Preparing for transition

ONTAP 7-Mode Transition

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Preparing for transition

Before you start the transition, you must prepare the 7-Mode storage system and cluster before transitioning 7-Mode volumes to clustered Data ONTAP. You must also create a transition peer relationship between the 7-Mode system and the storage virtual machine (SVM).

License requirements for transition

Before you transition a volume from 7-Mode to clustered Data ONTAP, you must ensure that SnapMirror is licensed on the 7-Mode storage system. If you are transitioning a 7-Mode volume SnapMirror relationship, SnapMirror licenses are also required on the source and destination clusters.

If SnapMirror is already licensed on your 7-Mode system, you can use the same license for transition. If you do not have the 7-Mode SnapMirror license, you can obtain a temporary SnapMirror license for transition from your sales representative.

Feature licenses that are enabled on the 7-Mode system must be added to the cluster. For information about obtaining feature licenses on the cluster, see the System Administration Reference.

Preparing the 7-Mode system for transition

Before starting a transition, you must complete certain tasks on the 7-Mode system, such as adding the SnapMirror license and the 7-Mode system to communicate with the target cluster.

All the 7-Mode volumes that you want to transition must be online.

Steps

1. Add and enable the SnapMirror license on the 7-Mode system:
   a. Add the SnapMirror license on the 7-Mode system:

      `license add` *`license_code`*

      `license_code` is the license code you purchased.

   b. Enable the SnapMirror functionality:

      `options snapmirror.enable on`

2. Configure the 7-Mode system and the target cluster to communicate with each other by choosing one of the following options:
   - Set the `snapmirror.access` option to all.
   - Set the value of the `snapmirror.access` option to the IP addresses of all the LIFs on the cluster.
   - If the `snapmirror.access` option is `legacy` and the `snapmirror.checkip.enable` option is `off`, add the SVM name to the `/etc/snapmirror.allow` file.

- If the `snapmirror.access` option is `legacy` and the `snapmirror.checkip.enable` option is `on`, add the IP addresses of the LIFs to the `/etc/snapmirror.allow` file.

3. Depending on the Data ONTAP version of your 7-Mode system, perform the following steps:
   a. Allow SnapMirror traffic on all the interfaces:

      `options interface.blocked.snapmirror ""`

   b. If you are running Data ONTAP version 7.3.7, 8.0.3, or 8.1 and you are using the IP address of the e0M interface as the management IP address to interact with 7-Mode Transition Tool, allow data traffic on the e0M interface:

      `options interface.blocked.mgmt_data_traffic off`

Preparing the cluster for transition

You must set up the cluster before transitioning a 7-Mode system and ensure that the cluster meets requirements such as setting up LIFs and verifying network connectivity for transition.

- The cluster and the SVM must already be set up.

  Software setup

  The target SVM must not be in an SVM disaster recovery relationship.

- The cluster must be reachable by using the cluster management LIF.
- The cluster must be healthy and none of the nodes must be in takeover mode.
- The target aggregates that will contain the transitioned volumes must have an SFO policy.
- The aggregates must be on nodes that have not reached the maximum volume limit.
- For establishing an SVM peer relationship when transitioning a volume SnapMirror relationship, the following conditions must be met:
  - The secondary cluster should not have an SVM with the same name as that of the primary SVM.
  - The primary cluster should not have an SVM with the same name as that of the secondary SVM.
  - The name of the source 7-Mode system should not conflict with any of the local SVMs or SVMs that are already peered.

You can set up local LIFs that are in the default IPspace or intercluster LIFs on each node of the cluster to communicate between the cluster and 7-Mode systems. If you have set up local LIFs, then you do not have to set up intercluster LIFs. If you have set up both intercluster LIFs and local LIFs, then the local LIFs are preferred.

1. Create an intercluster LIF on each node of the cluster for communication between the cluster and 7-Mode system:
   a. Create an intercluster LIF:

      `network interface create -vserver *svm_name* -lif *intercluster_lif* -role intercluster -home-node *home_node* -home-port *home_port* -address *ip_address* -netmask *netmask*`

```
cluster1::> network interface create -vserver cluster1 -lif
intercluster_lif -role intercluster -home-node cluster1-01 -home-port
e0c -address 192.0.2.130 -netmask 255.255.255.0
```

b. Create a static route for the intercluster LIF:

network route create -vserver *svm_name* -destination *IP_address/mask* -gateway *ip_address*

```
cluster1::> network route create -vserver vs0 -destination 0.0.0.0/0
-gateway 10.61.208.1
```

c. Verify that you can use the intercluster LIF to ping the 7-Mode system:

network ping -lif *intercluster_lif* -vserver *svm_name* -destination *remote_inetaddress*

```
cluster1::> network ping -lif intercluster_lif -vserver cluster1
-destination system7mode
system7mode is alive
```

For multipathing, you must have two intercluster LIFs on each node.

Network and LIF management

Related information

Creating a transition peer relationship

NetApp Documentation: Product Library A-Z

Creating a transition peer relationship

You must create a transition peer relationship before you can set up a SnapMirror relationship for transition between a 7-Mode system and a cluster. As a cluster administrator, you can create a transition peer relationship between anSVM and a 7-Mode system by using the `vserver peer transition create` command.

- You must have ensured that the name of the source 7-Mode system does not conflict with any of local SVMs or already peered SVMs.
- You must have created a clustered Data ONTAP volume of type DP to which the 7-Mode data must be transitioned.

  The size of the clustered Data ONTAP volume must be equal to or greater than the size of the 7-Mode volume.

- You must have ensured that the SVM names do not contain a "."
- If you are using local LIFs, you must have ensured the following:
  - Local LIFs are created in the default IPspace
  - Local LIFs are configured on the node on which the volume resides
  - LIF migration policy is same as the volume node, so that both can migrate to the same destination node

When creating a transition peer relationship, you can also specify a multipath FQDN or IP address for load balancing the data transfers.

Steps

1. Use the `vserver peer transition create` command to create a transition peer relationship.
2. Use the `vserver peer transition show` to verify that the transition peer relationship is created successfully.

Example of creating and viewing transition peer relationships

The following command creates a transition peer relationship between the SVM vs1 and the 7-Mode system src1 with the multipath address src1-e0d and local LIFs lif1 and lif2:

```
cluster1::> vserver peer transition create -local-vserver vs1 -src-filer
-name src1 -multi-path-address src1-e0d -local-lifs lif1,lif2
```

The following examples show a transition peer relationship between a single SVM (vs1) and multiple 7-Mode systems:

```
cluster1::> vserver peer transition create -local-vserver vs1 -src-filer
-name src3
Transition peering created

cluster1::> vserver peer transition create -local-vserver vs1 -src-filer
-name src2
Transition peering created
```

The following output shows the transition peer relationships of the SVM vs1:

```
cluster1::> vserver peer transition show
Vserver  Source Filer  Multi Path Address   Local LIFs
-------  ------------  -----------------    ---------
vs1      src2               -                     -
vs1      src3               -                     -
```

Configuring a TCP window size for SnapMirror relationships

You can configure a TCP window size for SnapMirror relationships between the 7-Mode volume and the ONTAP volume to improve the SnapMirror transfer throughput so that the replication operations are completed faster.

The `window-size-for-tdp-mirror` option is provided with the snapmirror policy command to configure the TCP window size for SnapMirror relationships between the 7-Mode and ONTAP volumes (TDP). Using this option, you can configure a higher/lower TCP window size. You must be aware of the following considerations when setting this option:

- The `window-size-for-tdp-mirror` option can be configured only for policies of type `async-mirror`.
- The `window-size-for-tdp-mirror` option can be configured in the range of `256 KB` to `7 MB`. Otherwise configuration fails.
- The default value for the `window-size-for-tdp-mirror` option is `2 MB`.

> The `window-size-for-tdp-mirror` option is hidden and tab complete does not work. Make sure to type the full option to use it.

The following example displays how to configure a TCP window size of `5 MB` for a SnapMirror relationship of type `TDP`:

Steps

1. Create a SnapMirror policy of type `async-mirror` that has a TCP window size of `5 MB`:

   `snapmirror policy create`

   ```
   cluster01::> snapmirror policy create -vserver vserverA –policy
   tdp_window_size_policy -window-size-for-tdp-mirror 5MB -type async-
   mirror
   ```

2. Create a SnapMirror relationship of type `TDP` and apply the policy:

   `snapmirror create`

   ```
   cluster01::> snapmirror create -source-path filerA:volA -destination
   -path vserverA:volA -type TDP -policy tdp_window_size_policy
   ```

3. View the configured window size in the SnapMirror policy:

   `snapmirror policy show`

   ```
   cluster01::> snapmirror policy show -vserver vserverA -policy
   tdp_window_size_policy -fields window-size-for-tdp-mirror
   ```

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