



# **Transitioning volumes by using the 7-Mode Transition Tool CLI**

## **ONTAP 7-Mode Transition**

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# Transitioning volumes by using the 7-Mode Transition Tool CLI

The 7-Mode Transition Tool provides commands that enable you to transition 7-Mode volumes. If you have the 7-Mode Transition Tool installed on a Linux system, you must use the CLI to perform the transition.

The tool collects the 7-Mode storage system's volume and IP address information, verifies the 7-Mode configuration, and interacts with the cluster to apply the configuration on the SVM.

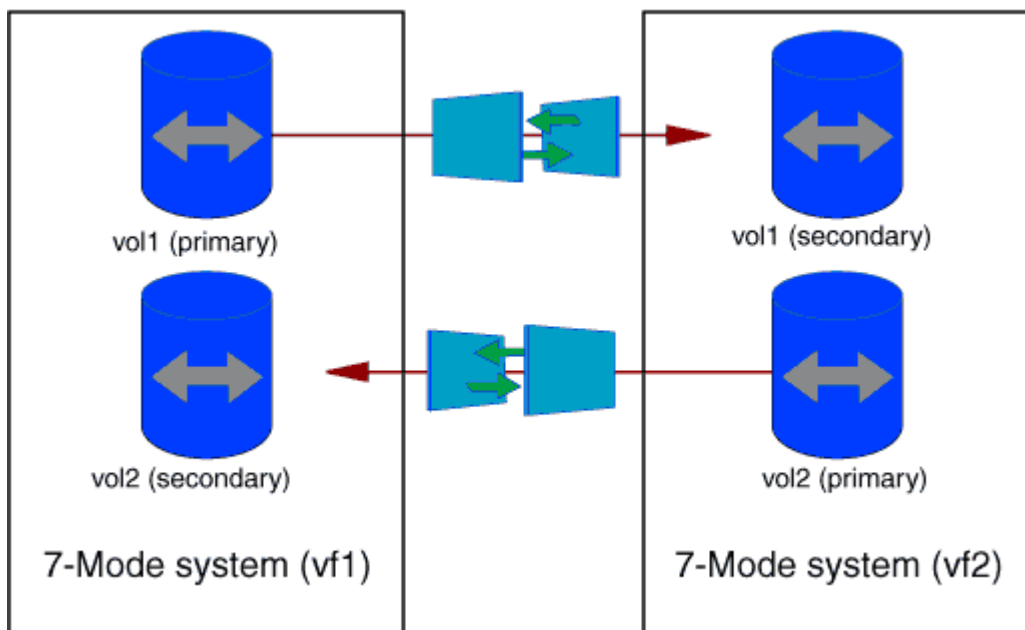
## Scenarios for selecting volumes in a project

Planning a project composition and deciding which 7-Mode volumes to transition in a single transition operation can help in reducing the downtime for applications. Understanding some sample scenarios can help you while creating projects in your environment.

### Bidirectional SnapMirror relationship

To transition a bidirectional SnapMirror relationship, you must create different transition projects for each volume.

For example, as shown in the illustration below, consider a volume SnapMirror relationship that exists between vf1:vol1 (primary) on system1 and vf2:vol1 (secondary) on system2. Similarly, another volume SnapMirror relationship exists between vf2:vol2 (primary) on system2 and vf1:vol2 (secondary) on system1.



You cannot combine the volumes vf1:vol1 and vf1:vol2 in one transition project. Similarly, you cannot combine the volumes vf2:vol1 and vf2:vol2 in one transition project. You must create separate transition projects for each volume to transition the volume SnapMirror relationship.

## Volumes with CIFS configuration

You must group volumes that have CIFS configuration in one project so that all the CIFS-related configuration is transitioned completely to the SVM.

For example, if 10 volumes in a 7-Mode system or a vFiler unit have associated CIFS shares, home-directory search path, and audit configuration, these 10 volumes must be transitioned in one project. This ensures that all the volumes and CIFS configuration are completely applied on the SVM after transition.

## SnapMirror relationship between a primary volume and multiple secondary volumes

If a SnapMirror relationship exists between a primary volume and multiple secondary volumes and if all the secondary volumes are on the same 7-Mode controller, you can create a secondary project to group all the secondary volumes and complete the transition of all secondary volumes in that project. You can then create a primary project to transition the primary volume and complete the SnapMirror transition.

## Transitioning volumes by using the 7-Mode Transition Tool CLI

The 7-Mode Transition Tool provides commands that enable you to transition 7-Mode volumes. If you have the 7-Mode Transition Tool installed on a Linux system, you must use the CLI to perform the transition.

The tool collects the 7-Mode storage system's volume and IP address information, verifies the 7-Mode configuration, and interacts with the cluster to apply the configuration on the SVM.

### Creating a transition project

You can create a transition project that identifies the 7-Mode objects to be transitioned and how they map to the ONTAP objects. While creating the project, the 7-Mode Transition Tool collects and saves the information about the transition objects. You can use this project information to perform the transition in stages.

You must have gathered the following information:

- Project type: Possible values are stand-alone, primary, or secondary
- FQDN or IP address of the 7-Mode storage system or the default vFiler unit, if MultiStore is licensed
- Administrative user name and password of the 7-Mode storage system
- List of 7-Mode volumes
- FQDN of the cluster or IP address of the cluster-management LIF
- SVM name

### Steps

1. From the **Start** menu, click **All Programs > NetApp 7-Mode Transition Tool > NetApp 7-Mode Transition Tool (CLI) 3.0** to open the 7-Mode Transition Tool command prompt.
2. Add the user name and password of the systems that are a part of the transition project:

**transition credentials add -h *host\_name* -u *user\_name***

*host\_name* is FQDN or IP address of the 7-Mode system or cluster.

*user\_name* is the administrative user name for the system.



You must repeat this step for each storage system that you want to add to the transition projects.

```
7-Mode Transition Tool>transition credentials add -h system1.example.com
-u root
Enter password for 'root@system1.example.com':
```

### 3. Create a transition project:

**transition cbt create -p *project\_name* -t *project\_type* -n *7-Mode\_system* -c *data-copy-ipaddress* [-f *vfiler\_name*] [-h *cluster* -v *vserver\_name***

*project\_name* is the name of the transition project.

*project\_type* is the project type. Valid values are standalone, secondary, or primary.

*7-Mode\_system* is the FQDN or IP address of the 7-Mode system.

*cluster* is the FQDN of the cluster or IP address of the cluster-management LIF.



The host names of your 7-Mode system and cluster must be the same as those you had provided while creating the project.

*data-copy-ipaddress* is the IP address over which data is copied.

*vfiler\_name* is the name of the nondefault vFiler unit.

*vserver\_name* is the name of the SVM.



For a new SVM, you must provide the aggregate name of the root volume of the SVM with the -g option.

```
7-Mode Transition Tool>transition cbt create -p sample_project -t
standalone -n system1.example.com -n 10.238.55.33 -h
cluster1.example.com -v vs2
```

The transition project moves to the preparation state.

### 4. Add the 7-Mode volume and ONTAP volume to the project:

**transition cbt volumepair add -p *project\_name* -v *7-Mode\_volume* -c**

**`vserver_volume -g aggr_name -t`**

`7-Mode_volume` is the 7-Mode volume name.

`vserver_volume` is the ONTAP volume on the SVM.



You can also add an ONTAP volume for which the baseline transfer has been completed. When you add such a volume in the preparation phase, only incremental transfers are performed during the data copy phase.

`aggr_name` is the aggregate on which the ONTAP volume `vserver_volume` is created during the start operation.

`-t` is used when a volume which is in SnapMirror relationships must be transitioned as standalone volume.



When a volume is transitioned as standalone volume, SnapMirror relationships are not preserved during the transition.

For SnapLock Compliance volumes that are in SnapMirror relationship, the transition of SnapMirror relationships for SnapLock Compliance volumes is not automated by the 7-Mode Transition Tool. All SnapLock Compliance volumes that are in SnapMirror relationship must be transitioned as standalone volumes (by specifying the flag `-t`) by including the volumes in standalone, primary, or secondary projects. You must then manually perform the SnapMirror resynchronization operation between these volumes after the transition.

See [Considerations for transitioning of SnapLock Compliance volumes](#)

```
7-Mode Transition Tool>transition cbt volumepair add -p sample_project  
-v voll -c voll -g aggr1
```

5. Add the IP addresses to be transitioned to the project:

**`transition cbt lif add -p project_name -i ip-address [-m netmask] [-g default-gateway] [-p home_port] [ -n home_node]`**

To a transition project, you can also add existing IP addresses that are unconfigured or removed from the 7-Mode system during storage cutover, and new IP addresses that are not yet configured on either the 7-Mode or ONTAP.



FC and iSCSI LIFs are not transitioned by the 7-Mode Transition Tool.

```
7-Mode Transition Tool>transition cbt lif add -p sample_project -i  
192.0.2.250 -m 255.255.255.128 -g 192.40.0.1 -p e0a -n cluster1-01
```

The new IP addresses are configured on the ONTAP system in the up state during the apply configuration (precutover) operation.

6. Follow these steps to add information to the primary and secondary project:

If you want to add information about the...	Enter...
Primary 7-Mode system to the secondary project	<pre>transition cbt add-primary-seven-mode-system -p <i>project_name</i> -h <i>source-host</i> -f <i>management-ipaddress</i> -d <i>data-copy-ipaddress</i> [-m <i>multipathing-ipaddress</i>]</pre> <p>For more information, see <a href="#">CBT : How to provide all the required primary 7-Mode details for a given secondary project</a>.</p>
Secondary cluster or SVM to the primary project	<pre>transition cbt add-secondary-cluster-mode-system -p <i>project_name</i> -h <i>c-mode-host-name</i> -v <i>vserver-name</i></pre> <p>For more information, see the <a href="#">CBT: How to add the required secondary cluster details to the primary project</a></p>

*project\_name* is the name of the transition project.

*source-host* is the primary 7-Mode storage system host name or IP address as seen in the `snapmirror status` command output of the secondary 7-Mode system.

For considerations about providing the 7-Mode primary system details, see the man pages.

*management-ipaddress* is the management IP address of the source host.

*data-copy-ipaddress* is the IP address over which data is copied.

*multipathing-ipaddress* is the additional IP address that is used for data copy.

*c-mode-host-name* is the FQDN or IP address of the cluster to which the secondary volumes in the project have been transitioned.

*vserver-name* is the name of the SVM hosting the secondary volumes.

#### 7. Create a data copy schedule:

```
transition cbt schedule add -p project_name -n schedule_name -d days-range -b start-time -e duration -u update-frequency -t available-transfers-percentage -c max-cap-concurrent-transfers -x project-snapmirror-throttle
```

The following command shows how to add a schedule that uses 100% of available concurrent SnapMirror transfers. However, it does not exceed the 25 concurrent SnapMirror transfers at any point of time.

```
transition schedule add -p sample_project -n dr_active -d 1-5 -b 23:30 -e 03:00 -c 25 -x 200 -u 00:30
```

#### 8. View the detailed information about the transition project created:

```
transition cbt show -p project-name
```

## Customizing the transition of 7-Mode configurations by using the CLI

By default, all 7-Mode configurations are transitioned to ONTAP. You can choose to exclude some or all the volume, NFS, CIFS, SAN, and name services configurations from transition by using the 7-Mode Transition Tool CLI. You can also choose to consolidate the 7-Mode NFS export rules and Snapshot schedules, and reuse an existing NFS export policy and Snapshot policy on the target SVM.

You must perform this task before the configuration is applied, after which any modification will be ignored.

The 7-Mode Transition Tool does not perform prechecks for the configuration that is excluded.

By default, all 7-Mode configurations are selected for transition.

It is a best practice to run the prechecks with all configurations first, and then exclude one or more configurations in the subsequent run of the prechecks. This helps you to understand which configurations are excluded from transition and which prechecks are skipped subsequently.

### Steps

- Exclude and verify the configurations:

- a. Exclude the configurations:

```
transition cbt property-set -p project_name -n config_property_name -v true
```

*config\_property\_name* is the configuration that you want to exclude.

[Configurations that can be excluded from transition](#)

- b. Verify the value of the property that is set for excluding the configuration:

```
transition cbt property-get -p project_name -n config_property_name
```

- Consolidate NFS export rules for transition:

- Consolidate similar 7-Mode NFS export rules to a single export policy in clustered Data ONTAP, which can then be applied to the transitioned volume or qtree:

```
transition cbt property-set -p project_name -n nfs-consolidate-similar-7mode-exports -v true
```

If the *nfs-consolidate-similar-7mode-exports* property is set to *false*, the 7-Mode Transition Tool creates a new NFS export policy in ONTAP for each 7-Mode NFS export rule.

- Reuse an existing NFS export policy on the SVM that matches the export policy that will be created by the tool, which can be applied to the transitioned volumes or qtrees:

```
transition cbt property-set -p project_name -n nfs-reuse-matching-svm-export-policies -v true
```

- Consolidate Snapshot schedules for transition:

- Consolidate similar 7-Mode Snapshot schedules to a single Snapshot policy in ONTAP, which can then be applied to the transitioned volume:

```
transition cbt property-set -p project_name -n consolidate-similar-7mode-snapshot-policies -v true
```

If the *consolidate-similar-7mode-snapshot-policies* property is set to *false*, the 7-Mode



Transition Tool creates a new Snapshot policy in ONTAP for each Snapshot schedule.

- Reuse an existing Snapshot policy on the SVM that matches the Snapshot policy that will be created by the tool, which can be applied to the transitioned volumes:  
**`transition cbt property-set -p project_name -n reuse-matching-svm-snapshot-policies -v true`**

### Configurations that can be excluded from transition

You can customize the configuration transition by excluding some volume-level or SVM-level configurations for NFS, CIFS, SAN, and name services configurations from transition by specifying the property name with the `transition cbt property-set` command of the 7-Mode Transition Tool CLI.

#### NFS

7-Mode configuration to exclude	Property name
Export policies	<code>ignore-nfs-exports-transition</code>
NFS options	<code>ignore-nfs-options-transition</code>
All NFS configurations	<code>ignore-all-nfs-configurations-transition</code>

#### CIFS

7-Mode configuration to exclude	Property name
Local users and groups	<code>ignore-local-users-groups-transition</code>
Home directory paths	<code>ignore-cifs-home-directory-paths-transition</code>
Symbolic links	<code>ignore-cifs-symlinks-transition</code>
Widelinks	<code>ignore-cifs-widelinks-transition</code>
Shares and Share ACLs	<code>ignore-cifs-shares-and-acls-transition</code>
CIFS options	<code>ignore-cifs-options-transition</code>
Name mapping	<code>ignore-cifs-name-mapping-transition</code>
Audit configuration	<code>ignore-cifs-audit-transition</code>

7-Mode configuration to exclude	Property name
Preferred domain controller list	ignore-cifs-preferred-domain-controllers-list-transition
All CIFS configurations	ignore-all-cifs-configurations-transition

#### Name services

7-Mode configuration to exclude	Property name
Netgroups	ignore-netgroups-transition
UNIX users and groups	ignore-unix-users-groups-transition
NIS	ignore-nis-transition
DNS	ignore-dns-transition
LDAP	ignore-ldap-transition
/etc/nsswitch.conf file	ignore-nsswitch-transition
LDAP-based user mapping	ignore-nmswitch-transition
/etc/hosts files	ignore-etc-hosts-transition
All name services configurations	ignore-all-nameservices-configurations-transition

#### SAN

7-Mode configuration to exclude	Property name
igroup and LUN mapping	ignore-igroup-and-lunmapping-transition
All configurations	ignore-all-san-configurations-transition

#### Snapshot schedules

7-Mode configuration to exclude	Property name
Snapshot schedules	ignore-snapshot-schedule-transition
	 <p>If this option is set to true, the 'default' Snapshot policy is applied to the transitioned volumes.</p>

## Related information

[Supported and unsupported CIFS configurations for transition to ONTAP](#)

[NFS transition: supported and unsupported configurations, and required manual steps](#)

[Name services transition: supported and unsupported configurations, and required manual steps](#)

[SAN transition: supported and unsupported configurations, and required manual steps](#)

## Examples of consolidating NFS export rules and Snapshot schedules for transition

You might want to review examples of how similar 7-Mode export rules and 7-Mode Snapshot schedules are consolidated to a single NFS export policy and a single Snapshot policy in ONTAP. You might also want to understand how the consolidated policies are assigned to the transitioned volumes or qtrees with or without reusing a matching existing policy on the target SVM.

### Example of consolidating NFS export rules for transition

#### NFS export rules in 7-Mode and ONTAP before transition

##### 7-Mode export rules

```
/vol/vol1      -sec=sys,rw,nosuid
/vol/vol2      -sec=sys,rw,nosuid
/vol/vol3      -sec=sys,rw,nosuid
```

#### Export policies existing in ONTAP

```
cluster-2::> vserver export-policy show -vserver vs1
Vserver      Policy Name
-----
vs1          default
vs1          export_policy_1
```

The existing export policy export\_policy\_1 has the following export rule:

```
cluster-2::> vserver export-policy rule show -vserver vs1 -policyname
export_policy_1
```

	Policy	Rule	Access	Client	RO
Vserver	Name	Index	Protocol	Match	Rule
vs1	export_policy_1	1	nfs	0.0.0.0/0	sys

### Export policies in ONTAP after transition with consolidation (no reuse)

Volumes vol1, vol2, and vol3 have similar export rules in 7-Mode; therefore, a new consolidated export policy, transition\_export\_policy\_1, is assigned to these volumes after transition:

```
cluster-2::> vserver export-policy show -vserver vs1
```

Vserver	Policy Name
vs1	default
vs1	export_policy_1
vs1	transition_export_policy_1

3 entries were displayed.

```
cluster-2::> vserver export-policy rule show -vserver vs1 -policyname
transition_export_policy_1
```

	Policy	Rule	Access	Client	RO
Vserver	Name	Index	Protocol	Match	Rule
vs1	transition_export_policy_1	1	nfs	0.0.0.0/0	sys

```
cluster-2::> volume show -vserver vs1 -volume vol1,vol2,vol3 -fields
policy
```

vserver	volume	policy
vs1	vol1	transition_export_policy_1
vs1	vol2	transition_export_policy_1
vs1	vol3	transition_export_policy_1

3 entries were displayed.

### Export policies in ONTAP after transition with consolidation and reuse

Volumes vol1, vol2, and vol3 have similar export rules in 7-Mode; therefore, a consolidated export policy is assigned to these volumes after transition. The export policy, export\_policy\_1, which matches the 7-Mode

export rules, already exists on the SVM. Therefore, the policy is applied to these volumes:

```
cluster-2::> vserver export-policy show -vserver vs1
Vserver          Policy Name
-----
vs1              default
vs1              export_policy_1
2 entries were displayed.
```

```
cluster-2::> vserver export-policy rule show -vserver vs1 -policyname
export_policy_1
          Policy          Rule   Access   Client          RO
Vserver   Name            Index  Protocol Match          Rule
-----
vs1       export_policy_1  1      nfs      0.0.0.0/0        sys
```

```
cluster-2::> volume show -vserver vs1 -volume vol1,vol2,vol3 -fields
policy
vserver volume policy
-----
vs1    vol1    export_policy_1
vs1    vol2    export_policy_1
vs1    vol3    export_policy_1
3 entries were displayed.
```

**Example of consolidating Snapshot policies for transition**

**Snapshot schedules in 7-Mode and ONTAP before transition**

**7-Mode schedule**

7-Mode volume	7-Mode Snapshot schedule
vol1	0 2 4@8,12,16,20 (weekly Snapshot copies: 0, daily Snapshot copies: 2, hourly Snapshot copies: 6 at 2, 4, 8, 12, 16, 20 hours)
vol2	0 2 4@8,12,16,20
vol3	0 2 4@8,12,16,20

7-Mode volume	7-Mode Snapshot schedule
vol4	1 2 3@8,12,16 (weekly Snapshot copies: 1, daily Snapshot copies: 2, hourly Snapshot copies: 3 at 8,12,16 hours)
vol5	2 2 3@8,12,16 (weekly Snapshot copies: 2, daily Snapshot copies: 2, hourly Snapshot copies: 3 at 8,12,16 hours)

#### Snapshot policies existing in ONTAP

Snapshot policy name	Policy details
ScheduleWeekly	Weekly, count: 1
ScheduleDailyHourly4	<b>Schedule details</b> <ul style="list-style-type: none"> <li>• Schedule1: daily, count1: 2</li> <li>• Schedule2: hourly, count2: 4 every 8, 12, 16, 20 hours</li> </ul>
ScheduleHourly1	Hourly at 8, 12, 16, 20 hours, count: 4

#### Snapshot policy in ONTAP after transition with consolidation (no reuse)

7-Mode volume	7-Mode Snapshot schedule	Snapshot policy in ONTAP
vol1	0 2 4@8,12,16,20 (weekly Snapshot copies: 0, daily Snapshot copies: 2, hourly Snapshot copies: 4 at 8, 12, 16, 20 hours)	<b>Consolidated policy for vol1, vol2, and vol3</b> <ul style="list-style-type: none"> <li>• Name: transition_snapshot_policy_0</li> <li>• Schedule details <ul style="list-style-type: none"> <li>◦ Schedule1: daily, count1: 2</li> <li>◦ Schedule2: hourly, count2: 4 every 8, 12, 16, 20 hours</li> </ul> </li> </ul>
vol2	0 2 4@8,12,16,20	vol3
0 2 4@8,12,16,20	vol4	1 2 3@8,12,16 (weekly Snapshot copies: 1, daily Snapshot copies: 2, hourly Snapshot copies: 3 at 8,12,16 hours)

7-Mode volume	7-Mode Snapshot schedule	Snapshot policy in ONTAP
<ul style="list-style-type: none"> <li>• Name: transition_snapshot_policy_1</li> <li>• Schedule details <ul style="list-style-type: none"> <li>◦ Schedule1: weekly, count1: 1</li> <li>◦ Schedule2: daily, count2: 2</li> <li>◦ Schedule3: hourly, count3: 3 every 8,12,16 hours</li> </ul> </li> </ul>	vol5	2 2 3@8,12,16 (weekly Snapshot copies: 2, daily Snapshot copies: 2, hourly Snapshot copies: 3 at 8,12,16 hours)

### Snapshot policy in ONTAP after transition with consolidation and reuse

7-Mode volume	7-Mode Snapshot schedule	Snapshot policy in ONTAP
vol1	0 2 4@8,12,16,20 (weekly Snapshot copies: 0, daily Snapshot copies: 2, hourly Snapshot copies: 4 at 2, 4, 8, 12, 16, 20 hours)	Consolidated policy for vol1, vol2, and vol3 for which the existing ONTAP policy is reused  Name: ScheduleDailyHourly4
vol2	0 2 4@8,12,16,20	vol3
0 2 4@8,12,16,20	vol4	1 2 3@8,12,16 (weekly Snapshot copies: 1, daily Snapshot copies: 2, hourly Snapshot copies: 3 at 8,12,16 hours)
<ul style="list-style-type: none"> <li>• Name: transition_snapshot_policy_1</li> <li>• Schedule details <ul style="list-style-type: none"> <li>◦ Schedule1: weekly, count1: 1</li> <li>◦ Schedule2: daily, count2: 2</li> <li>◦ Schedule3: hourly, count3: 3 every 8,12,16 hours</li> </ul> </li> </ul>	vol5	2 2 3@8,12,16 (weekly Snapshot copies: 2, daily Snapshot copies: 2, hourly Snapshot copies: 3 at 8,12,16 hours)

## Running prechecks

After creating a transition session, you can validate the session to verify whether the 7-Mode environment can be transitioned by using the `transition precheck` command. You can verify the compatibility between the 7-Mode storage system and the SVM for factors such as features and security settings.

The transition session must be in the preparation state.

The `transition cbt precheck` command generates a detailed error message report. Issues identified in the report are assigned different severity levels, depending on the impact of the issue on the transition process. Because some errors can hinder the transition, you must perform corrective actions for errors and warnings. You should also review the impact of messages of other severity levels before proceeding with the transition.

## Steps

1. Verify the compatibility for transition:

**`transition cbt precheck -p project_name`**

```
7-Mode Transition Tool>transition cbt precheck -p project_finance

[1/14 ] Project status checks
[      Errors      ]

Operation summary:
-----
The 'precheck' operation on the project 'project_finance' has failed.

1  Errors - Failed!

Do you want to see a detailed report {yes, no} [yes]:

1 Errors:
-----
90202: Checking whether any of the 7-Mode volumes are in 'offline'
state.                                [      Error      ]
  > Following volumes are in 'offline' state.
  > CORRECTIVE-ACTION: Bring offline volumes online by using the
following command: 'vol online
  > <volume_name>'.
  > AFFECTED-OBJECTS: { vol2 }
```

Next suggested steps:

-----

1. Review the 'precheck' operation results, fix all blocking errors and run the 'precheck' operation again.
2. Use the 'transition job-results -j 6e33e0a7-bb36-49df-91f3-2e52cbfa3074' command to see the results of this operation.

Ran precheck for project 'project\_finance'.

You must resolve all of the errors that might cause problems with the transition before starting the data copy from the 7-Mode volumes.



## Starting data copy for a transition project

You can initiate a data copy from 7-Mode volumes to ONTAP volumes for a baseline transfer. The baseline transfer starts when the data copy schedules configured in a project becomes active. After the baseline transfer is complete, the ONTAP volumes are updated periodically based on the data copy schedule.

- You must have run a precheck on the project and resolved all errors.
- You must have configured a dedicated, high-bandwidth, low-latency network between the source and destination systems for data transfer.



You can use SnapMirror multipathing to balance the data transfer load between the two paths.

- A data copy schedule must be configured for the session.

If you are transitioning to an existing SVM, the volumes are created during this operation. If you are transitioning to a new SVM, the SVM and its volumes get created during this operation.

SnapMirror relationships are created between 7-Mode and ONTAP volumes.

### Steps

1. Start the data copy:

```
transition start -p project_name
```

If the start operation fails and data copy is not started, you must resolve the issues and run the `transition start` command again.

```
7-Mode Transition Tool>transition start -p project_finance

[1/17 ] Project status checks                               [
Ok      ]
[2/17 ] Validating 7-Mode system information                 [
Ok      ]
[3/17 ] Validating 7-Mode volumes information                [
Ok      ]
[4/17 ] Validating Cluster-Mode system information           [
Ok      ]
[5/17 ] Validating Cluster-Mode volume information           [
Ok      ]
[6/17 ] Validating LIF information                            [
Notifications ]
[7/17 ] WAFL prechecks                                       [
Ok      ]
[8/17 ] UNIX users and groups prechecks                      [
Warnings ]
[9/17 ] SnapMirror prechecks                                 [
```

```

Notifications ]
[10/17] NFS prechecks [
Warnings      ]
[11/17] Networking prechecks [
Notifications ]
[12/17] CIFS prechecks [
Warnings      ]
[13/17] Name services prechecks [
Warnings      ]
[14/17] SAN prechecks [
Ok            ]
[15/17] Creating Cluster-Mode volumes [
Ok            ]
[16/17] Establishing SnapMirror relationships between the 7-Mode and
Cluster-Mode volumes
[      Ok      ]
[17/17] Initializing SnapMirror relationships between the 7-Mode and
Cluster-Mode volumes
[      Ok      ]

```

Operation summary:

-----

The 'start' operation is completed with warnings and notifications.

```

 0  Errors - No action required
22  Warnings - Need your attention!
16  Notifications - Please review
102 Informational messages

```

Do you want to see a detailed report {yes, no} [yes]:

22 Warnings:

-----

20362: Checking whether 7-Mode UNIX groups' names are in use in the  
Vserver 'vs2'. [ Warning ]

> The following 7-Mode UNIX groups' names are already in use in the  
Vserver 'vs2'.

> AFFECTED-OBJECTS: { daemon }

20372: Checking whether 7-Mode UNIX groups' ids are in use in the  
Vserver 'vs2'. [ Warning ]

> The following 7-Mode UNIX groups' ids are already in use in the  
Vserver 'vs2'.

> AFFECTED-OBJECTS: { daemon }

The project moves to the copy-baseline state. After the baseline transfer is completed, the project moves to

the copy-update state.

## Applying configurations to ONTAP volumes

After the baseline data copy is completed, you can copy and apply all NAS configurations from the 7-Mode system (including protocols and services configuration) to the ONTAP volumes. If the target cluster is running Data ONTAP 8.3.2 or later, SAN configurations are transitioned in this phase.

- The configurations are applied in the precutover phase, which has two modes: precutover read-only mode and precutover read/write mode.
- The precutover read/write mode is not supported when the project contains the following:
  - SAN volumes and the target cluster is running Data ONTAP 8.3.1 or earlier. In this situation, the following configurations are not applied in the precutover phase, instead they are applied during the cutover phase:
    - SAN configurations
    - Snapshot Schedule configurations
  - SnapLock Compliance volumes.

If the project contains SnapLock Compliance volumes, then the Snapshot Schedule configurations are not applied in the precutover phase, instead these configurations are applied during the cutover phase.

See [Considerations for transitioning of SnapLock Compliance volumes](#).

- If the target cluster is running Data ONTAP 8.3.1 or earlier, the read/write mode is not supported during precutover if any volume in the project contains LUNs.
- If the target cluster is running Data ONTAP 8.3.1 or earlier and a project contains both SAN and NAS volumes, only NAS configurations are transitioned in the precutover phase, and these NAS configurations can be tested only in the read-only mode.

SAN configurations are transitioned only in the storage cutover phase.



SAN LIFs are not configured.

- If the target cluster is running Data ONTAP 8.3.1 or earlier and the project contains SAN volumes, then Snapshot schedule configuration is not applied during apply configuration (precutover) phase.

These configurations are applied during the cutover phase.

- If the target cluster is running Data ONTAP 8.3.1 or earlier and the project contains SAN volumes, then Snapshot schedule configuration is not applied during apply configuration (precutover) phase.

These configurations are applied during the cutover phase.

### Steps

- Run the transition operation in read-only mode:

```
transition cbt precutover -p project_name -m ro_test -c  
max_cap_concurrent_transfers -b snapmirror_throttle
```

- Run the transition operation in read/write mode:
  - a. Apply the configurations to ONTAP: `+ transition cbt precutover -p project_name -m rw_test -c max_cap_concurrent_transfers -b snapmirror_throttle`
  - b. Manually test and verify the configurations in ONTAP.
  - c. Start the resynchronization operation: `+ transition cbt resync -p project_name`

## Completing the transition

Because the complete operation is disruptive, you should evaluate when to run it. When transitioning volumes in a SnapMirror relationship, the secondary project must be completed before completing the transition of the primary project.

### Steps

1. Perform a data copy from the 7-Mode volumes to the ONTAP volumes:

```
transition cbt update -p project_name -t available-transfers-percentage -c snapmirror-throttle max-cap-concurrent-transfers -x -r interactive
```

This helps in reducing the downtime during storage cutover.

2. Manual: Disconnect client access.
3. Complete the transition process:

```
transition cbt cutover -p project_name -t available-transfers-percentage -c max-cap-concurrent-transfers -x snapmirror-throttle -r interactive -o [true|false]
```

By default, the 7-Mode volumes are made offline. To keep the 7-Mode volumes online, set the `-o` option to `false`.



If the cutover is not successful for some reason—for example, the 7-Mode system or cluster is not reachable—you must resolve the issues and run the `transition cutover` command again.

For more information about the commands, see the man pages.

The transition session moves to the cutover state. If the cutover is successful, the session moves to the completed state.

You must perform any post-transition tasks and reconnect the clients to the ONTAP volumes.

## Commands for managing transition

You can use the `transition cbt` command to manage functions, such as creating, modifying, deleting, and displaying transition projects.

The following option can be used with all commands:

`-r no`: Disables the interactive nature of the command. By default, this option is enabled.

You can also use the `-v` option, which enables the verbose mode, with the `transition version` and `transition cbt menu` commands.

## Commands to manage transition operations

If you want to...	Use this command...
Create a transition project	<code>transition cbt create</code>
Add the cluster information to the given project	<code>transition cbt add-cluster-info</code>
Modify a transition project	<code>transition cbt modify</code>
Complete the transition to an ONTAP storage system	<code>transition cbt cutover</code>
Run precheck on the project	<code>transition cbt precheck</code>
Apply the configurations to an ONTAP storage system	<code>transition cbt precutover</code>
Trigger the SnapMirror resynchronization between the 7-Mode volumes and ONTAP volumes in the project	<code>transition cbt resync</code>
Trigger the SnapMirror update operation for the ONTAP volumes	<code>transition cbt update</code>
Display the version of 7-Mode Transition Tool	<code>transition cbt version</code>
Start baseline data copy from the 7-Mode volumes to ONTAP volumes in a project	<code>transition cbt start</code>
Pause data copy from the 7-Mode volumes to ONTAP volumes in a project	<code>transition cbt pause</code>
Resume data copy transfers from the 7-Mode volumes to ONTAP volumes of a paused project	<code>transition cbt resume</code>
Abort a transition project	<code>transition cbt abort</code>
Delete a transition project	<code>transition cbt delete</code>
Display the list of transition projects or display information about a project	<code>transition cbt show</code>

## Commands to manage volume SnapMirror relationships

If you want to...	Use this command...
Add information about a 7-Mode primary system to a secondary project	<pre>transition cbt add-primary-seven-mode-system `</pre> <a href="#">CBT : How to provide all the required primary 7-Mode details for a given secondary project</a>
Add information about an ONTAP secondary system to a primary project	<pre>transition cbt add-secondary-cluster-mode-system</pre> <a href="#">CBT: How to add the required secondary cluster details to the primary project</a>
Remove information about a 7-Mode primary system from a secondary project	<pre>transition cbt remove-primary-seven-mode-system</pre>
Remove information about an ONTAP secondary system from a primary project	<pre>transition cbt remove-secondary-cluster-mode-system</pre>
List the 7-Mode primary systems added to a secondary project	<pre>transition cbt show-primary-seven-mode-systems</pre>
List the ONTAP secondary systems added to a primary project	<pre>transition cbt show-secondary-cluster-mode-systems</pre>

## Commands to manage credentials of Data ONTAP systems

If you want to...	Use this command...
Save credentials (user name and password) of a host in the transition server	<pre>transition credentials add</pre>
Retrieve user name of a host	<pre>transition credentials get</pre>
Modify the user name or password of a host	<pre>transition credentials modify</pre>
Delete credentials of a host from the transition server	<pre>transition credentials remove</pre>

## Commands to manage the volume pairs in a project

If you want to...	Use this command...
Add the 7-Mode volume and the ONTAP volume (volume pair) to a project	<code>transition cbt volumepair add</code>
Modify the ONTAP volume of a project	<code>transition cbt volumepair modify</code>
Remove a volume pair from a project	<code>transition cbt volumepair remove</code>
List volume pairs in a project	<code>transition cbt volumepair show</code>

## Commands to manage LIF details



FC and iSCSI LIFs are not transitioned by the 7-Mode Transition Tool.

If you want to...	Use this command...
Add anSVM data LIF to a project	<code>transition cbt lif add</code>
Modify anSVM data LIF of a project	<code>transition cbt lif modify</code>
Remove LIFs from a project	<code>transition cbt lif remove</code>
List all the LIFs added to a project	<code>transition cbt lif show</code>

## Commands to manage project properties

If you want to...	Use this command...
Set value for a specific project property	<code>transition cbt property-set</code>
Clear the value of a specific project property	<code>transition cbt property-reset</code>
Get the value of a specific project property	<code>transition cbt property-get</code>

## Commands to manage transition jobs

If you want to...	Use this command...
List jobs that ran or are running on the given project and operation	<code>transition jobs</code>
View the status of a job	<code>transition job-status</code>

If you want to...	Use this command...
View the results of a job	<code>transition job-results</code>

## Commands to manage transition schedules

If you want to...	Use this command...
Add a schedule to manage SnapMirror transfers along with bandwidth	<code>transition cbt schedule add</code>
Modify a SnapMirror schedule of the project	<code>transition cbt schedule modify</code>
Remove the SnapMirror schedules from the project	<code>transition cbt schedule remove</code>
List all the SnapMirror schedules in a project	<code>transition cbt schedule show</code>

## Command to collect tool logs

If you want to...	Use this command...
Collect the log files of 7-Mode Transition Tool Logs are saved on the server in the <code>asup</code> directory of the 7-Mode Transition Tool installation path.	<code>transition bundle-tool-logs</code>

For more information about these commands, see the man pages for the 7-Mode Transition Tool CLI.

## Related information

[Migrating data and configuration from 7-Mode volumes](#)



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