



# **Transitioning LUNs with mount points using DMMP device names**

## **ONTAP 7-Mode Transition**

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# Table of Contents

- Transitioning LUNs with mount points using DMMP device names . . . . . 1
  - Preparing RHEL LUNs with mount points using DMMP device names for transition using the Inventory Assessment Workbook. . . . . 1
  - Preparing RHEL LUNs with mount points using DMMP alias names for transition using the CLI . . . . . 2
  - Testing DMMP devices with file systems on RHEL hosts before the cutover phase of copy-based transitions . . . . . 4
  - Preparing for the cutover phase when transitioning LUNs with mount points using DMMP device names on Linux hosts . . . . . 5
  - Remounting DMMP devices on Linux hosts after transition. . . . . 6

# Transitioning LUNs with mount points using DMMP device names

Before transitioning a LUN with a mount point using a DMMP device name, you must replace the DMMP device name with its corresponding file system UUID number. You must perform specific steps to prepare for the cutover phase and you must remount the DMMP devices on the host after transition. You perform the same procedures for Red Hat Enterprise Linux (RHEL) 5 and RHEL 6.

## Related information

[Preparing RHEL LUNs with mount points using DMMP device names for transition using the Inventory Assessment Workbook](#)

[Preparing RHEL LUNs with mount points using DMMP alias names for transition using the CLI](#)

[Preparing for the cutover phase when transitioning LUNs with mount points using DMMP device names on Linux hosts](#)

[Remounting DMMP devices on Linux hosts after transition](#)

## Preparing RHEL LUNs with mount points using DMMP device names for transition using the Inventory Assessment Workbook

Before transition of a LUN with a mount point using a DMMP device name, you must replace the DMMP device name with its respective file system UUID number. This applies to Red Hat Enterprise Linux (RHEL) 5 and RHEL 6.

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

### Steps

1. Gather pretransition information from the *Inventory Assessment Workbook*.

Specifically, you need the following information:

- The file system configured on the DMMP device
- The directory on which the DMMP device is mounted
- The file system UUID for the DMMP device

### Steps

1. Verify that the mount points for the DMMP device are defined in the `/etc/fstab` file.
2. Create a backup of the file:

```
cp /etc/fstab /etc/fstab_pre_transition
```

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

In the following example, the DMMP device `/dev/mapper/360a9800037534562572b453855496b41` is replaced by UUID `a073547e-00b6-4bf9-8e08-5eef08499a9c`:

```
[root@IBMX3550M3-229-169 ~]# cat /etc/fstab
/dev/VolGroup00/LogVol100 / ext3 defaults 1 1
LABEL=/boot /boot ext3 defaults 1 2
tmpfs /dev/shm tmpfs defaults 0 0
devpts /dev/pts devpts gid=5, mode=620 0 0
sysfs /sys sysfs defaults 0 0
proc /proc proc defaults 0 0
/dev/VolGroup00/LogVol101 swap swap defaults 0 0
/dev/mapper/test_vg-test_lv /mnt/lvm_ext3 ext3 defaults,_netdev 0 0
UUID=a073547e-00b6-4bf9-8e08-5eef08499a9c /mnt/dmmp_ext3 ext3
defaults,_netdev 0 0
```

## Related information

[Gathering pretransition information from the Inventory Assessment Workbook](#)

# 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 DMMP devices with file systems 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 to verify that you can mount your DMMP device 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.

Perform these steps on the test host.

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 ID for the clustered Data ONTAP LUNs:

```
multipath -ll
```

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

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

```
blkid | grep -i device_handle_ID
```

7. Determine whether a mount point entry for the logical volume exists in the `/etc/fstab` file on the source host.
8. If a mount point entry exists for the logical volume on the source host, manually edit the `/etc/fstab` file on the test host to add the mount point entries.
9. Mount the LUN:

```
mount -a
```

10. Verify that the DMMP device is mounted:

```
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 DMMP 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 DMMP devices on Linux hosts after transition

After transition from ONTAP operating in 7-Mode to clustered Data ONTAP, you must remount your DMMP devices for RHEL 5 and RHEL 6. Your 7-Mode LUNs are not accessible to the host until your DMMP devices are mounted.

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, perform these steps after completing the Storage cutover operation in the 7-Mode Transition Tool (7MTT).
- For CFTs perform these steps after the Import Data & Configuration operation in the 7MTT is complete.

## Steps

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 -o 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 new ONTAP LUN device handle ID from 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 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 under the filename column.

6. Configure DMMP devices for ONTAP LUNs:

```
multipath
```

7. Verify that the DMMP devices are present:

```
multipath -ll LUN_SCSI_device_name
```

In the following example, 3600a098051764937303f4479515a7451 represents the DMMP device handle ID:

```
[root@IBMX3550M3-229-169 ~]#multipath -ll /dev/sdq  
3600a098051764937303f4479515a7451 dm-6 NETAPP,LUN C-Mode
```

8. Mount the LUN:

```
*mount device_name mountpoint
```

If the mount points are defined in the `/etc/fstab` file, you can run the `mount -a` command to mount all of the mount points.

9. Verify the mount points:

```
mount
```

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