ONTAP_Snapmirror_MirrorAndVault

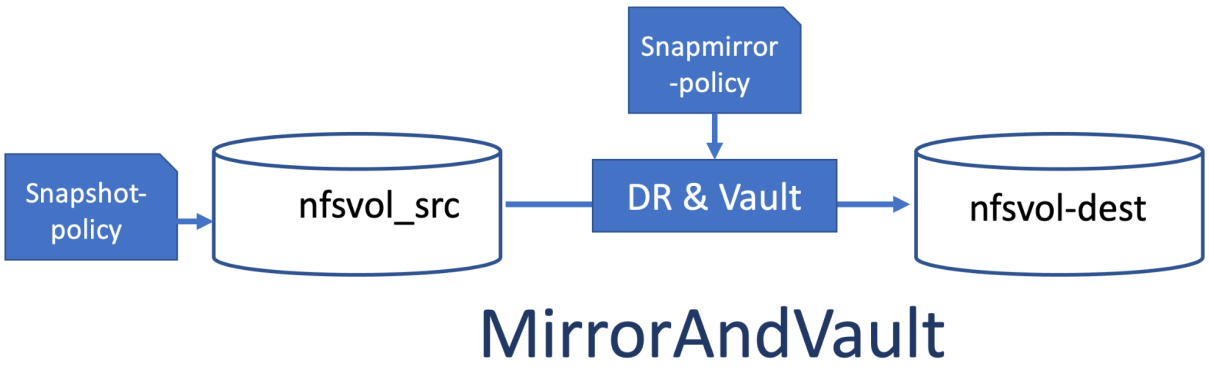
Prerequisites:

- Two clusters are peered (ONTAP_Cluster_Peering)
  Two SVMs are peered (ONTAP_SVM_Peering)

In this lab you will set up a snapmirror relationship between a source volume and a destination volume.

1. Create one lif per SVM for NFS access
2. Create a RW volume on the source SVM and a DP volume on the destination SVM
3. Create a snapshot policy on the source SVM that creates a snapshot for vault purposes
4. Add a rule to the existing MirrorAndVault policy that will build up retention of ten snapshots for backup purposes
5. Connect the snapshot policy to the source volume
6. Create a snapmirror relationship and initiate it.
7. Optionally connect to the source and destination volume from a linux NFS client to watch the update after you store data in the volume.
8. Offline the source volume nfsvol_src
9. Break the relationship.
10. Test whether the destination is now a writable volume
11. Check the snapshots on the original destination volume

(see next page for commands)



Commands

1. Create a LIF in both SVMs
cluster1::>
net int create -vserver c1_nfs -lif nfs -service-policy default-data-files -address 192.168.4.209 -netmask 255.255.255.0 -home-node cluster1-01 -home-port e0d

cluster2::>
net int create -vserver c2_nfs -lif nfs -service-policy default-data-files -address 192.168.4.210 -netmask-length 24 -home-node cluster2-01 -home-port e0d

2. Create a RW volume on cluster1 and a DP volume on cluster2
cluster1::>
vol create -vserver c1_nfs -volume nfsvol_src -aggregate n1_data -size 1g -junction-path /nfsvol_src

cluster2::>
vol create -vserver c2_nfs -volume nfsvol_dest -aggregate n1_data -size 1g -type dp

3. Create a snapshotpolicy with a schedule of 5min a count of 1 and a snapmirror-label nfsvol And connect the snapshot-policy to the volume
cluster1::>
snapshot policy create -policy nfspol -enabled true -vserver c1_nfs -schedule1 5min -count1 1 -snapmirror-label1 nfsvol

vol modify -volume nfsvol_src -snapshot-policy nfspol -vserver c1_nfs

4. Add a rule to the MirrorAndVault snapmirror policy that will look for a snapshot on the source volume with snapmirror-label nfsvol, with a retention of 10 and a schedule of 5min

cluster2::>
snapmirror policy add-rule -policy MirrorAndVault -snapmirror-label nfsvol -keep 10 -schedule 5min -vserver cluster2

5. Create a snapmirror relationship between the source volume and destination volume with the snapmirror policy MirrorAndVault
cluster2::>
snapmirror create -source-path c1_nfs:nfsvol_src -destination-path c2_nfs:nfsvol_dest -policy MirrorAndVault -schedule 5min

6. Initiate the relationship
cluster2::>
snapmirror initialize -destination-path c2_nfs:nfsvol_dest

7. Set up NFS shares and access them from an NFS client
cluster1::>
nfs on c1_nfs
export-policy rule create -vserver c1_nfs -policyname default -clientmatch 0.0.0.0/0 -rorule any -rwrule any -superuser any

cluster2::>
nfs on c2_nfs
export-policy rule create -vserver c2_nfs -policyname default -clientmatch 0.0.0.0/0 -rorule any -rwrule any -superuser any

vol mount -vserver c2_nfs -volume nfsvol_dest -junction-path /nfsvol_dest
(this can only be done after the baseline transfer is complete)

Linux:
mkdir /mnt/nfsvol_src
mkdir /mnt/nfsvol_dest
showmount -e 192.168.4.209
showmount -e 192.168.4.210

mount 192.168.4.209:/nfsvol_src /mnt/nfsvol_src
mount 192.168.4.210:/nfsvol_dest /mnt/nfsvol_dest
touch /mnt/nfsvol_src/cancreate
touch /mnt/nfsvol_dest/cannotcreate
touch: cannot touch '/mnt/nfsvol_dest/cannotcreate': Read-only file system

8. Offline the source volume and break the relationship.
cluster1::>
vol offline -volume nfsvol_src -vserver c1_nfs

9. To make the destination volume writable for DR, you should break the relationship.
(!! the source volume should not be accessible anymore!!)
cluster2::>
snapmirror break -destination-path c2_nfs:nfsvol_dest
Operation succeeded: snapmirror break for destination "c2_nfs:nfsvol_dest".

10. Now you should be able to create a file in the original destination volume
Linux:

touch /mnt/nfsvol_dest/cancreate

11. Check the snapshots on the original destination volume
cluster2::>
snapshot show -volume nfsvol_dest -vserver c2_nfs

nfsvol.2022-07-25_1525 240KB 0% 53%
nfsvol.2022-07-25_1530 232KB 0% 52%
nfsvol.2022-07-25_1535 260KB 0% 55%
snapmirror.2461177e-0c2c-11ed-bfea-000c29085f90_2160178564.2022-07-25_153500
212KB 0% 50%