Restoring protected backups from secondary storage

SnapManager Oracle

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Restoring protected backups from secondary storage

You can restore protected backups from secondary storage. However, you cannot restore backups from secondary storage if the backup also exists on primary storage.

Related information

The smo backup restore command

Restoring backups from an alternate location

Creating restore specifications

Restores of protected backups overview

You can choose the restore method that you want to use to restore the backup data from secondary storage to primary storage.

The following table explains the different scenarios and methods that you can use to restore a backup from secondary storage:

Restore target	Explanation
Directly to primary storage	Returns the data from the secondary storage system directly to the original location on the primary storage system over the same network that was used to protect the data. SnapManager uses the direct storage method whenever possible. This method is not possible if the data is in a file system on storage area network (SAN) and if any of the following conditions apply: • Other non-database files are not being restored in the same file system. • Snapshot copies of the control files and data files in a file system being restored were taken at different times. • The logical unit number (LUN) is in a volume group, but other LUNs in the same volume group are not being restored.
Directly to host	Clones the data on the secondary storage system and mounts the cloned data on the host. After the data is cloned and mounted, SnapManager copies it into its original location.

Restore target	Explanation
Indirectly to storage or host	Returns the data from the secondary storage system to a new location on the primary system over the same network that was used to protect the data and to mount the new storage on the host. After the data is returned and mounted, SnapManager copies it into its original location. The indirect storage method might require a long time to return the data. SnapManager first copies data to a scratch volume on the primary host before SnapManager uses it to restore and recover the database. Whether the scratch data is automatically deleted depends on the protocol used. • For SAN, SnapManager deletes the returned data. • For network-attached storage (NAS), SnapManager deletes the contents of the returned qtrees, but does not delete the qtrees themselves. To delete the qtrees, administrators should mount the scratch volume and remove the qtrees using the UNIX rmdir command.

If you cannot directly return data to storage, SnapManager can return data either directly to host or indirectly to storage or host. The method depends on the policy governing whether the organization allows connection directly to secondary storage or requires data to be copied over the storage network. You can manage this policy by setting configuration information in the smo.config file.

Related information

SnapManager configuration parameters

Restoring backups from secondary storage

You can restore protected backups from secondary storage and choose how you want to copy the data back to the primary storage.

You can use the backup restore command with the -from-secondary option to restore the data from secondary storage. If you do not specify the -from-secondary option, SnapManager restores the data from the Snapshot copies on primary storage.

You cannot use the -from-secondary option if the backup exists on primary storage; the primary backup must be freed before a backup can be restored from secondary storage. If you use a temporary volume, you must specify the volume by using the -temp-volume option.

You must specify the -copy-id option whenever you specify the -from-secondary option. If there is more than one backup on the secondary storage system, the -copy-id option is used to specify which backup copy on the secondary storage should be used for the restore operation.

If you are using Data ONTAP operating in 7-Mode, you must specify a valid value for the -copy -id option. However, if you are using clustered Data ONTAP, the -copy-id option is not required.

When restoring data from secondary storage, SnapManager first attempts to restore data directly from the secondary storage system to the primary storage system (without involving the host). If SnapManager cannot perform this type of restore (for example, if the files are not part of the file system), then SnapManager will fall back to a host-side file copy restore. SnapManager has two methods of performing a host-side file copy restore from secondary storage. The method that SnapManager selects is configured in the smo.config file.

- If restore.secondaryAccessPolicy = direct, SnapManager clones the data on secondary storage, mounts the cloned data from the secondary storage system to the host, and then copies data out of the clone into the active environment.

  This is the default secondary access policy.

- If restore.secondaryAccessPolicy = indirect, SnapManager first copies the data to a temporary volume on primary storage, mounts the data from the temporary volume to the host, and then copies data out of the temporary volume into the active environment.

  This policy should be used only if the host does not have direct access to the secondary storage system. Restores using the indirect method will take twice as long as the direct method because two copies of the data are created.

1. Perform one of the following actions:

If you want to…	Then…
Restore a complete database if the selected backup exists on primary storage	Enter the following command: smo backup restore -profileprofile_name-labellabel-complete-recover -alllogs[-copy-idid]
Restore a complete database if the selected backup does not exist on primary storage	Enter the following command: smo backup restore -profileprofile_name-labellabel-complete-recover -alllogs-from-secondary [-temp-volume <temp_volume>] [-copy-idid]

Example

The following command restores a protected backup from the secondary storage system:

```
smo backup restore -profile PAYDB -label daily_monday -complete
-recover alllogs -from-secondary -copy-id 3042 -temp-volume
smo_scratch_restore_volume
Operation Id [8abc011215d385920115d38599470001] succeeded.
```

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