Preparing for SAN transition

ONTAP 7-Mode Transition

NetApp
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Table of Contents

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Before transitioning a SAN environment, you must understand what configurations are supported for SAN transition, create SAN LIFs on the SVM, and prepare the SAN hosts for transition.

Creating SAN LIFs before transition

Because FC and iSCSI LIFs are not transitioned by the 7-Mode Transition Tool, you must create these LIFs on the SVMs before transition. You must configure SAN LIFs on both the nodes that own the LUN and the node's HA partner.

The required SAN (FC or iSCSI) license must be added to the cluster.

For redundancy, you must create SAN LIFs on both the node hosting the LUNs and its HA partner.

Steps

1. Create an FC or iSCSI LIF on the target node to which the LUNs are transitioned, depending on the protocol used:

   ```
   network interface create
   ```

   If you want to reuse the 7-Mode IP address for iSCSI LIFs, you must create the LIFs in administrative down state. You can bring these LIFs to the administrative up state after the cutover operation.

2. Create a LIF on the HA partner of the node.
3. Verify that you have set up your LIFs correctly:

   ```
   network interface show
   ```

Related information

SAN administration

Configuring zones by using the FC zone plan

Before transitioning a SAN FC environment, you must configure zones by using the FC zone planner to group the initiator hosts and targets.

- The FC zone planner must be generated by using the Collect and Access feature of the 7-Mode Transition Tool
- The FC zone script file must be accessible.
  1. If there are any changes to the igroup configurations on the 7-Mode systems, modify and regenerate the FC zone plan.

     Generating an assessment report by adding systems to the 7-Mode Transition Tool

  2. Log in to the CLI of the switch.

3. Copy and execute the required zone commands one at a time.

   The following example runs the zone commands on the switch:

```
switch1:admin>config terminal
# Enable NPIV feature
feature npiv
zone name auto_transition_igroup_d31_194bf3 vsan 10
member pwwn 21:00:00:c0:dd:19:4b:f3
member pwwn 20:07:00:a0:98:32:99:07
member pwwn 20:09:00:a0:98:32:99:07
.......
.......
.......
copy running-config startup-config
```

4. Verify the data access from the cluster by using the test initiator hosts.
5. After the verification is complete, perform the following steps:
   a. Disconnect the test initiator hosts.
   b. Remove the zone configuration.

Preparing SAN hosts for transition

Before transitioning a SAN environment, you must perform some manual steps to prepare the SAN hosts for transition.

You must have generated the inventory workbook for the SAN hosts by using the Inventory Collect Tool.

Host and storage transition information collection

Steps

1. Verify that the host is supported for transition.

   NetApp Interoperability Matrix Tool

2. Perform the pretransition steps on the host.

   SAN host transition and remediation

SAN transition: supported and unsupported configurations, and required manual steps

You must be aware of the SAN configurations that are transitioned by the 7-Mode Transition Tool. You should also be aware of the 7-Mode SAN features that are not supported in ONTAP, so that you can take any necessary actions before the transition.

You should verify all of the precheck error and warning messages to evaluate the impact of such configurations on transition.

Configurations that are transitioned

The following SAN configurations are transitioned by the 7-Mode Transition Tool:

- FC and iSCSI services
- igroups and LUN maps

  - 7-Mode igroups that are not mapped to any LUNs are not transitioned to the target SVMs.
  - For clustered Data ONTAP 8.3.0 and 8.3.1, the transition of igroups and LUN mapping configurations is not supported during the precutover operation.

    Instead, the required igroups are created during the cutover operation. For primary and stand-alone volumes, LUNs are mapped to igroups during the cutover operation. However, for secondary volumes, the mapping of LUNs to igroups is not supported during the cutover operation. You must manually map the secondary LUNs after completing the transition of primary volumes.
  - For ONTAP 8.3.2 and later supported releases, igroups and LUN mapping configurations are applied during the precutover operation.

Unsupported configurations in ONTAP

The unsupported configurations in ONTAP are as follows:

- 7-Mode Snapshot copy-backed LUN clones

  Snapshot copy-backed LUN clones present in the Snapshot copies are not supported for any restore operation. These LUNs are not accessible in ONTAP. You must split or delete the 7-Mode Snapshot copy-backed LUN clones before transition.

- LUNs with an ostype parameter value of vld, image, or any user-defined string

  You must either change the value of the ostype parameter for such LUNs or delete the LUNs before transition.

- LUN clone split

  You must either wait for the active LUN clone split operations to finish or abort the LUN clone split and delete the LUN before transition.

The following 7-Mode features enable you to continue with the transition process, but are not supported in ONTAP:

- The `lun share` command

  Sharing a LUN over NAS protocols

- SnapValidator

Configurations that must be manually transitioned

The following configurations must be transitioned manually:

- SAN LIFs

  You must manually create the LIFs before transition.

- Portsets

  You must manually configure igroups that are bound to a portset after transition.

- iSCSI access list information
- iSNS configuration
- iSCSI CHAP and RADIUS configurations

Related information

NFS management

Network and LIF management

Space considerations when transitioning SAN volumes

You must ensure that sufficient space is available in the volumes during transition. In addition to the space required for storing data and Snapshot copies, the transition process also requires 1 MB of space per LUN for updating certain filesystem metadata.

You can use the `df -h` command on the 7-Mode volume to verify whether free space of 1 MB per LUN is available in the volume. The volume should also have free space equivalent to the amount of data that is expected to be written to the volume before the hosts are quiesced. If the volume does not have sufficient free space available, the required amount of space must be added to the 7-Mode volume.

If transition fails during the import phase due to lack of space on the volume, the following EMS message is generated: `LUN.vol.proc.fail.no.space: Processing for LUNs in volume vol_name failed due to lack of space`.

If there are volumes containing space-reserved LUNs, growing the volume by 1MB per LUN might not provide sufficient space. In such cases, the amount of space that has to be added is the size of the Snapshot reserve for the volume. After space is added to the volume, you can use the `lun transition start` command to transition the LUNs.

Related information

Recovering from a failed LUN transition

NetApp Documentation: ONTAP 9