Transitioning a volume SnapMirror relationship in a staggered configuration

ONTAP 7-Mode Transition

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Transitioning a volume SnapMirror relationship in a staggered configuration

You can transition a 7-Mode volume SnapMirror relationship and retain the data protection relationship by transitioning the secondary volume before the primary volume. In this method, you set up a staggered SnapMirror DR relationship between the 7-Mode primary volumes and clustered Data ONTAP secondary volumes.

- The primary and secondary clusters and SVMs must already be set up.
- For establishing anSVM peer relationship when transitioning a volume SnapMirror relationship, the following conditions must be met:
  - The secondary cluster should not have anSVM with the same name as that of the primary SVM.
  - The primary cluster should not have anSVM with the same name as that of the secondary SVM.
  - You must have reviewed the information about preparing for transition.

    Preparing for transition

Related information

Resuming a failed SnapMirror baseline transfer

Transitioning a secondary volume

Transitioning a secondary volume involves creating a SnapMirror relationship, performing a baseline transfer, performing incremental updates, and setting up a SnapMirror relationship between the 7-Mode primary volume and the clustered Data ONTAP secondary volume.

The secondary cluster and storage virtual machine (SVM) must already be set up.

Steps

1. Copy data from the 7-Mode volume to the clustered Data ONTAP volume:
   a. Use the `snapmirror create` command with the relationship type as TDP to create a SnapMirror relationship between the 7-Mode system and the SVM.

```
sec_cluster::> snapmirror create -source-path sec_system:dst_7_vol
-destination-path dst_vserver:dst_c_vol -type TDP
Operation succeeded: snapmirror create the relationship with
destination dst_vserver:dst_c_vol.
```

   b. Use the `snapmirror initialize` command to start the baseline transfer.

```
sec_cluster::> snapmirror initialize -destination-path
dst_vserver:dst_c_vol
Operation is queued: snapmirror initialize of destination
dst_vserver:dst_c_vol.
```

c. Depending on whether you want to update the clustered Data ONTAP volume manually or by setting up a SnapMirror schedule, perform the appropriate action:

If you want to…	Then…
Update transfers manually	i. Use the `snapmirror update` command. ``` sec_cluster::> snapmirror update -destination-path dst_vserver:dst_c_vol ``` ii. Use the `snapmirror show` command to monitor the data copy status.

If you want to…	Then…
Perform scheduled update transfers	i. Use the `job schedule cron create` command to create a schedule for update transfers. ``` sec_cluster::> job schedule cron create -name 15_minute_sched -minute 15 ``` ii. Use the `snapmirror modify` command to apply the schedule to the SnapMirror relationship. ``` sec_cluster::> snapmirror modify -destination-path dst_vserver:dst_c_vol -schedule 15_minute_sched ``` iii. Use the `snapmirror show` command to monitor the data copy status.

2. If you have a schedule for incremental transfers, perform the following steps when you are ready to perform cutover:

   a. Use the `snapmirror quiesce` command to disable all future update transfers.

   ```
   sec_cluster::> snapmirror quiesce -destination-path
   dst_vserver:dst_vol
   ```

   b. Use the `snapmirror modify` command to delete the SnapMirror schedule.

   ```
   sec_cluster::> snapmirror modify -destination-path
   dst_vserver:dst_vol -schedule ""
   ```

   c. If you quiesced the SnapMirror transfers earlier, use the `snapmirror resume` command to enable SnapMirror transfers.

   ```
   sec_cluster::> snapmirror resume -destination-path
   dst_vserver:dst_vol
   ```

3. Wait for any ongoing transfers between the 7-Mode volumes and the clustered Data ONTAP volumes to finish, and then disconnect client access from the 7-Mode volumes to start cutover.

4. Use the `snapmirror update` command to perform a final data update to the clustered Data ONTAP volume.

   ```
   sec_cluster::> snapmirror update -destination-path dst_vserver:dst_vol
   Operation is queued: snapmirror update of destination
   dst_vserver:dst_vol.
   ```

5. Use the `snapmirror show` command to verify that the last transfer was successful.

6. Use the `snapmirror break` command to break the SnapMirror relationship between the 7-Mode secondary volume and the clustered Data ONTAP secondary volume.

   ```
   sec_cluster::> snapmirror break -destination-path dst_vserver:dst_vol
   [Job 60] Job succeeded: SnapMirror Break Succeeded
   ```

7. If your volumes have LUNs configured, at the advanced privilege level, use the `lun transition 7-mode show` command to verify that the LUNs were transitioned.

   You can also use the `lun show` command on the clustered Data ONTAP volume to view all of the LUNs that were successfully transitioned.

8. Use the `snapmirror delete` command to delete the SnapMirror relationship between the 7-Mode secondary volume and the clustered Data ONTAP secondary volume.

```
sec_cluster::> snapmirror delete -destination-path dst_vserver:dst_vol
```

9. Use the `snapmirror release` command to remove the SnapMirror relationship information from the 7-Mode system.

```
system7mode> snapmirror release dataVol20 vs1:dst_vol
```

10. Establish a disaster recovery relationship between the 7-Mode primary volume and clustered Data ONTAP secondary volume:

    a. Use the `vserver peer transition create` command to create an SVM peer relationship between the 7-Mode primary volume and the clustered Data ONTAP secondary volume.

```
sec_cluster::> vserver peer transition create -local-vserver
dst_vserver -src-filer-name src_system
Transition peering created
```

    b. Use the `job schedule cron create` command to create a job schedule that matches the schedule configured for the 7-Mode SnapMirror relationship.

```
sec_cluster::> job schedule cron create -name 15_minute_sched -minute
15
```

    c. Use the `snapmirror create` command to create a SnapMirror relationship between the 7-Mode primary volume and the clustered Data ONTAP secondary volume.

```
sec_cluster::> snapmirror create -source-path src_system:src_7_vol
-destination-path dst_vserver:dst_c_vol -type TDP -schedule
15_minute_sched
Operation succeeded: snapmirror create the relationship with
destination dst_vserver:dst_c_vol.
```

    d. Use the `snapmirror resync` command to resynchronize the clustered Data ONTAP secondary volume.

       For successful resynchronization, a common 7-Mode Snapshot copy must exist between the 7-Mode primary volume and the clustered Data ONTAP secondary volume.

```
sec_cluster::> snapmirror  resync -destination-path
dst_vserver:dst_c_vol
```

       - If the target cluster is running Data ONTAP 8.3.2 or later, you must create the required igroups and map the LUNs manually.

- If the target cluster is running Data ONTAP 8.3.1 or earlier, you must map the secondary LUNs manually after completing the storage cutover of the primary volumes.
- You must delete the SVM peer relationship between the secondary 7-Mode system and the secondary SVM when all of the required volumes in the 7-Mode system are transitioned to the SVM.
- You must delete the SnapMirror relationship between the 7-Mode primary and the 7-Mode secondary systems.

Related information

Recovering from a failed LUN transition

Configuring a TCP window size for SnapMirror relationships

Transitioning a primary volume

Transitioning a primary volume involves copying data from the 7-Mode primary volumes to the clustered Data ONTAP primary volumes, deleting the disaster recovery relationship between the 7-Mode primary and clustered Data ONTAP secondary volumes, and establishing a SnapMirror relationship between the clustered Data ONTAP primary and secondary volumes.

The primary cluster and SVM must already be set up.

Steps

1. Copy the data from the 7-Mode primary volume to the clustered Data ONTAP primary volume:
   a. Use the `snapmirror create` command with the relationship type as TDP to create a SnapMirror relationship between the 7-Mode system and the SVM.

```
pri_cluster::> snapmirror create -source-path src_system:finance
-destination-path src_vserver:src_c_vol -type TDP
Operation succeeded: snapmirror create the relationship with
destination src_vserver:src_c_vol.
```

   b. Use the `snapmirror initialize` command to start the baseline transfer.

```
pri_cluster::> snapmirror  initialize -destination-path
src_vserver:src_c_vol
Operation is queued: snapmirror initialize of destination
src_vserver:src_c_vol.
```

   c. Depending on whether you want to update the clustered Data ONTAP volume manually or by setting up a SnapMirror schedule, perform the appropriate action:

If you want to…	Then…
Update transfers manually	i. Use the `snapmirror update` command. ``` pri_cluster::> snapmirror update -destination-path src_vserver:src_c_vol ``` ii. Use the `snapmirror show` command to monitor the data copy status.

If you want to…	Then…
Perform scheduled update transfers	i. Use the `job schedule cron create` command to create a schedule for update transfers. ``` pri_cluster::> job schedule cron create -name 15_minute_sched -minute 15 ``` ii. Use the `snapmirror modify` command to apply the schedule to the SnapMirror relationship. ``` pri_cluster::> snapmirror modify -destination-path src_vserver:src_c_vol -schedule 15_minute_sched ``` iii. Use the snapmirror show command to monitor the data copy status.

2. If you have a schedule for incremental transfers, perform the following steps when you are ready to perform cutover:

   a. Use the `snapmirror quiesce` command to disable all future update transfers.

   ```
   pri_cluster::> snapmirror quiesce -destination-path
   src_vserver:src_c_vol
   ```

   b. Use the `snapmirror modify` command to delete the SnapMirror schedule.

   ```
   pri_cluster::> snapmirror modify -destination-path
   src_vserver:src_c_vol -schedule ""
   ```

   c. If you quiesced the SnapMirror transfers earlier, use the `snapmirror resume` command to enable SnapMirror transfers.

   ```
   pri_cluster::> snapmirror resume -destination-path
   src_vserver:src_c_vol
   ```

3. Create an SVM peer relationship between the clustered Data ONTAP secondary and primary SVMs.

   a. Use the `cluster peer create` command to create a cluster peer relationship.

   ```
   pri_cluster::> cluster peer create -peer-addrs cluster2-d2,
   10.98.234.246 -timeout 60

   Notice: Choose a passphrase of 8 or more characters. To ensure the
   authenticity of the peering relationship, use a phrase or sequence of
   characters that would be hard to guess.

   Enter the passphrase: ********
   Confirm the passphrase: ********
   ```

   b. From the source cluster, use the `vserver peer create` command to create the SVM peer relationship between the clustered Data ONTAP primary and secondary volumes.

   ```
   pri_cluster::> vserver peer create -vserver src_vserver -peervserver
   src_c_vserver -applications snapmirror -peer-cluster sec_cluster
   ```

   c. From the destination cluster, use the `vserver peer accept` command to accept the SVM peer request and establish the SVM peer relationship.

```
pri_cluster::> snapmirror
show -destination-path

pri_system:src_7_vol
Destination Path:

                    Relationship
Group Type: none


SnapMirror Policy: DPDefault

Tries Limit: -


Successful Resyncs: 0
                    Number of
Failed Resyncs: 0


                          Total
Transfer Bytes: 47316380876 8
          Total Transfer Time
in Seconds: 43405
```

```
sec_cluster::> vserver peer accept -vserver dst_vserver -peervserver
src_vserver
```

4. From the destination cluster, use the `snapmirror quiesce` command to suspend any data transfers between the 7-Mode primary volume and the clustered Data ONTAP secondary volume if a schedule is set up for update transfers.

```
sec_cluster::> snapmirror quiesce -destination-path
dst_vserver:dst_c_vol
```

5. Monitor the data copy operation and initiate cutover:
   a. Wait for any ongoing transfers from the 7-Mode primary volumes to the clustered Data ONTAP primary and clustered Data ONTAP secondary volumes to finish, and then disconnect client access from the 7-Mode primary volume to start cutover.
   b. Use the `snapmirror update` command to perform a final data update to the clustered Data ONTAP primary volume from the 7-Mode primary volume.

```
pri_cluster::> snapmirror update -destination-path
src_vserver:src_c_vol
```

   c. Use the `snapmirror break` command to break the SnapMirror relationship between the 7-Mode primary volume and clustered Data ONTAP primary volume.

```
pri_cluster::> snapmirror  break -destination-path
src_vserver:src_c_vol
[Job 1485] Job is queued: snapmirror break for destination
src_vserver:src_c_vol.
```

   d. If your volumes have LUNs configured, at the advanced privilege level, use the `lun transition 7-mode show` command to verify that the LUNs have been transitioned.

      You can also use the `lun show` command on the clustered Data ONTAP volume to view all of the LUNs that were successfully transitioned.

   e. Use the `snapmirror delete` command to delete the relationship.

```
pri_cluster::> snapmirror  delete -destination-path
src_vserver:src_c_vol
```

   f. Use the `snapmirror release` command to remove the SnapMirror relationship information from the 7-Mode system.

```
system7mode> snapmirror release dataVol20 vs1:dst_vol
```

6. From the destination cluster, break and delete the disaster recovery relationship between the 7-Mode primary volume and clustered Data ONTAP secondary volume.
   a. Use the `snapmirror break` command to break the disaster recovery relationship between the 7-Mode primary volume and clustered Data ONTAP secondary volume.

```
sec_cluster::> snapmirror  break -destination-path
dst_vserver:dst_c_vol
[Job 1485] Job is queued: snapmirror break for destination
dst_vserver:dst_c_vol.
```

   b. Use the `snapmirror delete` command to delete the relationship.

```
sec_cluster::> snapmirror  delete -destination-path
dst_vserver:dst_c_vol
```

   c. Use the `snapmirror release` command to remove the SnapMirror relationship information from the 7-Mode system.

```
system7mode> snapmirror release dataVol20 vs1:dst_vol
```

7. From the destination cluster, establish a SnapMirror relationship between the clustered Data ONTAP primary and secondary volumes:
   a. Use the `snapmirror create` command to create a SnapMirror relationship between the clustered Data ONTAP primary and secondary volumes.

```
sec_cluster::> snapmirror create -source-path src_vserver:src_c_vol
-destination-path dst_vserver:dst_c_vol -type DP -schedule
15_minute_sched
```

   b. Use the `snapmirror resync` command to resynchronize the SnapMirror relationship between the clustered Data ONTAP volumes.

      For successful resynchronization, a common Snapshot copy must exist between the clustered Data ONTAP primary and secondary volumes.

```
sec_cluster::> snapmirror  resync -destination-path
dst_vserver:dst_c_vol
```

   c. Use the `snapmirror show` command to verify that the status of SnapMirror resynchronization shows

`SnapMirrored`.

> You must ensure that the SnapMirror resynchronization is successful to make the clustered Data ONTAP secondary volume available for read-only access.

You must delete the SVM peer relationship between the 7-Mode system and the SVM when all the required volumes in the 7-Mode system are transitioned to the SVM.

Related information

Recovering from a failed LUN transition

Configuring a TCP window size for SnapMirror relationships

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