server name:	swsys-63
Storage server type:	DELL
Select a media server that has the the storage server for its capabilities	e vendor's OpenStorage plug-in installed. NetBackup will query es by sending the probe through the media server you specify.
Media server:	ost-w2k8r2-04
Enter credentials:	
User name:	backup_user
Password:	******
Confirm password:	MANANANAN MANANANANANANANANANANANANANANA
	< Back Next > Cancel Help

6. Make sure the storage server creation is successful and also authentication is fine.

age Serv	er Configuration Wizard	2
Storage Perfo	e Server Creation Status prming required task for storage serve	r creation
Please wai	t while the wizard completes the following task:	5:
Status	Performing task	Details
Y	Creating storage server swsys-63	
Y	Adding credentials for server ost-w2k8r2-04.	
•		
	< Back	Next > Cancel Help
	<u></u>	



7. Created storage server should be listed.



9. In the Disk Pool Configuration Wizard dialog box, select OpenStorage (DELL) for Type.



Disk Pool Configuration Wizard	×
Disk Pool Select the type of disk pool to create.	
Type: OpenStorage (DELL)	
Note: If a desired disk pool type is not shown in the list above, verify that the appropriate license key is installed and that a storage server of that type has been defined. To continue, click Next.	2
< Back Next > Cancel	Help

10. In the Storage server list, select the DR storage server created in steps 1-6.

Disk Pool Configuration	Wizard			×
Select Storage So Select storage s	e <b>rver</b> server to scan for di	sk volumes.		
Storage server:				
Name 62	Туре			
Note: If a storage serve aware of its existence. To continue, click next	er does not appear in the	e list, then NetBac	:kup has not been r	nade
	< Back	Next >	Cancel	Help

11. Select the OST container created in Section 1, which will be used for Backup.



Pool Configuration Wiza	ird		
Select Disk Pool Prop Select the disk pool	erties and Yolumes properties and volume	s to use in the disk po	ol.
itorage server:	swsys-63		
itorage server type:	DELL		
isk pool configured for:	Backup	~	
Disk pool properties and volu	Imes		
A disk pool inherits the prope can be added to a disk pool. If properties are specified, the	rties of its volumes. Only vol e list displays volumes that m	lumes with similar properties natch the selected propertie	s.
<ul> <li>Replication source</li> <li>Replication target</li> </ul>			
Select volumes on the storag	je server to add to the disk p	, , , , , , , , , , , , , , , , , , , ,	
Volume Name	Available Space	Raw Size Replicatio	n
Total available space:	2.2934 TB		
Total raw size:	2.2938 TB		
r the Disk pool name. • Pool Configuration Wiza • Additional Disk Pool I	nd Information		
Provide additional in details.	formation and verify di	isk pool configuration	
Storage server:	swsys-63		
Storage server type:	DELL		
Disk pool configured for:	Backup		
Disk pool size			
Total available space:	2.2934 TB		
l otal raw size:	2.2938 TB		
Disk pool name:			
Comments:			
High water mark:	Low water mark:		
98 - %	80 🕂 %		
- Maximum I/O streams			
Concurrent read and write Limit I/O streams to preven	jobs affect disk performance nt disk overload.	e.	
	1 per vo	blume	
	,		
Limit 1/U streams			

12.



13. Confirm that disk pool creation is successful.

Disk Pool Configuration Wizard			×
Disk Pool Creation Performing required task for Disk	Pool creation		
Please wait while the wizard completes the f	ollowing task:		
Creating Disk Pool			
Configuration completed successfully! To continue, click Next.			
< Back	Next >	Cancel	Help



14. Make sure the disk pool is listed.



15. Right click under Netbackup Management -> Storage -> Storage Unit. Click New Storage Unit.





16. In New Storage Unit, enter a Storage unit name, Storage unit type as Disk, Disk type as OpenStorage (DELL), Storage unit configured for as Backup. Select the disk pool that was created in steps 7-13, and select the media server that will be used for backup.

New Storage Unit
Storage unit name:
OST_SU
Storage unit type:
Disk 🔽 🔽 On demand only
Disk type:
OpenStorage (DELL)
Storage unit properties         Storage unit configured for:         Backup         A storage unit inherits the properties of its disk pool. If properties are specified, only those disk pools that match the specified properties will be available below.         Replication source         Replication target         Select Disk Pool:         OST         View Properties
Media Server:
Use any available media server     Oply use the following media servers
Media Servers       Image: Servers       Image: Servers       Image: Servers
Maximum concurrent jobs:     Maximum fragment size:       4     524288
OK Cancel Help

17. Make sure that the Storage Unit is listed after creation.





Policies - ost-w2k8r2-04 - NetBackup Administration Console Eile Edit View Actions Help 🗄 • 🔟 🎒 米 🕂 🗙 🐁 🛍 🏔 🖌 🏹 🔁 😼 🎬 📗 🖘 🖉 🍜 🖉 🕾 🗄 🦅 💯 ost-w2k8r2-04: 0 Policies ost-w2k8r2-04 ] ost-w2k8r2-04 (Master Server) Name Data ... Type Storage Volum... Check... 2 Activity Monitor ÷ Nextbackup Management
 Personal
 Score
 Sc Cata I Change... Cata I Change... Dev A Host X Delete Media ar St New Policy... ti 🐻 Med W New Schedule 🖻 🛃 Devi 🚉 New Client.. 

 Devi
 Mew Backup Selection...

 Image: Selection with the selection of the select Crec & Eind... Storage Servers Wault Management
 Access Management 🗄 🐻 Bare Metal Restore Management

•

18. Right click under Netbackup Management -> Policies. Click New Policy.

#### 19. Enter Policy name.



20. Enter policy attributes under Attributes tab: Policy type as MS-Windows (for Windows) or Standard (for Linux); Policy storage as the DR storage unit that was created in steps 14-16; enable Collect true image restore information and check with move detection, and check Use accelerator.

Policy type:     MSWindows       Destination     Image: I	Go into effect at: 1/27/2014      1:02:40 AM     Backup Network Drives     Cross mount points     Compression     Encryption     Collect disaster recovery information for:     Des MetaRecover     Collect twittel Recover     Collect twittel Recover
	(Must also be enabled for the schedule and client) Indexing Server.
Snapshot Client	Microsoft Exchange Attributes
Perform block level incremental backups	Exchange 2010 DAG or Exchange 2007 replication (LCR or CCR)
Perform snapshot backups     Options.     Retain snapshot for Instant Recovery or SLP management	Database backup source:
Hoper-V server	Preferred server list (Exchange 2010 DAG only)
Perform off-host blockup	

21. On the **Schedules** tab, create two schedules: one for **Full Backup**, the second one for either **Differential Incremental Backup**, or **Cumulative Incremental Backup**. The schedule should be such that first a full backup runs, then an incremental backup, and finally a full backup.

Attributes	🔁 Schedules 🖳 Clients 🦳 Backup Selections	1				
Sun Mon Tue Wed Thu Fri Sat	2       4       6       8         Add New Schedule - Policy OST_policy         Attributes       Start Window       Exclude D.         Name:       Full_Backup!       Image: Synthetic backup       Image: Synthetic backup         Full Backup!       Image: Synthetic backup       Image: Synthetic backup       Image: Synthetic backup         Synthetic backup       Image: Schedule type: Image: S	10       12       14         ates       Destination:       •         Multiple copies       Override policy storage s         Override policy volume p         NetBackup       Override media owner:         Any         Retention:         2 weeks (level 1)         Instant Recovery:         Snapshots endy	16 : selection: Media multiplexia Media multiplexia Media storage OK Can	L8 20	22 • • • • • • • • • • • • • • •	24
			New	Delete	Proper	rties
				OK Can	cel H	lelp



ame:	- Destination:
	Multiple copies Configure
vpe of backup:	Override policy storage selection:
Differential Incremental Backup	2
Synthetic backup	🗖 Override policy volume pool:
Accelerator forced rescan	NetBackup
Enable indexing for search (Must also be enabled for the policy and client)	Override media owner:
Schedule type:	Anv
🔿 Calendar	Betention: Media multipleving:
Retries allowed after runday	2 weeks (level 1)
• Frequency:	
	Instant Recovery:
I WEEKS	Snapshots and copy snapshots to a storage unit
	C Snapshots only

22. On the **Clients** tab, select the client(s) from which data is backed up.

23. On the **Backup Selection** tab, provide the data set that needs to be backed up.



24. Make sure that the policy is created successfully.

Policies - ost-w2k8r2-04 - NetBackup Administration Console									
Eile Edit View Actions Help									
🖪 •   🔃   🚭   米 🐢 🗙   光 🗈 🛍 🎄	🝸 🗶   😰	🗞   🔤	🚆 🛛 🗠	) 🚊 🎒	જે 💮	📑 🔛	1. 19	• 🕱	
ost-w2k8r2-04	OST_policy: Attribu	ites							
ost-w2k8r2-04 (Master Server)	Name		Data	Туре	Storage	Volum	. Chec	k J	P A Ef
Activity Monitor	OST_policy			MS-Wi	OST_SU	NetBac			D 1/
🖻 🛄 NetBackup Management									
🕀 📄 Reports	•								
🖻 💁 Policies	OST_policy: 3 Sche	dules							
Summary of all Policies		20.05	4	6		10		10	1.
		÷	4 · · ·	<u> </u>		- <u>10</u>		12	······
E Storage	Mon +	+ +	+ +	+ +	+	+ +	+	+	+ +
- Storage Units		+ +	+ +	+ +	+	+ +	+	+	+ +
Storage Unit Groups	Wed +	+ +	+ +	+ +	+	+ +	+	+	+ +
Storage Lifecycle Policies	Thul +	+ +	+ +	+ +	+	+ +	+	+	+ +
Catalog	Frit +	+ +	+ +	+ +	+	+ +	+	+	+ +
	Sati +	+ +	+ +	+ +	+	+ +	+	+	+ +
Media and Device Management	•••••		• • •	· · ·	•				
						Rei	tention		Frequ
	🐨 Full_Васкир	Full Back	up 			2 4	leeks		1
		Differen	tial Incremei	ntal Backup		2.4	/eeks		1
Bobots	🐨 synt	Full Back	up			2.4	/eeks		1
Media Servers									
Server Group	•								
	OST_policy: 1 Clien	lts							
Disk Pools	Client name	Hardware		Operating	system				Res
SAN Clients	🔍 ost-w2k8r2-04	Windows-x6	54	Windows	2008				Off
🖃 🎨 Credentials									
Disk Array Hosts									
Storage Servers									
🔄 📅 Virtual Machine Servers									
🗄 🍘 Vault Management	OST_policy: 1 Sele	tions							
🕀 🚰 Access Management									

25. Activate the policy before proceeding to backup: right click on the policy and click Activate.



# 3 Set up NetBackup for backup acceleration on Linux

## 3.1 Prerequisites

## 3.1.1 OST plugin

Make sure that the Dell OST plugin is installed on the Linux DMA client that is used for NBU backup.

## 3.1.2 Map external\_robotics and external\_types files

To enable the backup accelerator for DELL DR4x00/DR6X00, the external\_robotics.txt and external\_types.txt files must be mapped.

These instructions assume that NetBackup is installed at the default location of /usr/openv/. If NetBackup is installed in a different location, substitute that path for /usr/openv/ in the instructions below.

- Copy the external\_types.txt file from the temporary location to /usr/openv/var/global on the master server or the EMM server:
   cp /temp dir/external types.txt /usr/openv/var/global/
- 2. Copy the external\_robotics.txt file from the temporary location to /usr/openv/var/global on the master server, EMM Server, each media server that controls a robot, and each media server from which robot inventories will be run:

cp /temp\_dir/external\_robotics.txt /usr/openv/var/global/

 Update the NetBackup Enterprise Media Manager database with the new device mappings version. This only needs to be done once and must be run from the Master Server or the EMM Server. Use the command format below that corresponds to the installed version of NetBackup: NetBackup 6.5/7.0/7.1/7.5: /usr/openv/volmgr/bin/tpext -loadEMM

```
NetBackup 0.5/7.0/7.1/7.5. /usi/openv/voimgi/bin/tpext =10a
```

NetBackup 6.0: /usr/openv/volmgr/bin/tpext

4. For media servers running 6.0\_MP4 and earlier, manually update each media server with the new device mappings. (On media servers running 7.5, 7.1, 7.0, 6.5 or 6.0\_MP5 and later, this command is not needed since Device Manager will update the device mappings when it starts.) This command must be run on each 6.0\_MP4 and earlier media server that has devices attached:

/usr/openv/volmgr/bin/tpext -get\_dev\_mappings

- 5. Restart Device Manager (Itid) on each media server.
- 6. Verify that the version that is now stored in the Enterprise Media Manager database is the same as what is in the file stored on the Media Server: /usr/openv/volmgr/bin/tpext -get\_dev\_mappings\_ver

## 3.2 Procedure

To create the storage server, disk pool, storage unit and policy, follow the same steps as in the previous topic for the Windows environment. (The policy type should be **standard**.)



# 4 Back up using NBU backup acceleration

1. Before running backup, make sure which backup mode you want to use: **Passthrough** or **Dedupe**. This can be done by setting the RDA mode in the DR Series system command line interface (CLI).

💣 swsys-63.ocarina	local - PuTTY					
[root@SWSYS-63	~]# rdashow -	-clients				
RDA Client(s)		Type	Plugin		Backup Software	Last Access
nection(s)	Mode					
OST-W2K8R2-04		RDS	2.1.243	Windows Server 2008 R2	NetVault 9.2 Build 16	Aug 27 02:35:56
	Default					
OST-W2K8R2-02		OST	2.1.270	Windows Server 2008 R2	NetBackup 7.500.12	Aug 27 02:35:29
	Dedupe					
Sree-Win-01		OST	2.1.243	Windows Server 2008 R2	NetBackup 7.1.2011	Aug 27 02:35:50
	Dedupe					
Srinivas-W2K8-2	2	OST	2.1.215	Windows Server 2008 R2	NetBackup 7.0.2010	Aug 27 02:36:07
	Dedupe					
[root@SWSYS-63	~]# rdaupdate	clientname C	ST-W2K8R2-04	4mode dedupe		
Rapid Data Acce	ess (RDA) client		th mode Dedu	upe added successfully.		
[root@SWSYS-63	~]# rdaupdate	clientname C	ST-W2K8R2-04	4mode passthrough		
Rapid Data Acce	ess (RDA) client		th mode Pass	s-through updated successfully	7.	
[root@SWSYS-63	~]#					

**Note**: You can schedule the backups or run them at a convenient time. This procedure uses a manual backup configuration.



2. Under **Netbackup Management** -> **Policies**, right click on the policy created in the previous procedure and select **Manual Backup** to run the backup manually.

Policies - ost-w2k8r2-04 - NetBackup Administra	ition Console
Eile Edit View Actions Help	
🕒 • 🔃 😂   米 🕫 🗙 🕯 🛍 🋔	▼ ℤ   ಔ   🖺   🖺   🖉   ∽ 🐊 🐝 🛠 🚝 🚰 🔈 🎾 📆
ost-w2k8r2-04	OST_policy: Attributes
ost-w2k8r2-04 (Master Server)	Name         Data         Type         Storage         Volum         Check         J         P         A         Effect         B         C         T         C         E         Collec         A         K         B         F
- 🖪 Activity Monitor	I OST_policy MS-Wi OST_SU NetBac
🖻 🛄 NetBackup Management	
🗄 📄 Reports	1
⊡- 🛄 Policies	OST_policy: 2 Schedules
Summary of all Policies	2 4 6 8 10 12 14 16 18 20
USI policy	Sun
Storage Linits	Mon Manual Backup
Storage Unit Groups	
Storage Lifecycle Policies	Wed Scare backup or policy: US1_policy
A Catalog	Thu Schedules: Clients:
Host Properties	ost-w2k8r2-04
😑 醫 Media and Device Management	Sat
	Name Frequency M Storage Volum
🗄 📼 Media	Ful_Backup 1 Week 1
Devices	Direm 1 Week 1
Drives	
Bo Mada Camana	Select a schedule and one or more clients to start the backup
Server Croup	
Topology	OST_policy: 1 C
Bisk Pools	
5AN Clients	OK Cancel Help Off
🗄 🊷 Credentials	
💼 Disk Array Hosts	
Storage Servers	
Virtual Machine Servers	
Vault Management	OST_policy: 1 Selections
Access management	Backup Selections
The score management	E:\Ful_12
	Master Server: ost-



3. Run a manual **Full Backup** and check the status in the Activity Monitor. Double-click on the job to see the detailed status.

🎽 Activity Monitor - ost-w2k8r2-04 - NetBackup #	dministration Console
Eile Edit View Actions Help	
] • 🔲 🎒 * 🕫 X   % 🖻 🛍 🕯	▼▼ 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
ost-w2k8r2-04	ost-w2k8r2-04 : Topology
Struck 202 (Master Server)     Actively Monitor     Struck 203 (Master Server)     Actively Management     Brotsbadup Management     Strage Units     Strage Servers     Strage Server	Job Dectalis:1048       X         Job Doctalis:1048       Job State: Active         Job Doctalis:1048       Strage unit: 05T_SU         Strage unit: 05T_SU       Elspaced: 00:0059         Meda server: 01492/02744       Ended: 1727/2014 2:00:274         Transport type: 03:05 State: State       Transport type: 03:05 State: 1727/2014 2:00:27 AM - Info tophical Scipic#4772 Bob:00 Infer to 1049600 bytes         1/27/2014 2:00:27 AM - Info tophical Active 1049600 bytes       1727/2014 2:00:27 AM - Info tophical Active 1049600 bytes         1/27/2014 2:00:27 AM - Info tophical Active 1049600 bytes       1727/2014 2:00:27 AM - Info tophical Active 1049600 bytes         1/27/2014 2:00:27 AM - Info tophical Active 1049600 bytes       1727/2014 2:00:27 AM - Info tophical Active 1049600 bytes         1/27/2014 2:00:27 AM - Info tophical Active 104960
	Print Help Close
	Jobs Services Processes Unives

4. Check the **Detailed Status** tab and verify that the accelerator is enabled.

b Details:104					
Job ID: 1048		Jol	o State: Active		4
Job Overview	Detailed Status				*
Status:	Job PID: Storage unit: Media server: Transport type:	7340 OST_SU ost-w2k8r2-04	Started: Elapsed: Ended: KB/Sec:	1/27/2014 00:02:38 81497	4 2:00:26 AM
LA LOT LOOK A O	00 07 III I / I				
1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2	00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - conne 00:27 AM - conne 00:31 AM - Info bp 00:31 AM - Info bp	bbrm(pid=7340) read bbrm(pid=7340) acci- bbrm(pid=7340) The bbrm(pid=7340) start cting cted; connect time: bbkar32(pid=4772) E btm(pid=2752) start	ing file list from elerator enabled re is no comple ing bpbkar32 o 00:00:00 0ackup started	client ie backup im n client	hage match with
1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 Current kiloby Current files w Current file:	UU:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - conne 00:27 AM - conne 00:21 AM - Info bp 00:31 AM - Info bp 00:31 AM - Info bp 12000 tes written: 12000 ritten: 12	bbrm(pid=7340) read bbrm(pid=7340) acci- bbrm(pid=7340) The bbrm(pid=7340) start cting cted; connect time: bbkar32(pid=4772) E tm(pid=2752) start 	ing file list from elerator enabled fer is no complet ing bpbkar32 o 00:00:00 ackup started Estimated Kilob Estimated Files	client re backup in n client nytes: 0 : 0	nage match with
1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 ↓ Current kiloby Current files w Current files	00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - Info bp 00:27 AM - Conne 00:27 AM - conne 00:27 AM - conne 00:27 AM - conne 00:31 AM - Info bp 00:31 AM - Info bp 12000 ritten: 12000 ritten: 12	brm(pid=7340) read brm(pid=7340) acci- brm(pid=7340) The brm(pid=7340) start cting cted; connect time: bkar32(pid=4772) E btm(pid=2752) start 	ing file list from elerator enabled ing bpbkar32 o 00:00:00 ackup started Estimated Kilob Estimated Files	client Te backup in n client nytes: 0 : 0	nage match with

5. Run one or more configured Incremental Backups.

🗀 Policies – ost-w2k8r2-04 – NetBackup Administra	tion Lonsole
<u>Eile E</u> dit <u>Vi</u> ew <u>A</u> ctions <u>H</u> elp	
📑 • 💼 😂   % 🐢 🗙   % 🖻 🛍 🋔	🝸 🚀   🖄   💥   📁   🗢 🐊 🗳 🍄 🐺 🖆 🎋 🎾 📆
ost-w2k8r2-04	OST_policy: Attributes
📑 ost-w2k8r2-04 (Master Server)	Name Data Type Storage Volum Check J P A Effect B (
	OST_policy MS-Wi OST_SU NetBac
🖻 🛄 NetBackup Management	
庄 📄 Reports	۲ <u>ا</u>
🖻 💁 Policies	OST policy: 2 Schedules
Summary of all Policies	
OST_policy	
🖻 📼 Storage	Mon + Manual Backun XI + +
Storage Unit Groups	Wed + Start backup of policy: OST_policy + +
Storage Lifecycle Policies	Thu Schedules: Clients: + +
Catalog	Fri + Full Backup
Host Properties	Sat function
The second	
Device Monicor	Name Frequency M
	1 Week 1
	1 Week 1
Rep Drives	
A Media Servers	Select a schedule and one or more clients to start the backup.
	To start a backup for all clients, press OK without selecting any clients
Topology	OST_policy: 1 C
	Client name Resiliency
SAN Clients	OK Cancel Help Off
🖻 🎨 Credentials	
💼 Disk Array Hosts	
- 👤 NDMP Hosts	
Storage Servers	
🔄 📑 Virtual Machine Servers	
🗄 🎇 Vault Management	OST_policy: 1 Selections
Access Management	Backup Selections
🗄 🦓 Bare Metal Restore Management	E:\Full_12

6. Check the **Detailed Status** tab of the job to verify that the accelerator is enabled.

Job ID: 1052		Job State: Done (Successful)				4	
Job Overview	Job Overview Detailed Status						❖
Status:	Job PID: Storage unit: Media server: Transport type: :42:08 AM - Info n	5608 OST_SU ost-w2k8r2-04 LAN bjm(pid=6764) starte	Started: Elapsed: Ended: KB/Sec: ed backup (back	1/27/ 00:00 1/27/ 34594	'2014 2:42: :46 '2014 2:42: 4 st-w2k8r2-0	08 AM 54 AM 04_13908	-
1/27/2014 2	:42:08 AM - starter :42:09 AM - Info bi	d physicid=5609) oot	w2k8r2.04 is the	a host tr	- baokup d	ata from	
1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2	:42:09 AM - Info b :42:09 AM - Info b :42:09 AM - started :42:12 AM - Info b :42:12 AM - conne :42:12 AM - conne	pbrm(pid=5608) rea pbrm(pid=5608) acc d process bpbrm (56 pbrm(pid=5608) sta acting acted; connect time	celerator enabled celerator enabled 508) rting bpbkar32 of : 00:00:00	n client	о раскир о	ata nom	
1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2	42:09 AM - Info b 42:09 AM - Info b 42:09 AM - starter 42:12 AM - Info b 42:12 AM - Conne 42:12 AM - conne	pbm(pid=5608) rea pbm(pid=5608) rea pbm(pid=5608) acc d process bpbm (50 pbm(pid=5608) star scting scted; connect time	ding file list from celerator enabled 508) tting bpbkar32 of : 00:00:00	n client	о васкар в		_
1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 1/27/2014 2 Current kiloby Current files w Current file:	42:09 AM - Info b 42:09 AM - Info b 42:09 AM - starter 42:12 AM - Info b 42:12 AM - conne 42:12 AM - conne 42:12 AM - conne tes written: 1048 ritten: 4	pbm(pid=5608) rea pbm(pid=5608) rea pbm(pid=5608) acc d process bpbm (50 pbm(pid=5608) star scting scted; connect time	Estimated Files	ytes: (	) )		-

- 7. Run another full backup.
- 8. Confirm that the backup is accelerator-enabled.

Job Details:10	53					×
Job ID: 1	053	Job State: Done (Successful)				4
Job Overview	Detailed Status					❖
Status:	Job PID: Storage unit: Media server: Transport type:	6052 OST_SU ost-w2k8r2-04 LAN	Started: Elapsed: Ended: KB/Sec:	1/27/2014 00:00:34 1/27/2014 643299	2:46:00 AM 2:46:34 AM	
- estimated 0 - Info nbjm(pi - started proc - started - Info bpbrm( - Info bpbrm( - connecting - connected; - Info bpbkar	Kbytes needed d=6764) started bac sess bpbrm (6052) pid=6052) accelerat pid=6052) starting bj connect time: 00:00 32(pid=3200) Backu	kup (backupid=os or enabled obkar32 on client ):00 ip started	t-w2k8r2-04_13:	90819560) ja	b for client ost	
Current kiloby Current files v Current file:	rtes written: 11841 vritten: 21	855	Estimated Kilob, Estimated Files:	ytes: 0 20	Þ	
					Troubleshoote	ſ
Percen	t Complete: 100% 🔳		0	minutes rem	aining	
Print			H	elp	Close	

9. Verify the summary of the job.

Job Details:10	53				×	
Job ID: 1	Job ID: 1053		Job State: Done (Successful)			
Job Overview	Detailed Status					
Status:	Job PID: Storage unit: Media server: Transport type:	6052 OST_SU ost-w2k8r2-04 LAN	Started: Elapsed: Ended: KB/Sec:	1/27/2014 00:00:34 1/27/2014 643299	2:46:00 AM 2:46:34 AM	
<ul> <li>Info bptm[p]</li> <li>Info bptm[p]</li> <li>begin writing</li> <li>Info bpbkar:</li> <li>Info bpbkar:</li> <li>Info bpbkar:</li> <li>Info bpbkrar:</li> <li>Info bpbrari</li> <li>Info bptm[pi</li> <li>Info bptm[pi</li> </ul>	d=3176) start back 32(pid=3200) chan 32(pid=3200) accel 32(pid=3200) bpbk d=3176) waited for d=3176) EXITING pid=6052) validating	ge journal NOT ens ge journal NOT ens farwaited 0 times fo full buffer 1 times, o with status 0 < g image for client os	bled for KEAFul rempty buffer, d delayed 1061 tim  st-w2k8r2-04	L 12) 5059520 byte lelayed 0 time les	es to server, or es.	
•						
Current kiloby Current files w Current file:	tes written: 1184 vritten: 21	1855	Estimated Kilob Estimated Files:	ytes: 0 20		
					Troubleshooter	
Percent	t Complete: 100% li			I minutes rem	aining	
Print			Н	elp	Close	

## Duplicate the backup data to the OST replication target container

Note: This procedure is the same for NetBackup (NBU) on a Windows or Linux host.

1. Create an OST container on the target DR Series system.

System State		Operational Mode	-
Reason		Filesystem is fully operational for I/O.	
Diagnostics Collector		RUNNING Feb 4 01:13:20	
Configuration Server		RUNNING Feb 4 01:17:43	
Filesystem Server		RUNNING Feb 4 01:17:46	
Windows Access Server		RUNNING Feb 4 01:17:43	
HTTP Server		RUNNING Feb 4 01:13:04	
Hardware Health Monitor		RUNNING Feb 4 01:13:27	
Windows Active Directory Client		RUNNING Feb 4 01:17:37	
Filesystem Checker		STOPPED	
[root@swsys-20 ~]#			
[root@swsys-20 ~]#			
[root@swsys-20 ~]# container	ado	dname ost_t	
Container "ost_t" created succe	88:	fully.	
[root@swsys-20 ~]# connection -	-a	ddtype ostname ost_t	
Successfully added connection e	nti	ry.	
OST connection Quota		Unlimited	
OST connection Enabled		Yes	
[root@swsys-20 ~]#			-

2. Repeat steps 1-16 in Section 2, or follow Section 3 for adding the container as a storage unit onto NetBackup (NBU). Verify that the storage unit was created successfully.

Storage Unit Creation Enter details to cre	<b>in</b> ate storage ur	nit.		
Disk Pool:	ost_t			
Storage server type:	DELL			
Storage unit name:				
ost_t				
Media Server				
C Use any available	media server to t	ransport data		
Use only the select	sted media server	s:		
Maximum concurrent jobs:		Maximum fragment	t size:	
22 -		524288	мв	

3. Look for the job that backs up to the source OST container with backup acceleration. Get the backup ID of the backup job from the job's Detailed Status.





b Details:11	85				
Job ID: 1185		Job State: Done (Successful)			
Job Overview	Detailed Status				-7
	Job PID: Storage unit: Media server: Transport tupe:	7928 OST_SU ost-w2k8r2-04	Started: Elapsed: Ended: KB/Sec:	2/4/2014 1:32:54 AM 00:01:14 2/4/2014 1:34:08 AM 1677300	
Status:					
resource OS resource OS d 95601935	-wzkarz-04.NBO_F edialD=@aaabv;Dis T_SU 2 Kbytes needed	VULLY, MAXJUBS, U skVolume=OST; DiskF	ST_policy Pool=OST;Patł	h=OST;StorageServer=sws	
resource os resource OS d 95601935 n(pid=7404) vrocess bpbr rm(pid=7928	-wzkorz-04.NBU_F dialD=@aaabv;Dis iT_SU 2 Kbytes needed started backup (ba m (7928) i) accelerator enabl	ed	51_policy Pool=0ST;Path 4_139150637	h=DST;StorageServer=sws	
resource os resource Me resource OS d 95601935 n(pid=7404) process bpbr rm(pid=7928 Current kilob, Current files	-wzkorz-04, NBO_F dialD=@aaabv;Dis iT_SU 2 Kbytes needed started backup that m (7928) i) accelerator enable ges written: 9192 written: 1512	ckupid=ost-w2k8r2-0 ed	4_139150637 4_139150637 Estimated Kilot	h=OST;StorageServer=sws 41000 for client ost-w2k8r2- Dytes:	
resource os resource Ma resource 05 d 95601935 n(pid=7404) vrocess bpbr rm(pid=7928 ◀ Current kilob, Current kilob, Current file:	-wzkorz-04,NBU_F dialD=@aaabv;Dis T_SU 2 Kbytes needed started backup fba m (7928) i) accelerator enabl ytes written: 9192 written: 1512	Childy, MAXJUBS, U skVolume=0ST;Diskf ckupid=ost-w2k8r2-0 ed 1101 1 12 1	4_139150637 4_139150637 Estimated Kilob Estimated Files	h=DST;StorageServer=sws 4100 for client ost-w2k8r2- pytes: : : : : :	
resource os resource Ma resource OS d 95601935 ofpid=7404) orocess bpbr rm(pid=7928 Current kilob Current kilob Current files Current files	-wzkorz-04,NBU_F dialD=@aaabv;Dis T_SU 2 Kbytes needed started backup Tha m (7928) d) accelerator enable vises written: 9192 written: 9192 written: 1512	CLUY.MAXJUBS.U skVolume=0ST;Diskf ckupid=ost-w2k8r2-0 ed :1101 1 :2 1	4_139150637 4_139150637 Estimated Kilob Estimated Files	h=DST;StorageServer=sws 4100 for client ost-w2k8r2- pytes: :: Troubleshoo D minutes remaining	

4. Search for the backup job ID in the catalog.

🛅 Catalog - ost-w2k8r2-04 - NetBackup Administr	tion Console	
<u>File Edit View Actions H</u> elp		I
] 🗄 • 💼 🖨   米 🖂 🗙 🖻 🏙 🋔	▼ ೫   🖄   🐮   🚜 # 📾 № 2 2 2 4 🗞 🖂 🖑 ?	
ost-w2k8r2-04	Action: Copies:	
sst-w2k8r2-04 (Master Server)	Duplicate Primary Copy	•
Activity Monitor	- Madia: Policy:	
🖻 🗒 NetBackup Management	C Media ID: Media Server: <a>All Policies&gt;</a>	
E Reports	CAll > V CAll Media Servers > V Policy type:	
	Dick bunge:     All Policy Types>	•
Summary of all Policies	Solls	_
	NAIZ CALE AND A CALE A	
	Media Server: Volume ID: Class (host o smal)	
Storage Units		
Storage Lifecycle Policies	Date / time range:	i
Catalog	Between: 2/ 3/2014 9:34:04 PM	
Host Properties	And: 2/ 4/2014 11:59:59 PM	
Media and Device Management		
H Media	(Higher number is greater priority)	
E Devices		1
- 🕞 Drives	Нер	Search Now
- B Robots	Images: 2/3/2014 9:34:04 PM to 2/4/2014 11:59:59 PM Duplicate Primary Copy Policy Type: Unknown Policy Type	1 Selected 🗖
Media Servers	Backup ID Date Time Policy Name Sched. Server Media ID Conv., Primar., Mirro	r Mount Or
Server Group	General 2017 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Nc
Topology	ost-w2k6x2-04_1094505660, 2/4/2014 1:21:00 OST policy Increm ost-w2k @aaaby 1 Yes No	No
Disk Pools	Viost-w2k8r2-04 1391506374 //4/2014 1:32:54 OST policy Full Bac ost-w2k @aaaby 1 Yes No	No
Generation Credentials		
Bisk Array Hosts		
NDMP Hosts		
Storage Servers		
R Virtual Machine Servers		
🗄 🛞 Vault Management		
🗄 🚰 Access Management		
🗄 🏀 Bare Metal Restore Management		
	3	
		- <u>-</u>
	Pg Search C Results	
	Master Server: ost-w2k8r	2-04 Connected

**Note**: You can search for all jobs in a specific date and time range by going to **Catalog**, selecting **Duplicate** under **Action**, selecting appropriate dates and then clicking **Search Now**.

Catalog - ost-w2k8r2-04 - NetBackup Administra	tion Console						
Eile Edit View Actions Help							
🕒 • 📧 😂   % 🕶 🗙   % 🗈 🛍 🛔	🝸 🗶   🔮	😒   🛅   🖞	🖹 🎤 🦨	🛍 🛃 🔮	1 🔍 🚔 🛷	?	
ost-w2k8r2-04	Action:					Copies	:
📑 ost-w2k8r2-04 (Master Server)	Duplicate		-			Primar	у Сору
- 🔜 Activity Monitor	_ Media:					Policy:	
🖻 🛄 NetBackup Management	C Media ID:	Media Se	erver:			<all f<="" td=""><td>olicies&gt;</td></all>	olicies>
E Reports			edia Servers>			Policy t	:ype:
	G Dick types		Dick Pool:				olicy Types>
Summary of all Policies					0.5	Type o	f backup:
OST_policy	<aii></aii>		All>		<u>P</u>		n Buckap.
- Storage	Media Serve	871	Volume ID:			Charles	ackup Types
Change Units							nost name):
Storage Unit Groups	Date ( time ra	ande'					lients>
Catalog	Between:	l electric					
Host Properties	between:   2	r 3/2014		9:34:04 PM		3   [	Override de
Media and Device Management	And: 2	/ 4/2014	- 1:	1:59:59 PM	-		b Priority/
Device Monitor					_	9	on money i
🛨 🏧 Media						(H	igher number
Devices							
Drives							
📴 Robots	Images: 2/3/201	4 9:34:04 PM to 2	/4/2014 11:59:5	9 PM, Duolica	te Primary Conv I	Policy Type:	Linknown Po
- 🛃 Media Servers	Backup ID		Date	Time	Policy Name	Sched	Server
Server Group	act w2k8x2.1	04 1201502111	2/4/2014	12:29:2	OST policy	Full Roc	oct w2k
Topology	oct-w2k9r2-i	04_1391505111	2/4/2014	1,21,00	OST_policy	Tocrem	oct-w2k
Disk Pools	ost-w2k9r2-i	04_1391506274	2/4/2014	1,22,54	OST_policy	Full Red	ost-w2k
SAN Clients	USLEWZKO	Verify		1:52:54	. OST_DUNCY	ruii_bau.	USC-WZK
E Statis		Duplicato					
Disk Array Hosts		Duplicater					
		L Expire					
Suraye Servers	8	Initiate Import					
	6	님 Import					
	-	🔬 Set Primary Cop	W.				
A Bare Metal Restore Management							
		View					
		Columns					
	AL	Sort					
	38.0	Eind	•  =				
	Pr Searc	Fiļter	Ctrl+T				

#### 5. Right-click on the job **Backup ID** and click **Duplicate**.

6. Set appropriate values for **Setup Duplication Variables**.

Setup Duplication Variables		×
Copies:		All storage units must be connected to the same media server.
Primary: Storage unit	: Volume pool:	Retention: If this copy fails: Media owner:
Copy 1: 🔽 🧧 ost_t	> .	No chang continue
Сору 2: Г	<b>_</b>	Continue
Сору 3: 🗖		V Continue V
Copy 4:	<b>-</b>	v v continue v
Preserve multiplexing		OK Cancel Help

a. Under **Storage Unit**, select the target OST container.

- b. If the **Primary** checkbox is selected, the duplicated data on the target becomes the primary copy, which means by default the restore and data verification is run on the target container. In this example, the flag is enabled so that data verification can be run on the target container.
- c. If the **Primary** checkbox is deselected, the data on the source container remains the primary copy and all of the restore and data verification jobs will run on the source container.
- 7. Check the duplication job details.

Job Details:118	87						×
Job ID: 1	Job ID: 1187		Job State: Active				
Job Overview	Detailed S	tatus					-∽
Status:	Job PID: Storage unit Media serve Transport ty	: c sr: c pe:	3440 pst_t pst-w2k8r2-04 -> ost	Started: Elapsed: Ended: KB/Sec:	2/4/2014 2 00:02:43	:02:57 AM	
> MediaID=@ > 05(1) rice @aaabv > MediaID=@ d=344UJ Initia 284) started >pdm (1284) 284) requestin	aaabx:Disky aaaby:Disky sting optimize	volume=os Volume=O ed duplical nedia	ST:DiskPool=OST;f	Path=OST;SI Path=OST;SI oleaaabx	torageServe	r=swsys-2U;Me	
						•	
Current kiloby Current files w Current file:	tes written: rritten:	0 0	Est Est	imated Kiloby imated Files:	vtes: 91921	101	
						Troubleshoo	ter
Percer	nt Complete:	20%		1	) minutes rer	naining	
Print				He		Close	

In this example, the duplication job is running from Media Id : @aaabv to @aaabx where:

- > @aaabv is the media ID of source container 'OST'
- > @aaabx is the media ID of target container óst\_t'

Details:11					
Job ID: 1187		Jol	Job State: Active		Ŀ
ob Overview	Detailed State	us			
Status:	Job PID: Storage unit: Media server: Transport type:	3440 ost_t ost-w2k8r2-04 ->	Started: Elapsed: ost Ended: KB/Sec:	2/4/2014 2 00:01:01	2:02:57 AM
resource @a	iaaby				· · · · · · · · · · · · · · · · · · ·
resource @a source Media ate(pid=34 pid=1284) sta cess bpdm (1 pid=1284) rec 19	aabv ID=@east,Bi Unitiating optim ated 284) questing nbjm fo	accolance of the pick of the p	oi-037,Pult ( 9aaaby to @aa	abx	Gerver=swsys-{
resource @a source Media ate(pid=34 pid=1284) sta cess bpdm (1 pid=1284) rec 1g	aabv ID=@ooot,9; Initiating optim rited 284) questing nbjm fo	victoianie-001,01811 c ized duplication from @ or media	Paaabv to @aa	ST Storages	Server=swsys-f
resource @a source Media ate[pid=34 @ pid=1284) sta cess bpdm (1 pid=1284) rec 19 Current kiloby Current kiloby Current files w	aabv ID=(0	or media	Paaaby to @aa Estimated Kilob Estimated Files	ytes: 91921	Server=swsys-f
resource @a source Media ate[pid=34 @ pid=1284) sta cess bpdm (1 pid=1284) rec 19 Current kiloby Current kiloby Current files w Current files	aabv ID=(0,, Ei II)nitiating optim arteo 284) questing nbjm fo questing nbjm fo ritten: 0	or media	Paaaby to @aa Estimated Kilob Estimated Files	ytes: 91921	Server=swsys-f
resource @a source Media ate(pid=1284) sta cess bpdm (1 pid=1284) red 19 I g Current kiloby Current files w Current file:	aabv (D = George 2 ; (D = triating optim ited 284) questing nbjm fo tes written: 0 rritten: 0 ent Complete: 7	or media	Baaaby to @aa Estimated Kilob Estimated Files	3 minutes res	Server=swsys-f

8. Verify that the duplication successfully completed.

Job Details:1187				×
Job ID: 1187	Job	Job State: Done (Successful)		
Job Overview Detailed	Status			-∽
Job PID: Storage u Media sei Transport Status:	3440 nit: ost_t ver: ost-w2k8r2-04 -> type:	Started: Elapsed: ost Ended: KB/Sec:	2/4/2014 2:02 00:12:00 2/4/2014 2:14	257 АМ
2/4/2014 2:03:01 AM 2/4/2014 2:03:02 AM 2/4/2014 2:03:02 AM 2/4/2014 2:03:02 AM 2/4/2014 2:03:06 AM 2/4/2014 2:14:56 AM 2/4/2014 2:14:57 AM 2/4/2014 2:14:57 AM the requested operation	Info Duplicate(pid=3440) Ini Info bpdm(pid=1284) started started process bpdm (1284 Info bpdm(pid=1284) reques begin writing end writing; write time; 00:11 Info bpdm(pid=1284) EXITIN end Duplicate; elapsed time m was successfully completed	tiating optimized ) ting nbjm for me 1:50 \G with status 0 : 00:12:00 4(0)	l duplication fror dia	n @aaabv 🔺
Current kilobytes writter Current files written: Current file:	: 0 0	Estimated Kiloby Estimated Files:	vtes: 91921101 	roubleshooter
Percent Complete: 100%				
Print		He	elp	Close

9. Under **Catalog**, choose **Action** as **Verify**, **Disk Type** as **OpenStorage(DELL)**, click **Search Now** and choose the job with backup acceleration. Right-click on it and click **Verify**.

🛅 Catalog - ost-w2k8r2-04 - NetBackup Administration Console						
Eile Edit View Actions Help						
🗄 • 🔟 🖨   % 🖻 🗙 🕯 🛔	▼ 7 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					
ost-w2k8r2-04	Action: Copies:					
📑 ost-w2k8r2-04 (Master Server)	Verify Primary Copy					
Activity Monitor	Policy:					
🖻 🛄 NetBackup Management	C Media ID: Media Server: <a></a> <a>All Policies&gt;</a>	<all policies=""></all>				
E Reports	CAll Media Servers>					
Olicies	C Dick type: Dick Pool:	<all policy="" types=""></all>				
Summary of all Policies	Construction (OEU)					
OSI_policy	Chillesten Types					
E Storage	Media Server: Volume ID:					
Storage Units						
Storage Lifervice Policies	Date / time range:					
Catalog	Between: 2/ 2/2014					
+ St. Host Properties	2) 5)2014 9:34:04 PM 💽 Override default job priority					
😑 醫 Media and Device Management	And: 2/ 4/2014 V 11:59:59 PM Job Priority: 75000					
🕀 💶 Media	(Higher number is greater priority)					
🖻 🛃 Devices		.				
Robots	Images: 2/3/2014 9:34:04 PM to 2/4/2014 11:59:59 PM Verify Primary Copy Policy Type: Unknown Policy Type					
Media Servers	Backup ID Date Time Policy Name Sched Server Media ID Copy Primar	Mirror				
Topology	a ost-w2k8r2-04_1391503111 2/4/2014 12:38:3 OST_policy Full_Bac ost-w2k @aaabv 1 Yes	No				
Bisk Pools	ost-w2k8/2.04_1391505660_2/4/2014_1:21:00 OST_policy Increm ost-w2k @aaabv 1 Yes	No				
SAN Clients	ost-w2k8r2-04_1391506374 4/2014 1:32:54 OST_policy Full_Bac ost-w2k @aaabx 2 Yes	No				
E Structure Credentials						
Disk Array Hosts						
DMP Hosts						
Storage Servers						
🖓 Virtual Machine Servers						
🗄 🛞 Vault Management						
Access Management						
🗄 🔞 Bare Metal Restore Management						
	🚧 Search 📃 Results					
	Master Server: ost-	w2k8r2-04				



**Note**: If data on the target container is set as **Primary** copy, the data verification will run on target container data. In this example, you can confirm this from the media ID @aaabx, which is the media ID of the target container. The media ID of the source container is @aaabv.



#### 10. Check the verify job details.

Job Details:1188		×
Job ID: 1188	Job State: Active	
	,	
Job Overview Detailed Status	1	
Job PID: Storage upit:	4672 Started: Elansed:	2/4/2014 2:24:57 AM
Media server:	Ended:	00.00.00
Transport type:	KB/Sec:	
Status:		
2/4/2014 2:24:57 AM - begin 2/4/2014 2:24:58 AM - reques 2/4/2014 2:24:58 AM - granter 2/4/2014 2:24:58 AM - Info bp 2/4/2014 2:24:58 AM - Info bp 2/4/2014 2:25:02 AM - Info ta 2/4/2014 2:25:02 AM - Info ta 2/4/2014 2:25:02 AM - Info ta	/enry ting resource @eaaabx d resource Mediato =@eaabx;DiskVo brm(pid=7216) ost-w2k8r2-04 is the I brm(pid=7216) reading file list from cl brm(pid=7216) starting tar32 on clien 32(pid=4208) Restore started dm(pid=2404) started process bpdm (2404)	blume=ost_t;DiskPool=ost_l host to restore to lient it
•		
Current kilobytes written: 0	Estimated Kilob	ytes:
Current files written: 0	Estimated Files:	
Current file:		
		Troubleshooter
Percent Complete: 0%		
Diat		
Job Details:1188		×
Job ID: 1188	Job State: Active	4
Job Overview Detailed Status	]	
Job PID:	4672 Started:	2/4/2014 2:24:57 AM
Storage unit:	Elapsed:	00:00:09
Media server:	Ended:	
Fransport type: Status:	KB/Sec:	
ource @aaabx rce MediaID=@aaabx;DiskVolu I=7216) ost-w2k8r2-04 is the ho I=7216) reading file list from clie I=7216) starting tar32 on client =4208) Restore started =2404) started is bpdm (2404)	ume=ost_t;DiskPool=ost_t;Path=ost_ ist to restore to nt	t:StorageServer=swsys-20;
Current kilobytes written: 0 Current files written: 0 Current file:	Estimated Kilobj Estimated Files:	ytes:
		Troubleshooter
Percent Complete: 0%		Troubleshooter

**Note**: Check which container verify job is running by using the media ID. In this example, the media ID @aaabx is for the target container 'ost\_t'.



# Monitor 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.



