

Application Note

November 2013

Configuring a NEO Tape Library using Symantec NetBackup on Solaris 10 Environment



Summary

This Application Note describes how to configure a NEO tape library on Oracle Solaris 10 with Symantec NetBackup 7.5. Upon successful completion of these procedures, the reader will have a general understanding on how to configure the NEO tape library using NetBackup and how to create a backup and restore job with the NEO library.

Prerequisites

Prior to performing this procedure, ensure that you have the following:

- This document assumes the reader is familiar with the SUN/Oracle Solaris 10 and Symantec NetBackup 7.5 environment. Any and all additional information can be attained through *Symantec NetBackup's Device Configuration Guide* and SUN/Oracle Solaris Administration documentation. This document also assumes the NEO tape library has already been installed and configured, for more information about basic configuration with the tape library, please reference the User Guide that came with it.
- This document also assumes the NEO tape library has already been installed and configured. For more information about basic configuration of the tape library, please reference the User Guide that came with it.

Additional Information

The steps provided in this guide reference an Overland Storage fibre channel NEO E-series library (NEO 4000e fw 2.1.026) with an IBM LTO-5 tape drive. Note also that we have documented some examples of a NEO 2000e and NEO 200s with IBM LTO-6 tape drives. This document can be used as a reference to all NEO Series libraries with HP or IBM tape drives

Versions

The test environments used for illustration in this document are as follows:

- NEO 2000e/4000e (FC) fw 2.01.026 / IBM LTO-6 FH fw D2DE
- NEO 200s (FC) fw C10/3.20e / IBM LTO-6 HH fw D2DB
- Symantec NetBackup 7.5
- Oracle Solaris Server version 10
- SUN/Oracle SG-XPCI1FC-QF4 (Qlogic) Fibre Channel HBA

Solaris Device Configuration and Discovery

NetBackup provides its own SCSI pass-through driver to communicate with SCSI-controlled robotic peripherals. This driver is called the SCSA (generic SCSI pass-through driver), also referred to as the *sg driver*. The following steps describe how to configure and create the sg device drivers.

- **1.** Depending on which library you have (NEO E-series or NEO S-series), use the one of the following steps to find the fibre channel WWPN for the devices.
 - For NEO E-series libraries, verify the WWN information of the library using the Web Management Interface by selecting Status (tab) > Tape Drive > Full Drive Status.
 Make note of the World Wide Port O Name for each of the tape drives in the library.

Drive 1 Status (Complete) Drive Identification				
Drive Type	IBM LTO5 fibre channel			
Serial Number	1068045777			
Vendor ID	IBM			
Product ID	ULTRIUM-TD5			
Revision Level	BBN2			
Firmware Version				
World Wide Node Name	50:05:07:63:12:4A:6D:54			
World Wide Port 0 Name	50:05:07:63:12:4A:6D:55			
Port 0 Current Topology	Loop			
Drive Statu	s			
Media Status	Not Present			
Cleaning Status	None			
Error Condition	No			
1 drive was detected in the library Refresh the drive status display				

• For the **NEO S-series** libraries, verify the WWN information of the library using the Web Management Interface by selecting **Monitor Library > Drive Identity**.

Make note of the **Port Name** for **Port A** for each of the tape drives in the NEO-S tape library.

Welcome		
Monitor Library	Drive Identity	1 (LUN)
	Vendor ID	IBM
Library Identity	Product ID	ULTRIUM-HH6
Drive Identity	Serial Number	1068000325
ibrary Status	Firmware Revision	C9T5
)rive Status	Element Address	256
nuntanu	Control Path Drive	Yes
ivencory	Data Compression	Yes
lanage Library	Interface Type	Fibre Channel
an finung Libeany	Node Name	2001000E111485FC
onfigure Library	Port A	Enabled
ervice Library	Port Name	2002000E111485FC
	Topology	LN-Port
	FC-AL Loop ID	Manual
	Speed	Automatic
	Port B	Disabled

2. Type the following Solaris commands to display the devices:

luxadm —e	port			
luxadmin —	e dump_map	<device< th=""><th>path></th><th></th></device<>	path>	

Refresh status

Example of a NEO 4000e:



Example of a NEO 2000e and NEO 200s:

Terminal	• □
<u>W</u> indow <u>E</u> dit <u>O</u> ptions	<u>H</u> elp
# # # luxadm -e port /devices/pci@id,700000/SUNW,qlc@i/fp@0,0:devct] CONNECTED # # # luxadm -e dump_map /devices/pci@id,700000/SUNW,qlc@i/fp@0,0:devct] Poc. Port ID Hard Addr Port HWM Poc. Port ID Hard Addr Port HWM	
0 10126 0 50050763124C3a6c 50050763120C3a6c 0x1 (Tape device) 1 102e1 102e1 2002000e111485fc 2001000e111485fc 0x1 (Tape device) 2 10300 0 210000e08b30a312 200000e08b30a312 0x11 (Unknown Type,Host Bus Adapter) #	

3. Type the following commands.:

```
cd /opt/open/volmgr/bin
./sg.build all -mt 1 -ml 1
```

The **-mt target** option and argument specify the maximum target ID that is bound to an FCP HBA. The **-ml lun** option and argument specify the maximum number of LUNs that are in use by an FCP HBA.

-			Console	
<u>W</u> indo	w <u>E</u> dit	<u>O</u> ptions		<u>H</u> elp
# /opt/o # # ./sg The fi A rebo Create Create	penv/volr .build al le ./st.c ot may be d file ., d file .,	mgr/bin 11 -mt 1 -ml 1 conf should be e necessary to /sg.conf. /sg.links.	1 e appended to /kernel/drv/st.conf. o create any new device files.	

4. While modifying the /kernel/drv/st.conf is optional, if the fibre channel HBA in the Solaris host is older, adding the entries into the st.conf may be needed. Add each and all tape devices in the NEO tape library and then save the file when finished. Refer to Step 1 to find the WWPN information. Use this command:

name="sg" parent="fp" target=0 lun0 fc-port-wwn_"wwn_port_addr_of_device";

Console	
<u>W</u> indow <u>E</u> dit <u>O</u> ptions	<u>H</u> elp
name="st" class="scsi" target=6 lun=0;	
<pre># # In case there are wide tape drives, one can use these targets # #name="st" class="scsi" target=8 lun=0; #name="st" class="scsi" target=9 lun=0; #name="st" class="scsi" target=10 lun=0; #name="st" class="scsi" target=11 lun=0; #name="st" class="scsi" target=12 lun=0; #name="st" class="scsi" target=13 lun=0; #name="st" class="scsi" target=14 lun=0; #name="st" class="scsi" target=15 lun=0; # This line adds support for Fibre Channel Tapes name="st" parent="fp" target=0;</pre>	
name="sg" class="scsi" target=0 lun=0 name="sg" class="scsi" target=0 lun=1	
name="sg" parent="fp" target=0 lun=0 fc-port-wwn="50050763124a6d55"; name="sg" parent="fp" target=0 lun=1 fc-port-wwn="50050763124a6d55";	

5. Reboot the Solaris server with the **reconfigure** option:

reboot - - rv

6. Stop the NetBackup **services** once the server is up:

/etc/init.d/netbackup stop

- 7. Verify all devices are discovered natively through Solaris:
 - ls —l /dev/scsi/changer

```
ls _l /dev/rmt/?
```

Example of a NEO 4000e with an IBM LTO-5 full-height fibre tape drive:



Example of a NEO 2000e and a NEO 200s with IBM LTO-6 fibre tape drives

	re Terminal		
ļ	<u>W</u> indow <u>E</u> dit <u>O</u> ptions	<u>H</u> el	р
	<pre># # # # # ls -1 /dev/scsi/changer/ total 10 Trwxrwxrwx 1 root root 81 Feb 5 10:06 c3t2002000E111485Fcd1//./devices/pci@td.700000/SUNW,qlc@t/fp@0.0/sgen@w2002000e111485Fc,1:chan lrwxrwxrwx 1 root root 81 Feb 5 10:06 c3t50050763124C3A6Cd1//.devices/pci@td.700000/SUNW,qlc@t/fp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@t/fp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@t/fp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6Cd1//devices/pci@td.700000/SUNW,qlc@tfp@0.0/sgen@w50050763124C3A6C,1:chan rwwr-r 1 root root 522 Feb 5 10:04 sg.conf -rw-rr- 1 root root 156 Feb 5 10:04 st.conf # # # # # # # # # # # # # # # # # # #</pre>	> . ger > . ger	A
	<pre># # ls -1 /dev/rmt/? Irwxrwxrwx 1 root root 69 Feb 5 10:06 /dev/rmt/0 ->//dev s/pci@1d,700000/SUNW,qlc@1/fp@0,0/st@v2002000e111485fc,0: Irwxrwxrwx 1 root root 69 Feb 5 10:06 /dev/rmt/1 ->//dev s/pci@1d,700000/SUNW,qlc@1/fp@0,0/st@v50050763124c3a6c,0: # # </pre>	ice ice	

8. Use the following command to delete the **sg.conf** file:

rm _f /kernel/drv/sg.conf

9. Use the following command to install the NetBackup sg drivers:

cd /opt/openv/volmgr/bin/driver ./sg.install



10. Verify if all devices are discovered using the NetBackup **sgscan** utility:

cd /opt/openv/volmgr/bin ./sgscan all

Example of a NEO 4000e with an IBM LTO-5 full-height fibre tape drive:

- Console		
<u>W</u> indow <u>E</u> dit <u>O</u> ptions	<u>H</u> el	р
<pre># # # pwd /opt/openv/volmgr/bin # /sgscan all /dev/sg/c0t0l0: Disk (/dev/rdsk/c1t0d0): "FUJITSU MAP3367N SUN36G" /dev/sg/c0t10: Disk (/dev/rdsk/c1t1d0): "FUJITSU MAP3367N SUN36G" /dev/sg/c0tw50050763124a6d5510: Tape (/dev/rmt/0): "IBM ULTRIUM-TD5" /dev/sg/c0tw50050763124a6d5511: Changer: "OVERLANDNEO Series" # # #</pre>		

 Terminal

 Window
 Edit
 Options

 #
 #

 # pwd
 /oott/openv/volmgr/bin

 #
 ./sgscan all

 /dev/sg/c0t010:
 Disk
 //dev/rdsk/c1t0d0):

 /dev/sg/c0t10:
 Disk
 //dev/rdsk/c1t0d0):

 /dev/sg/c0t10:
 Disk
 //dev/rdsk/c1t10d0):

 /dev/sg/c0tw2002000e111485fc10:
 Tape
 //dev/rmt/0):

 /dev/sg/c0tw2002000e111485fc10:
 Tape
 //dev/rmt/1):

 /dev/sg/c0tw2002000e111485fc10:
 Tape
 //dev/rmt/1):

 /dev/sg/c0tw5002000e111485fc10:
 Tape
 //dev/rmt/1):

 /dev/sg/c0tw50050763124c3a6c10:
 Tape
 //dev/rmt/1):

 /dev/sg/c0tw50050763124c3a6c11:
 Changer:
 "0VERLANDNEO

 /dev/sg/c0tw50050763124c3a6c11:
 Changer:
 "0VERLANDNEO

Example of a NEO 2000e and a NEO 200s with IBM LTO-6 fibre tape drives:

NetBackup Device Configuration

The following procedures can be used to configure the NEO library within the NetBackup Administration Console. The steps describe how to use the NetBackup Device Configuration Wizard to discover the tape library and create the Storage Unit dedicated to the library.

1. Use the following **command** to start the NetBackup services:

/etc/init.d/netbackup start

- 2. Use the following command to launch NetBackup Administration Console GUI:
 - cd /opt/openv/netbackup/bin ./jnbSA &
- 3. Enter the credentials to login to the Administration Console.

	NetBackup Administration Console	۰ 🗌
Symantec	NetBackup™	
*	You may administer NetBackup on any NetBackup hos To login, enter the username and password for the specified NetBackup host. Host <u>n</u> ame:	t.
	apps-sunv240	-
	User name:	
\sim	root	
$\langle / \Gamma \rangle$	Password:	
XI	******	
	Login Cancel Help Symantec NetBackup TM with V-Ray techno Copyright © 2012 Symantec Corporation. All rights reser	blogy ved.
Į.		

4. Click the NetBackup Server and select Configure Storage Devices.



5. Click Next twice to complete the NetBackup Device Configuration Wizard.

Example of a NEO 4000e with an IBM LTO-5 full-height fibre tape drive discovered:

		Device	Configur	ation Wi:	zard	
ackup Devices Review the d	evices NetBack	up has found.	r in this list	cancol this	wizard and vorify th	at the device is
hysically attack	ned, and that all in performed.	installation step	s specified k	y the devic	e vendor and opera	ting system
ackup Devices	:					Properties
De	vice	Host	State	Serialized	Limitations	
SVERLAND	VEO Series 0201	1 apps-sunv240	Configured	Yes	None	
👌 BM ULTRIUI	M-TD5 BBN2	apps-sunv240	Configured	Yes	None	
ost and path co	onfiguration info	rmation for sele	cted device:			
Host	NDMP Host	Path		Port Bus	s Target LUN	
apps-sunv240	/dev	/sg/c0tw5005076	3124a6d55I	1		

Example of a NEO 2000e and a NEO 200s with IBM LTO-6 fibre tape drives discovered:

operties					ackup Devices:
	Limitations	Serialized	State	Host	Device
	None	Yes	Configured	apps-sunv240	OVERLANDNEO Series 0201
	Yes, see properties	Yes	Unconfigured	apps-sunv240	BIBM ULTRIUM-TD6 C9T4
	None	Yes	Configured	apps-sunv240	BM 3573-TL B.80
	Yes, see properties	Yes	Unconfigured	apps-sunv240	BIBM ULTRIUM-HH6 C9T5
	Yes, see properties None Yes, see properties	Yes Yes Yes	Unconfigured Configured Unconfigured	apps-sunv240 apps-sunv240 apps-sunv240	MULTRIUM-TD6 C9T4 M 3573-TL B.80 MULTRIUM-HH6 C9T5

6. Enable both devices and click Next.

Example of a NEO 4000e with an IBM LTO-5 full-height fibre tape drive:

Drag and Drop Configuration Verify that the drive configuration is correct. If you need to make any changes, simply drag a drive to its proper location. Drives in robotic libraries shoul appear under their robotic library. Drives not in libraries should appear under "Standalone Drives". Make s drives are ordered according to how the drives are ordered in the robot. Devices can be enabled and disabled by clicking the adjacent checkbox. NetBackup will not make use of a disabled device. Image: Construction of the con	-
Verify that the drive configuration is correct. If you need to make any changes, simply drag a drive to its proper location. Drives in robotic libraries shoul appear under their robotic library. Drives not in libraries should appear under "Standalone Drives". Make s drives are ordered according to how the drives are ordered in the robot. Devices can be enabled and disabled by clicking the adjacent checkbox. NetBackup will not make use of a disabled device. Property Robot TLD(0) - apps-sunv240 [OVERLANDNEO Series 0201]	Dra
f you need to make any changes, simply drag a drive to its proper location. Drives in robotic libraries shoul appear under their robotic library. Drives not in libraries should appear under "Standalone Drives". Make s strives are ordered according to how the drives are ordered in the robot. Devices can be enabled and disabled by clicking the adjacent checkbox. NetBackup will not make use of a disabled device.	1
Devices can be enabled and disabled by clicking the adjacent checkbox. NetBackup will not Property make use of a disabled device.	if yo app driv
Robot TLD(0) - apps-sunv240 [OVERLANDNEO Series 0201]	Devi mal
	V
🗁 🖬 🖼 Drive 1. appc sunv240 IBM.ULTRIUM TD6.000 [IBM ULTRIUM TD6 BBN2]	
Standalone Drives	Sta

Example of a NEO 2000e and a NEO 200s with IBM LTO-6 fibre tape drives:

NOTE: In documenting the procedures, IBM LTO-6 with NetBackup 7.5 requires additional configuration. y default, the tape drives are not enabled until the Drive Type is selected.

rag and Drop Configuration Verify that the drive configuration is correct.	
you need to make any changes, simply drag a drive to its proper location. Drives in robotic lil ppear under their robotic library. Drives not in libraries should appear under "Standalone Driv	oraries should /es''. Make sure
rives are ordered according to how the drives are ordered in the robot. vevices can be enabled and disabled by clicking the adjacent checkbox. NetBackup will not	Properties
nake use of a disabled device.	· · ·
B Robot TLD(1) - apps-sunv240 [IBM 3573-TL B.80]	
 	

The example here is the setting for a NEO 200s with IBM LTO-6 HH (half-height) tape drives. You must select 1/2" Cartridge 2 (hcart2).

bbot: 1/4" Cartridge (qscsi)	Drive type:		-
4mm Cartridge (4mm)	Robot: Robot drive number: Inquiry string: Social numbor:	1/4" Cartridge (gscsi) 1/2" Cartridge (hcart) 1/2" Cartridge 2 (hcart2) 1/2" Cartridge 3 (hcart3)	
nabled Host Brinn Cartridge (Brinn) apps-sunv Brinn Cartridge 2 (Brinn2) Brinn Cartridge 3 (Brinn3)	Host and path configuent of the second secon	4mm Cartridge (4mm) 8mm Cartridge (8mm) 8mm Cartridge 2 (8mm2) 8mm Cartridge 3 (8mm3)	-

The example here is the setting for a NEO 2000e with IBM LTO-6 TD (full-height) tape drives. You must select 1/2" Cartridge 2 (hcart2).

	Device Configuration Wizard	
rag and Drop Configuration Verify that the drive configura	tion is correct.	
you need to make any changes, opear under their robotic library rives are ordered according to f evices can be enabled and disal ackouses of a disabled dovice	, simply drag a drive to its proper location. Drives in robotic lib K. Drives not in libraries should appear under "Standalone Driv now the drives are ordered in the robot. bled by clicking the adjacent checkbox. NetBackup will not	raries should es". Make sure Proper <u>t</u> ies
P P Robot TLD(1) - apps-sunv P P Drive 1 apps-sunv P P Robot TLD(0) - apps-sunv240	/240 [IBM 3573-TL B.80]) IBM.ULTRIUM-HH6.000 [IBM ULTRIUM-HH6 C9"5] /240 [OVERLANDNEO Series 0201]	
- 🗌 💭 Drive 1 apps-sunv240) IBM.ULTRIUM-TD3.000 [IBN ULTRIUN-TD6 C9T4] UM-TD6.000 - IBM ULTRIUM-TD6 C9T4	
Drive Properties Drive name:	IBM.ULTRIUM-TD6.000	
Drive type: Robot: Robot drive number:	1/4" Cartridge (qscsi) 1/2" Cartridge (hcart)	
Inquiry string: Serial number: Host and path configu	1/2" Cartridge 2 (hcart2) 1/2" Cartridge 3 (hcart3) 4mm Cartridge (4mm) 	
Enabled Host	8mm Cartridge (6mm) 8mm Cartridge 2 (8mm2) 8mm Cartridge 3 (8mm3)	

- 7. Click Next to continue to configure the Storage Unit.
- **8.** Click **Finish** to complete the NetBackup Device Configuration Wizard.
- **9.** Modify the **host properties**, use the following steps:
 - a. Select Host Properties > Master Servers.
 - **b.** Right-click the NetBackup Master Server in the list and select Properties.

- Host Prop	er	ties – apps-sunv2	240 - NetE	ackup Ac	Iministration Co	nsole [
Symantec NetBackup™						
<u>File Edit View Actions Help</u>						
📄 🗢 🔿 🗈 💽 🚼 🚔 💐	(% g)	291 🗷 🛢				
apps-sunv240 (Master Server)	4	Master Server				
🔶 🖻 Reports		Host	Operati	ng System	OS Type	
Policies	0000	🚽 apps-sunv240	SunOS(5)	10)	UNIX	Mas
P Storage	10000	Pr	operties	1		
- Storage Unit Groups -	00000	🔚 Ex	port	Alt-X		
Storage Lifecycle Policie	COCOL	Re	fresh Select	ed		
• 🐨 Host Properties	00000	<u>S</u> e	lect All	Ctrl-A		
- 🗒 Master Servers	000000	🗞 Tr	oubleshoote	r		
- 🖼 Media Servers	000000	🕅 Co	lumn Layout			
- 🗐 Indexing Servers	00000	:2: S <u>c</u>	irt			
📍 🗃 Media and Device Management	000000	🐴 Eir	nd	Ctrl-F		
e 🔤 Media	100000	🝸 Fil	ter			
P Tolume Pools	000000					

c. Click Media option in the Properties list and enable all options found under Allow Media Overwrite.

-		Master Server Properties: apps-sunv240
Ħ	Properties	Media
	💼 Global Attributes	
	🔛 Universal Settings	
	🖀 Relent on Periods	
	🚰 Data Classification	
	P∰: Fibre Transport	
	🚮 SharedDisk	Allow media overwrite
	E Servers	
	🚟 Bandwidth	
	🦉 Restore Failover	✓ CPIO ✓ AOS/VS ✓ MTE ✓ BE-MTF1
	🗒 General Server	
	Ort Ranges	✓ Enable SCSI reserve
	🚔 Media	· · · · · · · · · · · · · · · · · · ·
	💮 limeouts	SPU-2 SUSIFESERVE
	📲 Client Attributes 📃	SCSI Persistent reserve
-	Distributed Applica	
	👰 Firewall	Allow <u>multiple retentions per media</u>
	togging	✓ Allo <u>w</u> backups to span tape media
	📑 Clean-up	Z Allow hookuma ta anan diak
	🚵 NDMP	Allow backups to span usk
	Access Control	✓ Enable standalone drive extension
	UNIX Server	✓ Enable inh loguing
	🖰 VMware Access Ho	4 Linux jour ogging
	Network Settings	Enable unrestricted media sharing for all media servers
	🔂 Credential Access	
	👩 Defaul: Job Prioriti	Media ID prefix (non-robotic): Media unmount delay: Media request delay (non-robotic):
	😂 Enterprise Vault He	
0	Symantec Products	A 180 📮 seconds 0 📮 seconds
	🛐 Login Banner Conf	
	🔞 Resource Limit 🛛 🗌	
	Throttle Bandwidth	
1	Droformd blobuor	
000		
2		<u>OK</u> <u>Cancel</u> Apply <u>Help</u>

d. Click **Timeouts** option in the **Properties** list, enable the Media Mount Timeout, and enter 300 seconds for the value.

	Master Server Properti	es: apps-sunv240	
Properties			<u>D</u> efaults
Winversal Settings Retention Periods Data Classification Fibre Transport SharedDisk SharedDisk Servers Bandwidth Restore Failover General Server Ort Ranges Media Timeouts Distributed Applica Firewall Logging Clean-up NDMP	Client connect timeout: 000 + seconds Backup start notify timeout: 300 + seconds File browse timeout: + seconds seconds	Client read timeout: 300 reaconds Backup ged notify timeout: 300 reaconds Media server connect timeout: 30 reaconds	
│ — ∰ Access Control — ∰ UNIX 3erver	✓ U <u>s</u> e OS dependent timeou	ts	
Wilware Access Ho Wilware Access Ho Wilware Settings Wilcone Creater and Access Default Lob Prioritie	✓ Media mou <u>n</u> t timeout 300 ↓ seconds		

e. Click Apply and then click OK.

The NetBackup services must be restarted in order for the changes to take place.

10. Inventory the tape library:

- a. Select Media and Device Management > Robots.
- **b.** Right-click the **Robot** name.
- c. Select Inventory Robot.



d. Select Update Volume Configuration and then click Start.

EMM Server: apps-sunv240	
Select robot Device host: apps-sunv240 Robot: TLD(0) - apps-sunv240	Inventory operation Show contents Compare contents with volume configuratio Preview volume configuration Update volume configuration Advanced Options
	Empty media access port prior to update
Start Stop Results Logically add new media B209L5	Empty media access port prior to update (barcode AAB209L5) to robot slot 5.
Start Stop Results Logically add new media B209L5 Updating volume configuration Processing new media added to adding media with new media ID Media ID Slot B209L5 5	Empty media access port prior to update Empty media access port prior to update Empty media access port prior to update (barcode AAB209L5) to robot slot 5. the robotic library by logically es as follows

- **11.** Erase all **Medias** in the NEO library for backup and restore use:
 - a. Select Media and Device Management > Media > Volume Pools > NetBackup.
 - **b.** Right-click all **medias** found in the library.
 - c. Select Quick Erase.

apps-sunv240 (Master Server)	4 Volumes	in Volume Po	ol NetBackup	(1 selected)						
月 apps-sunv240 (Master Server)	Media ID	Barcode	Media Type	Robot Type	Robot NumRobot Contr	Slot	Volume Gro.	Volume Pool	Mounts	Т
— 🌃 Backup, Archive, and Restore	A00000		HCART2	NONE				NetBackup		2.0
— 🔜 Activity Monitor	👛 A00001		HCART2	NONE				NetBackup		2
👇 🛄 NetBackup Management	A00002		HCART2	NONE			000 00000	NetBackup		3.0
← 🖹 Reports	B209L5	AAB209L5	HCART2	TLD	0 apps-sunv		5 000 00000	NetBackup		0
Storage Storage Units Storage Units Storage Units Storage Unit Groups Gotrage Lifevcie Policies Storage Unit Groups Storage Unit Groups Storage Unit Groups Storage Unit Groups Storage Units Storage					New Volumes New Volumes Change Move Delete Change Volume Group. Change Media Owner BescanUpdate Barcoc Select Volumes From Ro Label Durg Ergse Quick Ergse Or Ergse	 Jes obot		Ctrl-N Delete		

Creating a Backup Job

- 1. Modify an existing or create a new **backup job**.
 - a. Select the Attributes tab.
 - **b.** From the drop-down on Policy Storage, select the Overland robot **storage unit**.

	Change P	olicy – Local_Test1
Server: apps-sunv24)	
🗄 Attributes 🖉 Schedu	les 🛛 📲 Clients 🖌 🛍 Backup Selectio	ns
Policy type: Stands Destination: Data classification: Policy storage:	ard <no classification="" data=""> Ary_available</no>	Active. Go into effect at: 01/31/2013 13:26:50 Eollow NFS Cross mount points Compress Encruit
Policy volume pool:	Any_available apps-sunv240-hcart2-robot-tld-0	n for:
Take checkpoints every Limit jobs per policy: Job priority: Media Owner: Any	(higher number is greater priority)	Bare Metal Restore Collect true image restore information with move detection (Required for synthetic backups and Bare Metal Restore) Allow multiple data streams Disable Clerit-side deduplication Enable granular recovery

- **2.** Start a Manual Backup of the backup policy:
 - a. Select NetBackup Management > Policies.
 - **b.** Right-click the policy name and choose Manual Backup.



3. To view the active backup policy, click **Activity Monitor**.



Creating a Restore Job

1. Select Backup, Archive, and Restore.

2. Choose View > Refresh (or press F5) to update the restore view.

– Backu 🛅 Sy	p, Archive, and Restore – apps-s mantec NetBackup™	unv240 – NetBackup	Administration Console	Elogged into apps—sunv: • ∫[
<u>File</u> Edit	View Actions Help			
apps-sum apps-sum	☑ Toolbar ☑ Iree ☑ Alternate Table Row Color	up server: Source cli w240 apps-sum	ent: Destination clier 240 apps-surv240	t: Policy type:
Activ Activ PNetf CACtiv Netf	← Previous Pane → Next Pane Dy One Level Alt-V Options Show Most Recent Backup	Files Restore Files type: Backups phrase:	Task Progress	End date:
	• Show All Backups	directory:	4	
	Refresh F5	nv/netbackup/bin/		<u>76</u> 75 17
9 3	Column Layout	ry Structure	Contents of sel	ected directory ckup Date Size(Bytes) Modified
	Filter Indexing Servers and Device Management			

3. Select the **source** of the restore under **Restore Files** tab.

NetBackup server apps-sunv240	r: 5 z	Source client: 1pps-sunv240	Destinat apps-su	ion client: nv240	Po	licy type: andard		R
Backup Files	Restore Files	Task Progress						
Restore type:								
Normal Backups	-							
Keyword phrase: <none></none>				Start 0 01/01/	late: 1980 00:01:00	End date: 01/31/201	: 13 23:59:59	
Browse directory	5	4					\$	2 🕅
Directory Struct	ure	Contents	of selected dire	ctory				
∲ 2 1 ∳ 2 2 exp ∲ 2 2	ort home 🔁 testdata	Name Giudia difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie difie diffie diffie diffie diffie dif diffie diffie diffie diffie diffie diffie diffie diffie diffie diffie diffie diffie diffie dif dif	Backup Date 01/31/2013 01/31/2013 01/31/2013 01/31/2013 01/31/2013 01/31/2013 01/31/2013 01/31/2013	Size(Bytes) 1048576 1048576 1048576 1048576 1048576 1048576 1048576 1048576 1048576	Modified 12/20/2012 12/20/2012 12/20/2012 12/20/2012 12/20/2012 12/20/2012 12/20/2012 12/20/2012	Schedule T. Full Backup Full Backup Full Backup Full Backup Full Backup Full Backup Full Backup Full Backup	Policy Local_Test1 Local_Test1 Local_Test1 Local_Test1 Local_Test1 Local_Test1 Local_Test1 Local_Test1 Local_Test1	Imag Back Back Back Back Back Back Back Back
		dfile	 01/31/2013 01/31/2013 01/31/2013 01/31/2013 	1048576 1048576 1048576 1048576	12/20/2012 12/20/2012 12/20/2012 12/20/2012	Full Backup Full Backup Full Backup	Local_Test1 Local_Test1 Local_Test1	Back Back Back Back

4. Select Restore everything to a different location, and click Start Restore.

Destination:				
/export/home/restore				
Restore individual directories a	nd files to different loca	ations.		
Source	Destination	Backup Date	Modified	
/export/home/testdata/dfile0		01/31/2013 14:10:33	12/20/2012 16:28:44	-
/export/home/testdata/dfile0		01/31/2013 14:10:33	12/20/2012 16:28:44	
			10 All Doctinations	
Change Selected D	estination(s)	Chang	Je All Deadliddollam	_

Active restore details are displayed:

-		Job Details: 8			•
Job ID: 8 Job Overview	Detailed Status	Job state:	Active		
Client: Master server: Job policy: Policy type: Job schedule: Schedule type:	apps-sunv240 apps-sunv240	File List: /export/home/te: /export/home/te: /export/home/te: /export/home/te:	stdata/dfile00 stdata/dfile00 stdata/dfile00 stdata/dfile00 stdata/dfile00	0008 0009 0010 0011 0012	
Priority: Owner: Group: Compression:	90000 root root				
Data movement: Off-host: Start time: Elapsed time: End time: Retention:	01/31/2013 14:40:54 0:00:12	Status:			
Percent comple	ete: 0%		<u>R</u> efresh	<u>C</u> lose	Help

5. Verify the recovered files.

		Console		E
<u>W</u> indow <u>E</u> dit	<u>O</u> ptions	<u> </u>	lel	p
# # pwd /export/home # ls -lh restore total 10320 -rw-rr 1 r -rw-rr 1 r -rw-rr 1 r -rw-rr 1 r #	e root root root root root root root root root root	1.0M Dec 20 16:28 dfile000008 1.0M Dec 20 16:28 dfile000009 1.0M Dec 20 16:28 dfile000010 1.0M Dec 20 16:28 dfile00011 1.0M Dec 20 16:28 dfile000012		X

Additional Symantec NetBackup References

- Always verify that the current firmware is installed on your device. All Overland Storage firmware can be found at ftp.overlandstorage.com.
- Symantec NetBackup Device Configuration Guide (7.5): http://www.symantec.com/business/support/index?page=content&id=DOC5186
- Symantec NetBackup requires performance configuration files created in order to get the best performance possible with tape devices. http://www.symantec.com/business/support/index?page=content&id=TECH1724
- The following files are used with Symantec NetBackup on Solaris. Understanding where the files are located can help during troubleshooting Symantec NetBackup on Solaris.
 - devlink.tab found in:

/etc/

• **sg.conf** found in:

/opt/openv/volmgr/bin/driver/ /opt/openv/volmgr/bin/ /kernel/drv /dev/sg

• **sg.links** found in:

/opt/openv/volmgr/bin/driver/
/opt/openv/volmgr/bin/
/dev/sg