Transitioning LUNs with mount points using DMMP alias names

ONTAP 7-Mode Transition

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Transitioning LUNs with mount points using DMMP alias names

When you transition a LUN with a mount point using an alias name, you must perform specific steps to prepare for the cutover phase and you must remount the LUNs after the transition.

Related information

Preparing for the cutover phase when transitioning LUNs with mount points using DMMP device names on Linux hosts

Remounting LUNs with mount points using DMMP alias names on Linux hosts after transition

Preparing RHEL LUNs with mount points using DMMP alias names for transition using the CLI

Before transition of a mount point using a DMMP device name, you must replace the DMMP device name with its respective file system UUID number.

This procedure applies to copy-based transitions and copy-free transitions.

Steps

1. Identify and record the SCSI device ID for the LUN to be transitioned:

   `sanlun lun show`

   The SCSI device ID is listed under the filename column in the output.

2. Identify and record the DMMP device name for the LUN to be transitioned:

   `multipath -ll` *`SCSI_device_ID`*

   In the following example, `360a9800037534562572b453855496b41` is the DMMP device name:

   ```
   [root@IBMx3550M3-229-169 ~]# multipath -ll /dev/sdc
   dmmp_fs_lun (360a9800037534562572b453855496b41) dm-3 NETAPP, LUN
   [size=1.0G] [features=3 queue_if_no_path pg_init_retries 50]
   [hwhandler=0][rw]
   \_ round-robin 0 [prio=2][active]
       \_ 9:0:0:1 sdc 8:32  [active][ready]
       \_ 9:0:0:1 sdg 8:96  [active][ready]
   ```

3. Identify the file system configured on the DMMP device:

   `blkid | grep -i` *`DMMP_device_name`*

   The TYPE value in the output identifies the file system.

In the following example, the file system is `ext3`.

```
[root@ibmx3550-229-108 ~]#blkid | grep -i
3600a09804d532d79565d47617679658
/dev/mapper/3600a09804d532d79565d47617679658:
UUID="450b999a-4f51-4828-8139-29b20d2f8708" TYPE="ext3" SEC_TYPE="ext2"
```

4. Identify the UUID number for the LUN:

   dumpe2fs *device_path_name* | grep UUID

5. Identify the directory on which the DMMP device is mounted:

   df -h

   In the following example, `/mnt/dmmp_ext3` represents the directory on which the DMMP device is mounted:

```
[root@IBMx3550M3-229-169 ~]# df -h
Filesystem Size Used Avail Use% Mounted on
/dev/mapper/dmmp_fs_lun
1008M 34M 924M 4% /mnt/dmnp_ext3
```

6. Verify in the `/etc/fstab` file that the mount points for the DMMP device are defined:

   cat /etc/fstab

   The DMMP device name and mount directory should be displayed in the output.

7. Create a backup of the `/etc/fstab` file:

   cp /etc/fstab /etc/*fstab_pre_transition_bkup*

8. Edit the `/etc/fstab` file to replace the DMMP device name with its respective file system UUID number.

Testing LUNs with mount points using DMMP alias names on RHEL hosts before the cutover phase of copy-based transitions

If you are using the 7-Mode Transition Tool (7MTT) 2.2 or later and Data ONTAP 8.3.2 or later to perform a copy-based transition of your Red Hat Enterprise Linux (RHEL) host, you can test your transitioned clustered Data ONTAP LUNs with mount points using alias names before the cutover phase. Your source host can continue to run I/O to your source 7-Mode LUNs during testing.

Your new clustered Data ONTAP LUNs must be mapped to your test host and your LUNs must be ready for

transition.

You should maintain hardware parity between the test host and the source host and you should perform the following steps on the test host.

Your clustered Data ONTAP LUNs are in read/write mode during testing. They convert to read-only mode when testing is complete and you are preparing for the cutover phase.

Steps

1. After the baseline data copy is complete, select **Test Mode** in the 7MTT user interface (UI).
2. In the 7MTT UI, click **Apply Configuration**.
3. Obtain the new SCSI device names for the clustered Data ONTAP LUNs:

   `sanlun lun show`

   In the following example, `/dev/sdl` is the SCSI device name for the `lun_dmmp_raw` LUN, and `/dev/sdk` is the SCSI device name for the

   `lun_dmmp_raw_alias` LUN:

   ```
   [root@ibmx3550-229-108 /]# sanlun lun show
   controller(7mode/E-Series)/
   vserver (cDOT/FlashRay)     lun-pathname                filename
   ------------------------------------------------------------------
   vs_brb     /vol/dmmp_raw_vol/lun_dmmp_raw               /dev/sdl
   vs_brb     /vol/dmmp_raw_alias_vol/lun_dmmp_raw_alias   /dev/sdk
   ```

4. Configure the DMMP devices for your clustered Data ONTAP LUNs:

   `multipath`

5. Obtain the device handle IDs for the clustered Data ONTAP LUNs:

   `multipath -ll`

   The following is an example of a device handle ID: “3600a09804d532d79565d47617679764d”

6. Check whether an alias is defined in the `/etc/multipath.conf` file on the source host.
7. Manually copy the alias configuration to the `/etc/multipath.conf` file on the test host, but replace the 7-Mode device handle ID with the corresponding clustered Data ONTAP device handle ID.
8. Use the `multipath` command to configure DMMP devices for your clustered Data ONTAP LUNs.
9. Identify the file system created on the DMMP alias device:

   `blkid` *`dmmp_device_name`*

10. Mount the DMMP device:

    `mount`

11. Perform your testing as needed.
12. After you have completed your testing, shut down the test host:

    ```
    shutdown -h -t0 now
    ```

13. In the 7MTT UI, click **Finish Testing**.

If your clustered Data ONTAP LUNs are to be remapped to your source host, you must prepare your source host for the cutover phase. If your clustered Data ONTAP LUNs are to remain mapped to your test host, no further steps are required on the test host.

Related information

Gathering pretransition information from the Inventory Assessment Workbook

Preparing for the cutover phase when transitioning LUNs with mount points using DMMP device names on Linux hosts

Preparing for the cutover phase when transitioning LUNs with mount points using DMMP device names on Linux hosts

If you are transitioning a LUN with a mount point using an alias name on a Linux host, there are several steps you must perform before entering the cutover phase.

For FC configurations, you must have fabric connectivity and zoning to clustered Data ONTAP controllers.

For iSCSI configurations, your iSCSI sessions must be discovered and logged in to your clustered Data ONTAP controllers.

- For copy-based transitions, perform these steps before initiating the Storage Cutover operation in the 7-Mode Transition Tool (7MTT).
- For copy-free transitions, perform these steps before initiating the Export & Halt 7-Mode Systems operation in the 7MTT.

Steps

1. Stop I/O to the mount points.
2. Shut down the applications that are accessing the LUNs according to the application vendor's recommendations.
3. Unmount DMMP devices:

    ```
    umount dir_name
    ```

4. Flush the 7-Mode LUN DMMP device ID:

    ```
    multipath -f device_name
    ```

    If needed, you can get the DDMP device name from the **OS Device ID** column under the **SAN Host LUNs** tab in the *Inventory Assessment Workbook*.

Related information

Gathering pretransition information from the Inventory Assessment Workbook

Remounting LUNs with mount points using DMMP alias names on Linux hosts after transition

After transition from ONTAP operating in 7-Mode to clustered Data ONTAP, you must remount your LUNs with mount points. The7-Mode volumes are offline and the 7-Mode LUNs are not accessible to your hosts.

If you are doing a copy-free transition (CFT), procedures for `vol rehost` must be complete.

See the 7-Mode Transition Tool Copy-Free Transition Guide for details.

- For copy-based transitions (CBTs), perform these steps after completing the Storage Cutover operation in the 7MTT.
- For CFTs, perform these steps after the Import Data & Configuration operation in the 7MTT.

1. Generate the 7-Mode to ONTAP LUN mapping file:
   - For copy-based transitions, run the following command from the Linux host where the 7MTT is installed:
     `transition cbt export lunmap -p project-name -o file_path`

     For example:

     `transition cbt export lunmap -p SanWorkLoad -o c:/Libraires/Documents/7-to-C-LUN-MAPPING.csv`
   - For copy-free transitions, run the following command from the system where the 7MTT is installed:
     `*transition cft export lunmap -p project-name -s svm-name -o output-file`

     For example:

     `transition cft export lunmap -p SanWorkLoad -s svml -0 c:/Libraries/Documents/7-to-C-LUN-MAPPING-svml.csv`

     You must run this command for each of your storage virtual machines (SVMs).
2. Make a note of the ONTAP device handle ID in the LUN mapping file.
3. Remove the SCSI devices created for 7-Mode LUNs:
   - To remove all of the SCSI devices:
     `rescan-scsi-bus.sh -r`
   - To remove each SCSI device individually:
     `*echo 1> /sys/block/SCSI_ID/delete_`

     This command must be executed on all 7-Mode LUN SCSI devices. See the SCSI Device ID column on the SAN Host LUNs tab of the *Inventory Assessment Workbook* to identify the SCSI device IDs for the LUNs.

4. Discover the new ONTAP LUNs:

   rescan-scsi-bus.sh

5. Verify that the ONTAP LUNs are discovered:

   sanlun lun show

   The ONTAP LUN's SCSI devices should be listed in the `device filename` column.

   An example of a SCSI device name is `/dev/sdp`.

6. In the `/etc/multipath.conf` file, replace the 7-Mode device handle ID with the clustered Data ONTAP LUN's device handle ID so that the `alias name` points to the clustered Data ONTAP LUN ID.

   You should update the multipaths section as displayed below. The following example shows the `/etc/multipath.conf file`, before replacing the 7-Mode LUN ID. In this example, the LUN ID `360a9800037534562572b453855496b43` is pointing to the `dmmp_fs_lun` alias name.

   ```
   multipaths {
           multipath {
                wwid   360a9800037534562572b453855496b43
                alias      dmmp_fs_lun
       }
   }
   ```

   After replacing the 7-Mode LUN ID with the ONTAP LUN ID `360a9800037534562572b453855496b43`, the example files looks as follows:

   ```
   multipaths {
           multipath {
                wwid   3600a09805176493730 3f4479515a7452
                alias      dmmp_fs_lun
       }
   }
   ```

7. Configure DMMP devices for ONTAP LUNs:

   multipath

8. Verify that the DMMP alias points to the ONTAP LUN device handle ID:

   multipath -ll *device_handle_ID*

9. Mount the ONTAP LUN to its mount point directory:

   mount /dev/mapper/*alias_namemount_dir_name*

If the mount points are defined in the /etc/fstab file, use the mount -a command to mount the LUN.

10. Verify that the DMMP device is mounted:

    mount

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