Veritas NetBackup™ Copilot™ for Oracle Configuration Guide

Release 3.1.2



Veritas NetBackup[™] Copilot[™] for Oracle Configuration Guide

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Veritas Services and Operations Readiness Tools (SORT) is a website that provides information and tools to automate and simplify certain time-consuming administrative tasks. Depending on the product, SORT helps you prepare for installations and upgrades, identify risks in your datacenters, and improve operational efficiency. To see what services and tools SORT provides for your product, see the data sheet:

https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

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Chapter

Overview

This chapter includes the following topics:

- About Copilot
- Copilot configuration overview

About Copilot

Copilot is a NetBackup appliance exclusive feature that integrates with native Oracle tools and processes to give database backup administrators (DBA) more control, visibility, and the ability to recover their database backups. Backup administrators can then manage policies, move the data to different storage types, and create off-site backup copies of the database backups.

Additionally, Copilot features NetBackup Accelerator technology to boost Oracle backup and restore performance. NetBackup Accelerator integrates with Oracle's incremental merge capabilities to eliminate the need for full backups and allow new full database images to be synthesized on backup storage post-process.

Copilot lets you create Shares on the appliance for Oracle backup and recovery and create further protection policies in NetBackup for advanced data protection features like long-term retention, replication, and NetBackup Oracle Accelerator technology. Copilot is exclusive to the appliance but requires additional configuration steps within NetBackup software.

You can choose to create a Standard Share or Optimized Share. Both Share types support all workload sizes, but Optimized Shares employ storage enhancements to reduce protection windows for larger databases. Standard Shares are supported on the 5230, 5240, 5330, and 5340 appliances and do not have disk layout requirements, while Optimized Shares are only supported on the 5330 and 5340 appliances. The 5330 requires the reservation of an Expansion Storage Shelf and the 5340 requires a full storage shelf.

See "Database dump backup details" on page 6.

See "Oracle Accelerator backup details" on page 6.

See "Restore details" on page 7.

Database dump backup details

In a database dump configuration, RMAN is configured to put backup data on the appliance Share, which a scheduled NetBackup policy protects. Backup metadata is synced with the RMAN catalog and the restore can be initiated either through RMAN or NetBackup.

See "Oracle Intelligent Policy configuration options for Copilot" on page 34.

See "Create the Oracle Intelligent Policy for database dump backups" on page 43.

Oracle Accelerator backup details

In an Oracle accelerator backup configuration, an initial full backup is required and subsequent backups consist of only changed blocks. The changed blocks are merged with the full image to protect a new full backup. Once the merge process is completed, a snapshot is created to produce a NetBackup backup image for restore. Storage Lifecycle Policies (SLPs) are used for replication for data protection. All images on the share and in NetBackup are available in RMAN or NetBackup for restore. The following graphic illustrates how an Oracle accelerator backup works:



See "Oracle Intelligent Policy configuration options for Copilot" on page 34. See "Create the Oracle Intelligent Policy for Oracle accelerator backups" on page 35.

Restore details

Copilot restores can be initiated from RMAN and NetBackup. In either case, RMAN needs to be functional to complete the restore, as is the case with traditional restores. The process to restore data is the same regardless if the data resides on a share or in a NetBackup storage unit.

Copilot configuration overview

The following is a high level overview of what is needed to configure Copilot from start to finish. The configuration covered in this guide uses two NetBackup Appliances. Your configuration may vary if using a different number of appliances in your configuration.

- Mount the appliance Share on the Oracle client using OS tools.
 See "Mounting an appliance Share" on page 13.
- Configure a Storage Lifecycle Policy (SLP) using NetBackup.
 See "Create a snapshot-based storage lifecycle policy for Copilot" on page 15.
 See "Configure a second storage lifecycle policy for Copilot" on page 23.
 See "Register the Oracle database credentials with NetBackup for Copilot" on page 30.
- Configure an Oracle Intelligent Policy (OIP) using NetBackup. There are two OIP options available:
 See "Create the Oracle Intelligent Policy for Oracle accelerator backups" on page 35.
 See "Create the Oracle Intelligent Policy for database dump backups" on page 43.

Note: If you intend to preserve data during the reconfiguration process, you must use the NetBackup Appliance Shell Menu. Reconfiguration using the NetBackup Appliance Web Console is not supported. Note that if you perform a factory reset and choose to preserve storage, the existing Standard Share and Optimized Share partitions are deleted when initial configuration is performed from the NetBackup Appliance Web Console. This issue occurs only when you reconfigure from the NetBackup Appliance Web Console.

Chapter

Creating an appliance Share

This chapter includes the following topics:

- Creating a Share
- NFS export options

Creating a Share

The following procedures explain how to create a Standard Share, Optimized Share, or Universal Share from the web console or shell menu.

Before starting this procedure, determine what type of Share you want to create. You can choose between a Standard Share, Optimized Share, or Universal Share.

- Creating a Standard or Optimized Share from the NetBackup Appliance Web Console
- Creating a Standard or Optimized Share from the NetBackup Appliance Shell Menu
- Creating a Universal Share from the NetBackup Appliance Web Console

Creating a Standard or Optimized Share from the NetBackup Appliance Web Console

The following procedure explains how to create a Standard or Optimized Share from the NetBackup Appliance Web Console.

To create a new Share from the web console

- 1 Navigate to Manage > Storage > Shares
- 2 Click **Create** on the main Shares page.

3 Choose the type of share to create, which can be **Standard** or **Optimized**.

Note: If you have not created the Optimized Share Reserve, you are prompted to create the Optimized Share Reserve during the first Optimized Share creation process. Select the size of the Optimized Share Reserve, then click **Create Optimized Share Reserve**. When creation completes, you can continue with the next step.

- 4 Enter a name for the Share, for example share 1.
- 5 Enter a short description for the Share, for example Test for share_1.
- 6 Enter the Share size, for example 5GB.
- 7 Click Next.
- 8 Click Add Client, then enter the client name into the blue box.

Note: Client names can be entered using the short name, the FQDN, or the IP format.

9 Click the arrow next to the NFS options to make modifications to the NFS options for each client.

See "NFS export options" on page 11.

- 10 Click the checkmark to confirm that the NFS options you entered for each client.
- **11** Click **Next**, then review the summary to confirm that the Share details are correct.
- **12** Click **Create Share** to create the Share. A success message is shown when the Share is created.
- **13** Click **Close** to return to the main **Shares** page.

Creating a Standard or Optimized Share from the NetBackup Appliance Shell Menu

The following procedure explains how to create a Standard or Optimized Share from the NetBackup Appliance Shell Menu.

To create a new Share from the shell menu

- **1** Open an SSH session to log on to the appliance as an administrator.
- 2 Enter the create command specific to Share you want to create:

- Main_Menu > Manage > Storage > Create Share Standard Creates a Standard Share.
- Main_Menu > Manage > Storage > Create Share Optimized Creates an Optimized Share.

The command guides you through the process of configuring a new Share.

- **3** Enter the Share name, for example share_1.
- 4 Enter a short description for the Share, for example Test for share_1.
- 5 Enter the allocated capacity for the Share, for example 5GB.
- 6 Enter a comma-separated list of Oracle server clients that can access the Share, for example 10.100.0.2, 10.100.0.3.

Note: Client names can be entered using the short name, the FQDN, or the IP format.

7 Enter the NFS export options for each of the Oracle clients. You are prompted to enter options for each client you added in the previous step.

See "NFS export options" on page 11.

- 8 Once you have entered the NFS export options, a summary is displayed.
- **9** Enter yes to create the Share. A series of messages are displayed as the Share is created.

Creating a Universal Share from the NetBackup Appliance Web Console

The following procedure explains how to create a Universal Share from the NetBackup Appliance Web Console.

To create a new Universal Share from the web console

- 1 Navigate to Manage > Storage > Universal Shares
- 2 Click Create on the main Universal Shares page.
- **3** Enter a name for the Share, for example share 1.
- 4 Enter a short description for the Share, for example Test for share 1.
- 5 Click Next.
- 6 Choose a transport protocol from the **Transport protocol** drop down menu.
- 7 Choose Read-write or Read-only for Export options.

8 Click Add Client, then enter the client name into the blue box.

Note: Client names can be entered using the short name, the FQDN, or the IP format.

- 9 Click the checkmark to confirm the new client.
- **10** Click **Next**, then review the summary to confirm that the Share details are correct.
- **11** Click **Create Share** to create the Share. A success message is shown when the Share is created.
- 12 Click Close to return to the main Universal Shares page.

See "Copilot configuration overview" on page 7.

Refer to the *NetBackup*[™] *Copilot*[™] *for Oracle Configuration Guide* for more information on configuring Oracle database backups.

Refer to the *NetBackup*[™] for Oracle Administrator's Guide for more information on Copilot in NetBackup software.

NFS export options

The following table describes the export options available for Share creation or modification.

Option	Description
ro	Allows only read requests on the Share.
rw	Allows both read requests and write requests on the Share.
no_root_squash	Disables all root squashing.
	Allows root account on client to access export share on server as the root account.
root_squash	Maps requests from UID and GID 0 to the anonymous UID and GID.
all_squash	Maps all UIDs and GIDs to the anonymous user account.
	By default, the NFS server chooses a UID and GID of 65534 for squashed access. These values can be overridden by using the anonuid and anongid options.

Creating an appliance Share | 12 NFS export options |

Option	Description
anonuid	Sets the uid of the anonymous user account.
	This option forces all anonymous connections to a predefined UID on a server.
anongid	Sets the gid of the anonymous account.
	This option forces all anonymous connections to a predefined GID on a server.
secure	Requires that requests originate from an Internet port less than IPPORT_RESERVED (1024).
insecure	Disables the requirement that requests originate from an Internet port less than IPPORT_RESERVED (1024).

Chapter

Mounting an appliance Share

This chapter includes the following topics:

Mounting an appliance Share

Mounting an appliance Share

This procedure covers how to mount the Share on Linux or Solaris Oracle server. For more information about mounting the share on a Windows Oracle server, please refer to documentation for configuring Direct NFS (dNFS) at http://docs.oracle.com/.

Note: Oracle Direct NFS (dNFS) is recommended for optimal NFS client performance with Copilot.

Use the following procedure to mount the appliance Share.

Mount an appliance Share

- 1 Log on to the Oracle server as root.
- 2 Create a directory for the mount point using the following command:

- #mkdir /mntpoint

- 3 Mount the appliance Share using the following command. Replace <appliancename> with the name of the appliance and <share_name> with the name of the share to be mounted.
 - For a Linux-based server, use:

- #mount -t nfs <appliancename>:<share name> -o

rw,bg,hard,nointr,rsize=1048576,wsize=1048576,tcp,actimeo=0,vers=3,timeo=600
/mntpoint

For a Solaris-based server, use:

- #mount -F nfs <appliancename>:<share_name> -o
rw,bg,hard,rsize=1048576,wsize=1048576,vers=3,forcedirectio,nointr,proto=tcp
/mntpoint

For an AIX-based server, use:

- #mount -F nfs <appliancename>:<share_name> -o cio,rw,bg,hard,nointr,rsize=1048576,wsize=1048576,proto=tcp,noac,vers=3,timeo=600

- **4** Grant the Oracle user permission to access the mount point using the following command:
 - #chmod 700 /mntpoint
 - #chown <oracle_user>:<oracle_group> /mntpoint

Note: To change share permissions, the no_root_squash option must be enabled when on the share. This option can be disabled when the permissions have been changed. Use the Edit Share command to change the NFS options of the share. See the *NetBackup Appliance Administrator's Guide* for more information on editing a share.

Note: Before restarting, make sure to unmount Shares on all clients. If you cannot perform this action, unmount the Shares on the clients, then remount the Shares once the appliance has restarted fully.

See "Copilot configuration overview" on page 7.

Chapter

Storage Lifecycle Policy (SLP) configuration

This chapter includes the following topics:

- Create a snapshot-based storage lifecycle policy for Copilot
- Configure a second storage lifecycle policy for Copilot
- Register the Oracle database credentials with NetBackup for Copilot

Create a snapshot-based storage lifecycle policy for Copilot

Use the following procedure to create a snapshot-based storage lifecycle policy (SLP) for Copilot using the NetBackup Admin console.

Create a snapshot-based SLP

- 1 Log on to the NetBackup Admin Console.
- 2 Right click, then select New Storage Lifecycle Policy.



3 Enter a policy name, then click Add.

and go Encoyoro I onloy	alidation Report		
orage lifecycle policy name	: <u>D</u> a	ta classification:	Priority for secondary operations:
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Operation Window 1	arget Master Storag	e Volume Pool Media Ow	mer Retention Ty Retention P Alternate Re Preserve r
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Add Change	Remove		
Add Change tate of secondary operation Active	Remove processing	To find impact o change in config	on Policies associated with this SLP due to guration click here.

4 Select **Snapshot** in the **Operation** drop-down menu.

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Source storage: Operation: Snapshot Destination Storage Attributes Destination storage: No Storage Unit Maximum snapshot limit Maximum snapshot limit Maximum snapshot limit	Properties			
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	No Storage Unit	•	Maximum snapshot limit 🔹	
OK Cancel Help				
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5 Select No Storage Unit in the Destination storage drop-down menu, then click OK.

6 Click Add...

Storage Lifeo	cycle Policy	Validation Rep	ort						
<u>S</u> torage lifec	ycle policy nan	ne:	Ę	ata classific	ation:	Priority for seco	ondary operati	ions:	
snapSLP				<no clas<="" data="" th=""><th>sificati 💌</th><th>0</th><th>(higher numb</th><th>er is greater p</th><th>riority)</th></no>	sificati 💌	0	(higher numb	er is greater p	riority)
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7 Select Backup From Snapshot in the Operation drop-down menu.

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ource storage:	No Storage Unit (Snapsh	ot)	
peratio <u>n</u> :	Backup From Snapshot	•]
estination Stor	age Attributes		Retention
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folumo nool:			Fixed
NetBackun		-	Retention period:
India numori			Infinity (Retention Level 9)
aeula uwrier:			Duplication
any			Alternate read server:
			▼
Postnone crea	ation of this conv until the	source conv is about to exp	Preserve multiplexing
Postpone crea	ation of this copy until the	source copy is about to exp	Preserve multiplexing ire Advanced

8 Select the storage unit from the **Destination storage** drop-down menu, then click **OK**.

9 Click Add...

storage cheeyere roney	Validation Rep	oort						
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Operation	Window	Target Master	Storage	Volume Poo	I Media Owner	Retention Ty	. Retention P.	Alternate R
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Add Change Xate of secondary operat Active	A Remove]	Tof	ind impact on I nge in configu	Policies association click here	ated with this se.	SLP due to	

10 Select **Duplication** from the **Operation** drop-down menu.

ource storage: chamavm2_stu1 (Backup From	Snapshot)
peration: Duplication	•
estination Storage Attributes Destination storage: mrrh-1_stu1 /olume pool: NetBackup Media owner: Any	Retention Refention type: Fixed Retention period: infinity (Retention Level 9) Duplication Alternate read server:
Postpone creation of this copy until the source	e copy is about to expire

11 Select the storage unit from the **Destination** storage drop-down menu, then click **OK**.

Storage Lifecycle Policy	Validation Re	port						
torage lifecycle policy na	me:	Da	ata classificat	tion:	Priority for sec	ondary operati	ions:	
		<	No data class	sificati 🔻	0	(higher numb	er is greater p	oriority)
Operation	Window	Target Ma	aster Stora	ge Volume P	ool Media Owner	Retention Ty	Retention P.	. Alternate R
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Add Change State of secondary operat Active Postponed	⇒ <u>Remove</u> ion processing]	8	To find impact of change in confi	n Policies associ juration click her	ated with this 3 3.	SLP due to	

12 Review the configuration and verify that you have the snapshot backup and duplication portion of the SLP setup correctly, then click **OK**.

See "Configure a second storage lifecycle policy for Copilot" on page 23.

See "Copilot configuration overview" on page 7.

Configure a second storage lifecycle policy for Copilot

Use the following procedure to configure a second backup storage lifecycle policy (SLP) for Copilot using the NetBackup Admin console.

Configure a second SLP

- 1 Log on to the NetBackup Admin Console.
- 2 Right click, then select New Storage Lifecycle Policy.



torage Lifecycle Policy Validation	1 Report	
torage lifecycle policy name:	Data classification:	Priority for secondary operations:
treamSLP	<no classificati="" data="" th="" 💌<=""><th>(higher number is greater priority)</th></no>	(higher number is greater priority)
Operation Window Target Ma	ister Storage Volume Pool Media O	wner Retention Ty Retention P Atternate Re Preserve m
		1
↑ ↓ ← →	re	
Add Change Remov		

3 Enter a storage lifecycle policy name, then click **Add**.

4 Select **Backup** from the **Operation** drop-down menu.

New Operation	×
Properties	
Source storage:	
Operation: Backup	▼
Destination Storage Attributes	Retention
chamavm2_stu1	Retention type:
⊻olume pool:	Fixed
NetBackup 💌	Retention period:
Media owner:	infinity (Retention Level 9)
Any 👻	
	<u>O</u> K <u>C</u> ancel <u>H</u> elp

5 Select the storage unit from the **Destination storage** drop-down menu, then click **OK**.

6 Click Add...

ycle Policy	Validation Rep	ort						
cle policy nar	ne:	<u>D</u> ata d	classification:	E	priority for seco	ondary operati	ons:	
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7 Select **Duplication** from the **Operation** drop-down menu.

ource storage: chamavr	n2_stu1 (Backup)	
peratio <u>n</u> : Duplicat	ion	
Destination Storage Attrib De <u>s</u> tination storage:	utes	Retention Retention type:
mrrh-1_stu1	-	Fixed
∕olume pool:		Retention period:
NetBackup	-	infinity (Retention Level 9)
dedia owner:		Duplication
Any	-	
		Afternate read server:
		Preserve multiplexing
Postpone creation of th	is copy until the source c	opv is about to expire Advanced
•		

8 Select the storage unit from the **Destination storage** drop-down menu, then click **OK**.

9 Review the configuration to verify that you have setup the stream portion of the SLP setup correctly, then click **OK**.

Storage Lifecycle Policy	Validation Repo	nt							
Storage lifecycle policy na	ne:	Dat	a classifi	cation:		Priority for sec	ondary operat	ions:	
streamSLP		⊲N	o data cla	assificati	-	0	(higher num!	er is greater p	riority)
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Add Change State of secondary operat Active	Remove ion processing			To find change	impact on i in configu	Policies associ ation click her	ated with this e	SLP due to	1

10 Review the SLPs window to verify that both SLPs are active.

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chamavm1 (Master Server)	2 Storage Lifecycle Policies (0 se	elected)		
chamavm1 (Master Server)	Name	Data Classification	Job Priority	Secondary Operation
 Backup, Archive, and Restore 	snapSLP		0	Active
Activity Monitor	streamSLP		0	Active
NetBackup Management	-			
Reports				
- Olicies				
• storage				
Storage Units				
Storage Unit Groups				
CL D Mindauro	1			
Catalan	8			
- All Hast Branation				
Applications				
Media and Device Management	100			
Device Monitor				
Madio				
- Devices				
Credentials	8			
Access Nanagement				
Vault Management				
Bare Metal Restore Management				
B Logging Assistant				
	-			

See "Register the Oracle database credentials with NetBackup for Copilot" on page 30.

See "Copilot configuration overview" on page 7.

Register the Oracle database credentials with NetBackup for Copilot

Use the following procedure to register the Oracle database credentials with NetBackup.

Register the Oracle database credentials

1 Right click on the instance, then select **Register**.



🔶 🚳 Vault Management

👼 Logging Assistant

🍘 Bare Metal Restore Management

~

2 Enter the proper credentials for the instance, then click **OK**.

🖥 Register Instance		×
Add to group and register u	sing group credentials	
Instance Group: < <u>No instan</u>	ce groups available>	
Use Instance Credentials		
Using Instance OS Credentia	s	
Username:		
Password:		
Do <u>m</u> ain:		
Authentication	Oracle RMAN Recovery Catalog Credentials	
OS Authentication	Use Oracle RMAN Recovery Catalog	
Oracle Authentication	Username:	
User <u>n</u> ame:	Password	
Pass <u>w</u> ord	Net Service Name	
Net Service Name:		
(TNS Alias)	(TNS Allas)	
	<u>O</u> K <u>C</u> ancel <u>H</u> elp	

3 Review the instance window to verify the instance is registered correctly.



See "Oracle Intelligent Policy configuration options for Copilot" on page 34. See "Copilot configuration overview" on page 7.

Chapter

Oracle Intelligent Policy (OIP) configuration

This chapter includes the following topics:

- Oracle Intelligent Policy configuration options for Copilot
- Create the Oracle Intelligent Policy for Oracle accelerator backups
- Create the Oracle Intelligent Policy for database dump backups

Oracle Intelligent Policy configuration options for Copilot

There are two options available during the OIP configuration for Copilot. You can choose between the following two options:

Database Backup Shares

Select this option to perform database dump backups. See "Database dump backup details" on page 6. See "Create the Oracle Intelligent Policy for database dump backups" on page 43.

 Whole Database - Datafile Copy Share Select this option to perform Oracle accelerator backups.
 See "Oracle Accelerator backup details" on page 6.
 See "Create the Oracle Intelligent Policy for Oracle accelerator backups" on page 35.

Create the Oracle Intelligent Policy for Oracle accelerator backups

Use the following procedure to create the Oracle Intelligent Policy (OIP) for Oracle accelerator backups.

Create the OIP for Oracle accelerator backups

- 1 In the left pane of the NetBackup Admin Console, expand NetBackup Management > Policies.
- 2 Select Actions > New > Policy or right-click on All Policies in the center pane, then click New Policy on the shortcut menu.
- 3 Select Oracle in the Policy type drop-down menu.
- 4 Select the stream policy you created earlier in the **Policy storage** drop-down menu.

Attributes 🕲 Schedules	😝 Instances and Databases 🏾 🗎	Backup Selections
Policy type: Oracle Destination:	data classification> data classification> amSLP iackup inder number is greater riorty) Director	Control of the selection is the sel
Use Replication Director Perform snapshot backups Retain snapshot for Instant Hyper-V server: Perform off-host backup Use: Machine:	Options Recovery or SLP management	Channe optimized backup of viriadivis deduplicated yolumes Keyword phrase (optional): Microsoft Exchange Server Attributes Exchange DAG or Exchange 2007 replication (LCR/CCR) Database backup source: Preferred server list (Exchange DAG only)

Server: char	mavm1						
Attributes	Cohoduloe						
elect	- Schedules	👰 Instances a	nd Databases	💼 Backup Sele	ctions 🛛 📴 Oracl	e	
Protect Inst	ances and Databa	ses					
Protect inst	ance groups						
Clients for u	ise with scripts or	templates					
Instance Nam	e Database Nam	e State	Host	OS Type	ORACLE_HOME	Instance Group	Registered
월 orac112	\$INSTANCE	Active	chamavm3	Unix	/db/orac112/ap		08/24/2015 13:
						× New	X Delete
					0*	Canaal	Hale

5 Click the **Instances and Databases** tab, then select **Protect Instances and Databases**.

Server: char	navm1			
Attributes	Schedules	🔒 Instances and Databases	Backup Selections	Coracle
Whole datab	ase			
Partial datab	ase - Tablespace	1		
Partial datab	ase - Datafiles			
Fast Recover	ry Area(FRA)			
Database Ba	ickup Shares			
Whole Datak	ase - Datafile Cop	ay Share		
		Backu	p Selection List	
		<u>* N</u>	ew Rro <u>w</u> s	Change A Delete

6 Click the Backup Selections tab, then select Whole Database - Datafile Copy Share.

7 Click Browse to open the browse backup selections window.

8 Select the instance name and location you want to include in the backup, then click **OK**.

🖬 Browse Backup Selections - Policy	demo	2
Instances	Datafile Copy Share	
🕈 🗹 🚭 Instances	🗹 Name	Device Path
🗆 🗹 🚰 orac112 (chamavm3)	🗹 🚰 /backup	chamavm2:/export1
,		
		<u>O</u> K <u>C</u> ancel <u>H</u> elp

9 Review the **Backup Selection List** and verify that the proper instance location is selected.

The selected instance is the share mount point on the Oracle server.

Change Policy - demo			×
📑 Server: chamavm1			
🗉 Attributes 🛛 🚯 Schedules	😫 Instances and Databases	Backup Selections	C Oracle
Whole database			
🔾 Partial database - Tablespace	3		
🔾 Partial database - Datafiles			
Fast Recovery Area(FRA)			
O Database Backup Shares			
Whole Database - Datafile Co	py Share		
_	Backup	election List	
le /backup			
(H.	•
	<u> * N</u> e	w Kerne K	Change X Delete
			OK Cancel Help

- 10 Click the Schedules tab to create a full schedule.
- **11** Select **Full Backup** in the **Type of backup** drop-down menu and enter a name for the schedule.
- **12** Select **Override policy storage selection** and choose the storage lifecycle policy you created earlier for the snapshot.

13 Click Add.

Add Schedule - Policy demo	
Server: chamavm1	
🚯 Attributes 🛛 🚯 Start Window 🛛 🎨 Exclude Dates	
łame:	Destination:
Full	Multiple copies Configure
we of backup	✓ Override policy storage selection:
Full Backup	snapSLP 🔹
Synthetic backup	Override policy volume pool:
Accelerator forced rescan	NetBackup 👻
Calendar Retries allowed after runday	Cverride media owner:
Frequency:	Determined by SLP 🗸
1 🕽 weeks 💌	Media multiplexing: 1 1 Instant Recovery:
	Add QK Cancel Help

14 Select **Archived Redo Log Backup** from the **Type of backup** drop-down menu and enter a name for the schedule.

Oracle Intelligent Policy (OIP) configuration 41 Create the Oracle Intelligent Policy for Oracle accelerator backups

🚯 Attributes 🛛 🔁 Start Window 🛛 🗞 Exclude Dates	
łame:	Destination:
Archive	Multiple copies Configure
vpe of backup:	Override policy storage selection:
Archived Redo Log Backup	▼
Synthetic backup	Override policy volume pool:
Accelerator forced rescan	NetBackup 👻
Schedule type: Calendar Retries allowed after runday Frequency: 1 veeks	Override media owner: Retention: Determined by SLP Media multiplexing: Instant Recovery: Snapshots and copy snapshots to a storage unit Concentrate acts

15 Click OK to confirm.

2 4 6 8 10 12 14 16 18 20 22 24 1 +	Att	tributes		👌 Scl	nedul	es	ا 🤤	nstand	ces an	d Dat	tabase	s	💼 Ba	ickup	Selea	ctions	E	ora	acle]					
Name Type Synthetic BDisk-Only BRetention PRetention L Frequency Media MultiStorage Volume Pool F Full Full Backup - No Determine 01 week 1 snapSLP dem Archive Archived R No Determine 01 week 1 mapSLP dem	_		2		4		6		8		10		12		14		16		18	3	- 1	20		22	24
Image: Synthetic B Disk-Only B Retention P Full Backup No Determine 0 1 week 1 snapSLP demi Image: Archive Archived R No Determine 0 1 week 1 demi	n -	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+ •	+ +	
a +	n E	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-			+ •	+ +	
Image: Type Synthetic B Disk-Only B., Retention P., Retention L Frequency Media Multi Storage Volume Pool F Pull Full Backup - No Determine 0 1 week 1 snapSLP dem Archive Archive d R - No Determine 0 1 week 1 snapSLP dem	d	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	_		-	+ •	+ +	-
Name Type Synthetic B Disk-Only B Retention P Retention L Frequency Media Multi Storage Volume Pool Full Full Backup No Determine 0 1 week 1 snapSLP dem Archive Archived R No Determine 0 1 week 1 dem	ĩ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-		-	+ •	+ +	-
Type Synthetic B Disk-Only B Retention P Frequency Media Multi Storage Volume Pool F Full Full Backup - No Determine 0 1 week 1 snapSLP dem Archive Archived R - No Determine 0 1 week 1 dem	ī.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+ •	+ +	-
Name Type Synthetic BDisk-Only BRetention PRetention L Frequency Media Multi Storage Volume Pool F Full Full Backup No Determine 0 1 week 1 snapSLP dem Archive Archived R No Determine 0 1 week 1	1	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-	+	+	-	-			+ •		-
Name Type Synthetic B Disk-Only B Retention P Frequency Media Multi Storage Volume Pool F Full Full Backup - No Determine 01 week 1 snapSLP dem Archive Archive Archive 01 week 1 off dem	_		-		_			_		_					-		_			_					
9 Full Full Backup No Determine 01 week 1 snapSLP dem 9 Archive Archived R No Determine 01 week 1 dem	Na	ame		Туре	s	/nthe	tic B	. Disk-	Only E	3Re	etention	1 P	Retent	ion L	. Fre	queno	y M	edia	Multi		Stora	ige	Volu	me Po	ol F
J Archive Archived R → No Determine 01 week 1 dem	Fu	ull	Full	Backu	р			No		De	termin	e		0	1 we	ek				1 sr	apSL	.P			dem
												IB			1 1 102	IRK				1					dem
												e		U	I I WE	IEK				1					dem

16 Review the created schedule to verify that all selections are correct.

- 17 Click the **Oracle** tab to adjust any selections as needed.
- 18 Click OK to complete the setup.

	. V Q		
🗉 Attributes 🛛 🧐 Schedu	lles 🛛 🤤 Instances and Databases	Backup Selections	3 Oracle
ablespace/Datafile Option	S	Archived Redo Log Options	
Number of parallel streams	s 1	Include archived redo log	s in full and incremental schedules
		✓ Delete after making copie	es 1
Specify read-only tables	pace options:	Number of vessilies dream	
_ Offline (cold) database b	ackup	Number of parallel screams:	1
Skip offline datafiles			
		Specify maximum limits	
Specify maximum limits		Number of files per backu	up set: 0
Maximum I/O Limits		Size of backup set (KB):	
Read rate (KB/sec):			
Size of backup piece (KB):		User Specified Backup File N	lame Formats
Number of open files:		Specity backup file fiame	Turmats
		For Datafiles:	
Maximum backup set limit	S	For Archived redo logs:	
Number of files per backup	o set: 0 🗘	For Control file:	
Size of backup set (KB):		For FRA:	
De al un tel antifica continua		Database Backup Share Opt	ions
ackup Identifier Options – ackup set identifier:		Delete protected backup	sets from share after:
atafile copy tag:	demo	🗘 wei	eks
		Delete protected backup	copies from share after:
		1 we	eks
		4	
			OK <u>C</u> ancel <u>H</u> elp

See "Copilot configuration overview" on page 7.

Create the Oracle Intelligent Policy for database dump backups

Use the following procedure to create the Oracle Intelligent Policy (OIP) for database dump backups.

Create the OIP for database dump backups

- 1 In the left pane of the NetBackup Admin Console, expand **NetBackup Management > Policies**.
- 2 Select Actions > New > Policy or right-click on All Policies in the center pane, then click New Policy on the shortcut menu.

- 3 Select Oracle in the Policy type drop-down menu.
- 4 Select the stream policy you created earlier in the **Policy storage** drop-down menu.

Attributes 🕲 Schedules 🖓 Instances and Databases	Backup Selections
Attributes Image: Schedules Image: Schedules Image: Schedules olicy type: Oracle Image: Schedules Image: Schedules Destination: Destination: Image: Schedules Image: Schedules Image: Schedules Data classification: Image: Schedules Image: Schedules Image: Schedules Image: Schedules Image: Schedules Destination: Image: Schedules Image: Schedules	Backup Selections Go into gffect at: Go into gffec

5	Change Policy -	demo							×
6	🛿 Server: mrrh	1							
	Attributes	Schedules	🍓 Instances an	d Databases 🥤	🛍 Backup Seleo	ctions 🛛 📴 Orac	le		
s	elect								
	Protect Insta	ances and Databas	ses						
	O Protect insta	ance groups							
	Clients for us	se with scripts or	templates						
Г	la stan es blanca	Datakasa Mawa	01+1+	Linet	00 7		In stance Oneur	Deviatored	-
	B orac112	SINSTANCE	Active	mrrh2 rmnus s	Usiype	(dbiorac112ian	Instance Group	12(30(2015.10)	
	C Olacitz	\$110TARCE	Active	111112.1111103.5.	. 0116	700/01/01/01/12/00		12/30/2013 10	
μ									
							<u>* N</u> ew	∑ <u>D</u> elete	
						<u>o</u> ĸ	Cancel	Help	

5 Click the **Instances and Databases** tab, then select **Protect Instances and Databases**.

6	Click the Backu	Selections tab, then se	elect Database Backup Shares.
---	-----------------	-------------------------	-------------------------------

Change Policy - demo		×
Server: mrrh1		
🔟 Attributes 🏾 🕲 Schedules 🛛 🍓 Instances and D	atabases 🔐 Backup Selections	Cracle
 Whole database 		
Partial database - Tablespace		
Partial database - Datafiles		
Fast Recovery Area(FRA)		
Database Backup Shares		
Whole Database - Datafile Copy Share		
	Backup Selection List	
C ALL_DATABASE_BACKUP_SHARES		
	* New * Brows	e Change X Delete
		OK Canada Litta
		<u>U</u> r <u>C</u> ancel <u>H</u> elp

Attributes Schedules 🖓 Instances and Databases 🕯	Backup Selections Cracle
Policy type: Oracle Destination:	✓ Go into gffect at: 01/07/2016 09:04:46 Follow NFS C[cos mount points Compress Encrypt Collect disaster recovery information for: Bare Metal Restore Collect true image restore information yith move detection (Required for synthetic backups and Bare Metal Restore) Allow multiple data streams Disable client.side deduplication Enable granular recovery Use Accelerator Enable optimized backup of Windows deduplicated yolumes Keyword phrase (optional): Exchange DAG or Exchange 2007 replication (LCR/CCR) Database backup source: Image part of the server list (Exchange DAG or Exchange 2007 replication (LCR/CCR) Image part of the server list

7 Click the Attributes tab, then select Perform snapshot backups and Retain snapshot for Instant Recovery or SLP management.

8 Click the **Options...** button, then select **remote_vxfs** from the **Snapshot method for this policy** drop-down menu.

9 Click **OK** to confirm.

Snapshot Options - Policy	demo		
he following selections are he time of backup.	e optional. If no	snapshot method is	s selected, NetBackup will select a snapshot method at
napshot method for this p	olicy:		
emote_vxfs			-
he following parameters c -Configuration Parameters	an be set for b	ackups performed i	n this policy that use this snapshot method:
	Parameter		Value
Maximum Snapshots (Inst	ant Recovery o	nly)	2
Snapshot Resources			
Array SN	Source	Snapshot De	evices
		Ad	dd Change Remove Remove All
			<u>O</u> K <u>C</u> ancel <u>H</u> elp

- 10 Click the Schedules tab to create a full schedule.
- **11** Select **Full Backup** in the **Type of backup** drown-down menu and enter a name for the schedule.
- **12** Select **Override policy storage selection** and choose the storage lifecycle policy you created earlier for the snapshot.

13 Click Add.

Add Schedule - Policy demo	
Server: mrrh1	
🚯 Attributes 🛛 🚯 Start Window 🛛 🏀 Exclude Dates	
Name:	Destination:
Full	Multiple copies Configure
	Override policy storage selection:
Type of backup:	snanSi P
Synthetic backup	Override policy volume pool:
Accelerator forced rescan	NetBackup 💌
Schedule hale	
Calendar	U Override media owner:
Calendar Potrice allowed after runday	
Tretties allowed alter runday	Retention:
Frequency:	Determined by SEP
1 veeks	Media multiplexing:
	1
	Instant Recovery:
	Snapshots and copy snapshots to a storage unit
	O Snapshots only
	Add <u>O</u> K <u>C</u> ancel <u>H</u> elp

14 Select **Archived Redo Log Backup** from the **Type of backup** drop-down menu and enter a name for the schedule.

,		
Attributes	Start Window 🛛 🍪 Exclude Dates	
Name:		Destination:
Archive		Multiple copies Configure
Tune of backup		Override policy storage selection:
Archived Redo	Log Backup	▼
Synthetic	backup	Override policy volume pool:
Accelerat	or forced resca <u>n</u>	
Schedule tran	y	
Calondar	-	Override media owner:
	s allowed after runday	Defention
	S anowed area randay	Determined by SLP
Frequency		
	1 weeks	Media multiplexing:
		Instant Recovery:
		Snapshots and copy snapshots to a storage unit
		 Snapshots only

15 Click OK to confirm.

Attrib	butes	e	Sch	edul	es	🔒 li	nstanc	es and	Datal	ases	🛍 Ba	ckup S	Select	ons		racle	7					
		2		4		6		8		10	12		14	1	6	15	R		20		22	24
		Ť.	:	-		Ť		Ť						_			-					
·[+	+	+	+	+	+	+	+	+		-	+	+			-						
-	+	+	+	+	+	+	+	+	+	+ +	+	+	+	+ +		+		+ +	•	+	+ +	
1	+	+	+	+	+	+	+	+	+	+ +	+	+	+	+ +		+		+ +	•	+	+ +	
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		-	-	-								-	-						·			
Nam	ne	1	Гуре	S	nthe	tic B	Disk-	Only B.	Rete	ntion P.	Retent	ion L	Freq	uency	Medi	a Multi	i	Stora	age	Volu	me Po	ol F
Full		Full E	Backup	o			No		Dete	mine		0	1 wee	k			1 s	napSL	P.			dem
Archi	nive .	Archi	ved R.				No		Dete	mine		0	1 wee	k			1					dem
									11													

16 Review the created schedule to verify that all selections are correct.

- **17** Click the **Oracle** tab to adjust any selections as needed.
- **18** Click **OK** to complete the setup.

Change Policy - demo	
Server: mrrh1	
] Attributes 🏾 🕲 Schedules 🛛 餐 Instances and Databa	ises 💼 Backup Selections 📴 Oracle
ablesnaceDatafile Ontions	Archived Redo Log Ontions
lumber of narallel streams	Include archived redo logs in full and incremental schedules
	Pelete after making copies
Specify read-only tablespace options: SKIP	
Offline (cold) database backup	Number of parallel streams: 1
Skip offline datafiles	
	Specify maximum limits
Specify maximum limits	Number of files per backup set:
Maximum I/O Limits	Size of backup set (KB):
Read rate (KB/sec): 0	
Size of backup piece (KB): 0	User Specified Backup File Name Formats
Number of open files: 0	Specity backup the name formats
	For Datafiles: bk_d%d_u%u_s%s_p%p_t%t
Maximum backup set limits	For Archived redo logs: arch_d%d_u%u_s%s_p%p_t%t
Number of files per backup set:	For Control file: ctrl_d%d_u%u_s%s_p%p_t%t
Size of backup set (KB): 0	For FRA: [ra_d%d_u%u_s%s_p%p_t%t
tackun Identifier Antions	Database Backup Share Options
ackup set identifier:	Delete protected backup sets from share after:
	🚽 🗋 weeks 💌
atafile copy tag: demo	
atafile copy tag: demo	Delete protected backup copies from share after:

See "Copilot configuration overview" on page 7.