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## 7MTT – SMB 7-Mode to CDOT Work Instructions

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# Contents

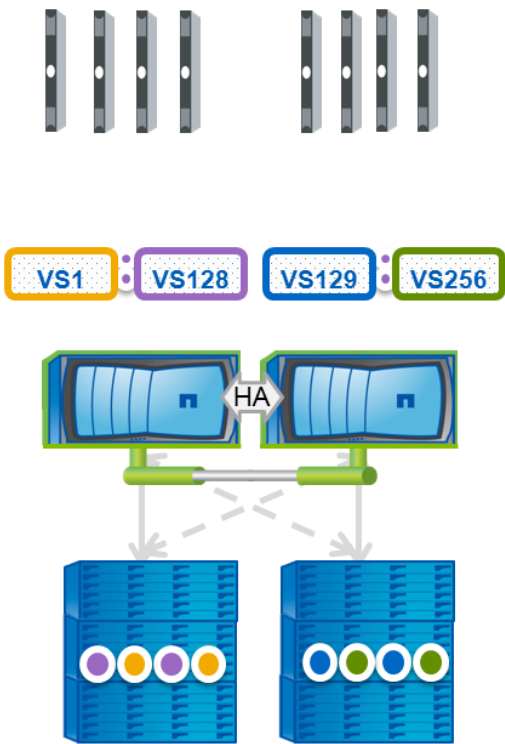
<b>1</b>	<b>Introduction .....</b>	<b>3</b>
1.1	Management Summary.....	3
1.2	Change History .....	3
1.3	Distribution List.....	3
1.4	Glossary.....	3
<b>2</b>	<b>Additional 7-Mode SMB Configuration To Migrate To cDOT .....</b>	<b>4</b>
2.1	Domain Users and Groups.....	4
2.2	Share Permissions.....	5
<b>3</b>	<b>7-Mode to CDOT SMB Migration.....</b>	<b>5</b>
3.1	High Level Migration Steps .....	5
3.2	Pre-requisites .....	5
3.3	Vserver and LIF creation .....	6
3.3.1	Create Vserver (replace hyphen with underscore in vservers rootvolume name) .....	6
3.3.2	Create LIF with default route and failover group .....	6
3.4	DNS configuration .....	6
3.4.1	Setup DNS on a Vserver.....	6
3.4.2	Setup DNS on Cluster Admin Vserver .....	6
3.5	Create service account if required.....	6
3.6	Enable CIFS Protocol .....	6
3.6.1	Enable CIFS .....	6
3.7	<b>Check Current IOPS In Use Prior To Migration.....</b>	<b>7</b>
3.8	Start the Migration .....	7
3.8.1	Login to 7MTT .....	7
3.9	Post cut-over activities .....	21
3.9.1	Create job schedule and snapshot policy for SNAP volume(s) .....	21
3.9.2	Check Group Membership.....	21
3.9.3	Check Local Groups.....	21
3.9.4	Check Local Users .....	21
3.9.5	Check Share Permissions and Path To Volume/Qtree .....	22
3.9.6	Setup snap autodelete on volumes (run for each SNAP volume) .....	22
3.10	QoS Policy Group Creation .....	22
3.10.1	Create QoS policy group and apply it at the volume level (create one QOS policy for each volume) .....	22
<b>4</b>	<b>Snapvault Configuration .....</b>	<b>23</b>
4.1	Cluster and Vserver Peering.....	23
4.1.1	Confirm that cluster peering has been enabled.....	23
4.1.2	Create the cluster peer (skip this step if cluster peering has been configured) .....	23
4.1.3	Confirm if vservers peering has been configured.....	23
4.1.4	Create vservers peering on the destination system (skip this step if vservers peering has been configured).....	23
4.1.5	Accept the vservers peering on the source system .....	23
4.2	SnapVault configuration .....	23
	Volumes names in TR have 'SNAP' or 'NOSNAP' incorporated into them. SNAP volumes must have snapvault configured for disk based backups. NOSNAP volumes do NOT require backups.....	23
4.2.1	Create secondary volumes for SnapVault as type "DP" on the destination cluster .....	23
4.2.2	Create a cron job schedule if it does not exist in the destination .....	23
4.2.3	Configure a snapmirror policy on the destination .....	23
4.2.1	Initialize SnapVault relationship on the destination.....	24

# 1 Introduction

## 1.1 Management Summary

This document details the process used to migrate an SMB share from 7mode to CDOT with 7MTT.

- Servers connected via NFS or SMB
- One Vserver per application
- Up to 128 Vservers per node
- One LIF per Vserver with NFS or SMB
- FAS80xx or FAS32xx cluster with 2 to 8 nodes
- Single node cluster for SnapVault backup systems
- DS2246 or DS4246 SAS attached disk shelves
- Multiple volumes per Vserver
- LIFs and Volumes on same node for direct path I/O



## 1.2 Change History

Ver	Date	Author	Key Changes
1	April 2016	Ian Daniel	Initial Version
1.1	April 2016	Ian Daniel	Minor corrections, added perf check
1.2	April 2016	Ian Daniel	Minor corrections

## 1.3 Distribution List

Name	Role
Storage Support	
Storage Delivery	

## 1.4 Glossary

Term	Definition
cDOT	clustered Data ONTAP
Vserver	A logical storage virtual server, also known as a Storage Virtual Machine (SVM), which contains LIFs, Volumes, and configuration information such as access control details.
LIF	Logical Interface – a cDOT logical network interface with an IP address, assigned to a single Vserver.
7MTT	7mode Transition Tool – A tool used to migrate from 7mode to CDOT
WFA	OnCommand Workflow Automater – An automation framework application from NetApp, used for storage provisioning.

# 2 Additional 7-Mode SMB Configuration To Migrate To cDOT

## 2.1 Domain Users and Groups

There are often Domain users and Groups configured on a 7-Mode CIFS vfiler, these can be displayed as shown on a group-by-group basis and are transferred as part of the 7MTT migration process. To check members of a group you can use the following command. It is recommended to check all the groups.

### Example

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 useradmin domainuser list -g administrators
```

```
===== si-nastest-01
```

```
List of SIDS in administrators
```

```
S-1-5-21-1789992843-188582088-1440544181-131073
```

```
S-1-5-21-1789992843-188582088-1440544181-500
```

```
S-1-5-21-1042883198-748202677-1346798384-512
```

```
S-1-5-21-2012327785-2259879848-3711903672-512
```

```
S-1-5-21-2012327785-2259879848-3711903672-56518
```

```
S-1-5-21-2012327785-2259879848-3711903672-55774
```

```
For more information about a user, use the 'cifs lookup' and 'useradmin user list' commands.
```

You can determine the actual names of the displayed SIDs as follows. This can be useful when checking what was migrated across to cDOT as it will not display SIDs.

### Example

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs lookup S-1-5-21-2012327785-2259879848-3711903672-55774
```

```
===== si-nastest-01
```

```
name = TEN\M-Storage-admins.G
```

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs lookup S-1-5-21-2012327785-2259879848-3711903672-56518
```

```
===== si-nastest-01
```

```
name = TEN\M-EaganServerAdmins
```

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs lookup S-1-5-21-2012327785-2259879848-3711903672-512
```

```
===== si-nastest-01
```

```
name = TEN\Domain Admins
```

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs lookup S-1-5-21-1042883198-748202677-1346798384-512
```

```
===== si-nastest-01
```

```
name = TLR\Domain Admins
```

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs lookup S-1-5-21-1789992843-188582088-1440544181-500
```

```
===== si-nastest-01
```

```
name = SI-NAESTEST-01\administrator
```

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs lookup S-1-5-21-1789992843-188582088-1440544181-131073
```

```
===== si-nastest-01
```

```
name = SI-NAESTEST-01\root
```

## 2.2 Share Permissions

There are often Domain users and Groups configured on a 7-Mode CIFS share, these can be displayed as shown and will be transferred by 7MTT at migration time.

```
eag-laborf-nas6210ht-1> vfiler run si-nastest-01 cifs shares
```

```
===== si-nastest-01
Name      Mount Point      Description
-----
ETC$      /vol/si_nastest_01_root/etc      Remote Administration

          BUILTIN\Administrators / Full Control
HOME      /vol/si_nastest_01_root/home      Default Share
          everyone / Full Control
C$        /                          Remote Administration
          BUILTIN\Administrators / Full Control
TESTSHARE01 /vol/cifsmig01/share01
          everyone / Full Control
          TEN\M-Storage-admins.G / Full Control
          TEN\uc136758 / Change
          TLR\Domain Admins / Full Control
```

## 3 7-Mode to CDOT SMB Migration

### 3.1 High Level Migration Steps

Task	Owner
Create SVM and volume	Storage
Initialize snapmirror replication	Storage
Stop application during maintenance window	Application
Unmount source volumes during maintenance window	Platform
Final snapmirror sync/break during maintenance window	Storage
Update server mount info, e.g. change is server \\server\path	Platform
Mount new share(s) during maintenance window	Platform
Start application	Application
Verify	Application/Platform

### 3.2 Pre-requisites

- **Ensure version of 7MTT is 2.3 or higher**
- **Ensure vfiler being migrated is not currently exceeding the 6K IOPS threshold**
- Confirm the target aggregate has sufficient capacity
- Confirm the source volume is 64 bit
- Register the target vserver hostname in DNS
- Ensure the target vserver is in the required AD domain
- Ensure the destination cluster has AV enabled and the destination vserver has scanning turned on
- Make note of service accounts on the source so they can be created in destination
- Confirm there is network connectivity between the source and target
- Add the CDOT vserver name (not IP) to the source systems /etc/snapmirror.allow file
- Make note of qtree quotas sizes so they can be applied in destination
- Make note of the source volume language
- Make note of the backup volume size

## 3.3 Vserver and LIF creation

### 3.3.1 Create Vserver (replace hyphen with underscore in vsname rootvolume name)

```
vserver create -vsname <vsname> -rootvolume <vsname>_root -aggregate
<aggrname> -ns-switch file -nm-switch file -rootvolume-security-style unix -
language <language>

vserver show
```

### 3.3.2 Create LIF with default route and failover group

```
network interface create -vsname <vsname> -lif <vsname>-lif<lif#> -role data -
data-protocol <protocol> -home-node <node> -home-port <port> -address <ip> -
netmask <netmask> -status-admin up -firewall-policy mgmt -failover-group
<group>

network routing-groups route create -vsname <vsname> -routing-group
d<network>/<mask> -destination 0.0.0.0/0 -gateway <gateway>

vserver show

network interface show

network interface show -failover

network routing-groups route show -vsname <vsname>
```

## 3.4 DNS configuration

### 3.4.1 Setup DNS on a Vserver

```
vserver services dns create -vsname <vsname> -domains <domainname> -name-
servers <comma_separate_name_server_list>

vserver services dns show
```

### 3.4.2 Setup DNS on Cluster Admin Vserver

For ONTAP 8.2.x you need to make sure that whatever DNS domains are on your data vservers also get added to the admin vserver as DNS lookups can also be done via that vserver.

```
vserver services dns modify -vsname <admin_vsname> -domains <domainnames>

vserver services dns show
```

## 3.5 Create service account if required

```
security login role create -role <ROLE_NAME> -cmddirname "<COMMAND>" -access
<ACCESS_TYPE> -vsname <vserver> #Repeat this command for each required cDOT command

security login create -username <USER_NAME> -application ontapi -authmethod
<AUTHENTICATION_METHOD> -role <ROLE_NAME> -vsname <vserver>
```

## 3.6 Enable CIFS Protocol

### 3.6.1 Enable CIFS

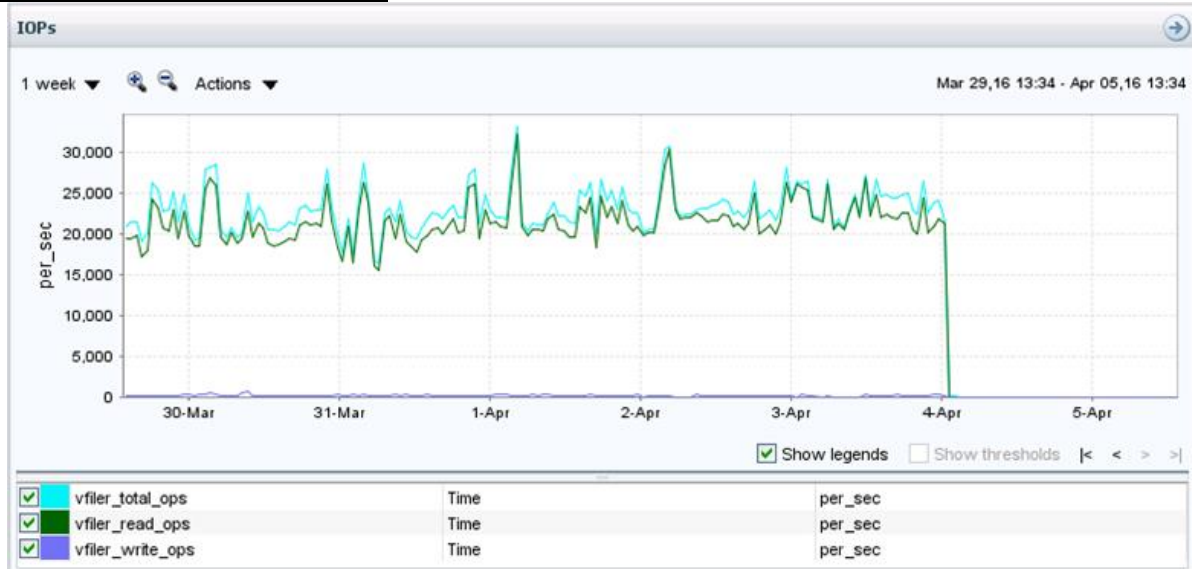
```
cifs create -cifs-server <vsname> -domain <ad_domain> -ou CN=Computers -status-
admin up -vsname <vserver>

cifs show
```

### 3.7 Check Current IOPS In Use Prior To Migration

If the volume is seeing large periods of time over 6000 IOPs/sec please raise the flag that it needs to be looked at as 6000IOPs/sec will be the most they can use on cDOT due to QOS. So there is a high probability that the customer will feel the effect from this.

#### Example IOPS Threshold Issue



### 3.8 Start the Migration

#### 3.8.1 Login to 7MTT

Connect the 7MTT ([https://<7MTT\\_Server>:8443/transition](https://<7MTT_Server>:8443/transition)) tool via web browser

NetApp | Help

### 7-Mode Transition Tool 2.3

User Name

Password

Provide username and password for the Windows system on which the 7-Mode Transition Tool is installed. User account must be a member of the Administrators group on the Windows system. To enable login for user accounts that are not members of Administrators group, refer to the 7-Mode Transition Tool Data And Configuration Transition Guide.

Once logged in CLICK Get Started under Migrate'

7-Mode Transition Tool 2.3

Collect & AssessMigrate

Welcome : administrator | About | Help | Sign out

# 7-Mode Transition Tool

This tool enables you to assess 7-Mode systems, hosts and applications for transition readiness and transition the data and configuration from 7-Mode systems to clustered Data ONTAP.

[Learn More ▶](#)

## Collect & Assess

Collect inventory information from storage systems and hosts and assess these systems for transition readiness.

[Get Started ▶](#)

## Migrate

Migrate data and configuration from 7-Mode system to a clustered Data ONTAP system by using SnapMirror.

[Get Started ▶](#)

CLICK on the 'Storage System' button in the left pane:

7-Mode Transition Tool 2.3

Collect & AssessMigrate

Welcome : administrator | About | Help | Sign out

[Home](#)

[Dashboard](#)[Storage Systems](#)[New Transition Project](#)[Logs](#)

### Welcome to 7-Mode Transition Tool

The 7-Mode Transition Tool helps you transition the data stored on NetApp systems running 7-Mode to NetApp systems running Clustered Data ONTAP 8.2.0, 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.3.0, 8.3.1 or 8.3.2.

The tool will guide you through the steps involved in transitioning your NAS/SAN data stored on 7-Mode systems to Clustered Data ONTAP 8.2.0, 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.3.0, 8.3.1 or 8.3.2 systems.

### Manuals

Use the following link to access the [7-Mode Transition Tool Guide](#).

### Clustered Data ONTAP

For more information about Clustered Data ONTAP please use the following links: [Cfor7 web portal](#).

Select Volumes

Configure Project

Run Precheck

Start Baseline

Apply Configuration

Complete Transition

Create a new Transition project by clicking the Get Started button below.

[Get Started ▶](#)

ADD storage systems to 7MTT (execute this step for the source and target storage systems):

ENTER the FQDN of the filer

CLICK ADD

7-Mode Transition Tool 2.3

Collect & AssessMigrate

Welcome : administrator | About | Help | Sign out

[Home](#)[Storage Systems](#)

Enter Device Credentials

Hostname: <FILER\_FQDN>

Username: <FILER\_ADMIN\_USER>

Password:

Add

#### Instructions:

Enter FQDN or IP address and administrator credentials for a 7-Mode controller or Clustered Data ONTAP system. Clustered Data ONTAP system can be added using the cluster management IP.

After adding the 7-Mode system or clustered Data ONTAP system, go to the Home tab to start a new transition project.

#### 7-Mode Controllers

IP Address	Host Name	Model	Data ONTAP Version	Edit/Remove	Status
10.220.194.14	eag-labof-nas6	FA86210	NetApp Release 8.2....		
10.220.194.15	eag-labof-nas6	FA86210	NetApp Release 8.2....		
10.220.194.12	eag-labof-nas6	FA86210	NetApp Release 8.2....		
10.220.194.13	eag-labof-nas6	FA86210	NetApp Release 8.2....		
10.220.30.57	eg-nastest-e09	FA90080	NetApp Release 8.1....		

#### Clustered Data ONTAP Systems

IP Address	Cluster Name	Data ONTAP Version	Edit/Remove	Status
10.220.194.42	eg-si-clsn-e01	NetApp Release 8.2....		

[Assess Controller](#)



CLICK the 'HOME' tab -> CLICK 'Get Started'

7-Mode Transition Tool 2.3

Collect & AssessMigrate

Welcome : administrator | About | Help | Sign out

Home

Dashboard

Storage Systems

New Transition Project

Logs

### Welcome to 7-Mode Transition Tool

The 7-Mode Transition Tool helps you transition the data stored on NetApp systems running 7-Mode to NetApp systems running Clustered Data ONTAP 8.2.0, 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.3.0, 8.3.1 or 8.3.2.

The tool will guide you through the steps involved in transitioning your NAS/SAN data stored on 7-Mode systems to Clustered Data ONTAP 8.2.0, 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.3.0, 8.3.1 or 8.3.2 systems.

#### Manuals

Use the following link to access the [7-Mode Transition Tool Guide](#).

#### Clustered Data ONTAP

For more information about Clustered Data ONTAP please use the following links: [Cfor7 web portal](#).

Select Volumes

Configure Project

Run Precheck

Start Baseline

Apply Configuration

Complete Transition

Create a new Transition project by clicking the Get Started button below.

Get Started ▶

CONFIRM that the source and destination storage systems are listed

7-Mode Transition Tool 2.3

Collect & AssessMigrate

Welcome : administrator | About | Help | Sign out

HomeStorage SystemsDashboardUntitled Project

#### Enter Device Credentials

Hostname:

Username:

Password:

Add

#### Instructions:

Enter FQDN or IP address and administrator credentials for a 7-Mode controller or Clustered Data ONTAP system. Clustered Data ONTAP system can be added using the cluster management IP.

#### 7-Mode Controllers

IP Address	Host Name	Model	Data ONTAP Version	Edit/Remove	Status
10.220.194.14	eag-labof-nas6	FAS6210	NetApp Release 8.2....		
10.220.194.15	eag-labof-nas6	FAS6210	NetApp Release 8.2....		
10.220.194.12	eag-labof-nas6	FAS6210	NetApp Release 8.2....		
10.220.194.13	eag-labof-nas6	FAS6210	NetApp Release 8.2....		
10.220.30.57	eg-nastest-e09	FAS6080	NetApp Release 8.1....		

#### Clustered Data ONTAP Systems

IP Address	Cluster Name	Data ONTAP Version	Edit/Remove	Status
10.220.194.42	eg-si-clsn-e01	NetApp Release 8.2....		

Note: Add at least one 7-Mode controller and a clustered Data ONTAP system with valid credentials to proceed.

Refresh

BackNext

CLICK 'Next'

ENTER a name for the project

CLICK 'Continue'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : administrator | About | Help | Sign out

Home Storage Systems Untitled Project

Choose Origin Volumes to Transition

Select 7-Mode Controller

- esg-labof-nas6210ht-1
- esg-labof-nas6210ht-2
- esg-labof-nas6210ht-1
- esg-labof-nas6210ht-2
- esg-nastest-e09

Volume Information

Name	Used Size (GB)	Total Size (GB)	SnapMirror Relationship	Qtree SnapMirror Relationship	SnapMirror Source or Destination	Volume Type	Transition as stand-alone	Transition with SnapMirror Relationship
------	----------------	-----------------	-------------------------	-------------------------------	----------------------------------	-------------	---------------------------	---

New Transition Project Name

Please provide a name for your new transition project.

CR123456

Continue

Refresh Controllers List

Volume(s) Selected for Transition Project

Subproject	Storage System	Volume Name	Size (GB)	Used (GB)
------------	----------------	-------------	-----------	-----------

Back Create Project and Continue

SELECT the source vfiler and volume(s):

CLICK 'Create Project and Continue'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home Untitled Project

Choose Origin Volumes to Transition

Select 7-Mode Controller

- esg-nasor-fs01
- slab-ora11204-13d
- sl-nastest-01
- esg-nasor-fs19
- esg-nasor-fs29
- esg-nasor-fs09
- esg-labof-nas6210ht-2
- esg-nasor-fs04
- esg-nasor-fs26
- esg-nasor-fs06
- esg-nasor-fs28
- slab-ora1b-17d
- esg-nasor-fs10

Volume Information

Name	Used Size (GB)	Total Size (GB)	SnapMirror Relationship	Qtree SnapMirror Relationship	SnapMirror Source or Destination	Volume Type	Transition as stand-alone	Transition with SnapMirror Relationship
cfsmig01	0.000	100.000	Standalone	No		NAS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
sl-nastest_01_roq	0.000	1.000	Standalone	No		NAS	<input type="checkbox"/>	<input type="checkbox"/>

Refresh Controllers List

Volume(s) Selected for Transition Project

Storage System	Volume Name	Size (GB)	Used (GB)
Subproject: CR123456_standalone (STANDALONE) (1 Volumes)			
sl-nastest-01@esg-labof-nas6210ht-1	cfsmig01	100.000	0.000
Total:		100.000	0.000

Subproject Count : 1 Total Size of Transition: 0.000 (GB)

View Volumes

Back Create Project and Continue

ENTER an IP to be used for replication traffic on the source filer  
CLICK 'Next'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : administrator | About | Help | Sign out

Home Storage Systems CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit  
Subproject Name: CR123456\_standalone Edit  
Subproject Type: STANDALONE

Origin Controller: eag-labof-nas6210ht-1  
Origin vFiler Unit: si-nasest-01  
Data Copy IP: 10.220.194.14

Target Cluster: -  
Target S/M: -  
Multipath IP: -

**Data Copy and Multipath IP Configuration**

Enter the Data Copy and Multipath IPs

Data Copy IP (Mandatory Field): 10.220.194.14

Multipath IP (Optional Field):

Data copy IP is pre-populated with the management IP of chosen 7-Mode system. You can change it by providing a valid IPv4 address with data copy permissions.

Specifying another IP address of the 7-Mode system enables data copy to proceed over more than one physical path at the same time, therefore, load balancing the data transfers.

Edit Volume Selection Next

The next window will ask if you want to run pre-check.  
CLICK 'Run Prechecks'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : administrator | About | Help | Sign out

Home Storage Systems CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit  
Subproject Name: CR123456\_standalone Edit  
Subproject Type: STANDALONE

Origin Controller: eag-labof-nas6210ht-1  
Origin vFiler Unit: si-nasest-01  
Data Copy IP: 10.220.194.14

Target Cluster: -  
Target S/M: -  
Multipath IP: -

**7-Mode Precheck**

Prechecks identify the issues with a transition. This precheck verifies that the 7-Mode source meets the prerequisites for your transition.

Back Run Prechecks Skip

Note: This may take a while, you can choose to skip for now and run the prechecks at a later point.

Review the Report. You can ignore the warnings listed below. Resolve errors if they appear.  
CLICK 'Close' and then click Next'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : administrator | About | Help | Sign out

Home Storage Systems CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit  
Subproject Name: CR123456\_standalone Edit  
Subproject Type: STANDALONE

Origin Controller: eag-labof-nas6210ht-1  
Origin vFiler Unit: si-nasest-01  
Data Copy IP: 10.220.194.14

Target Cluster: -  
Target S/M: -  
Multipath IP: -

**Precheck Summary**

Area

Session status checks

Validating 7-Mode system information

Validating 7-Mode volumes information

WAF prechecks

SNMP prechecks

RBAC prechecks

MetroCluster prechecks

Total:

**7-Mode Precheck**

ID Type(Tags) Message

94101 Warning Checking whether SNMP is enabled Mode storage system 10.220.194.14 configuration.

94001 Warning Checking whether any roles are defined following roles are defined on the 7-Mode Transition Tool does not support the

Apply Type Filter Apply Tag Filter

Close

Note: Continuing with transition without resolving the above findings might lead to unforeseen problems

Back Run Prechecks again Next Save As CSV

**Operation Progress**

Details

Subproject Name: CR123456\_standalone Operation: 7-Mode prechecks

Sl. No.	Message Type	Status
1	Session status checks	Ok
2	Validating 7-Mode system information	Ok
3	Validating 7-Mode volumes information	Ok
4	WAF prechecks	Ok
5	SNMP prechecks	Warnings
6	RBAC prechecks	Warnings
7	MetroCluster prechecks	Ok
8	UNIX users and groups prechecks	Ok
9	Snapshot prechecks	Warnings
10	NFS prechecks	Warnings
11	Networking prechecks	Warnings
12	CIFS prechecks	Warnings
13	Name services prechecks	Warnings

Operation Summary

The 7-Mode prechecks operation on the session CR123456\_standalone has finished successfully

Errors = 0, Warnings = 24, Informational Messages = 0

SELECT a target vserver

CLICK 'Next'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit Origin Controller: eag-labort-nas210ht-1 Target Cluster: -  
Subproject Name: CR123456\_standalone Edit Origin vFiler Unit: si-nas2test-01 Target SVM: -  
Subproject Type: STANDALONE Data Copy IP: 10.220.194.14 Multipath IP: -

**Select a Clustered Data ONTAP System**

Cluster	Version
eg-si-clsn-e01	NetApp Release 8.2.3P5 Cluster-M

**Select a SVM**

SVM Name	Status	Allowed Protocols
<input type="checkbox"/> cistatms-e0002	running	nfs,cifs,ftp,iscsi
<input type="checkbox"/> simsql-e0001	running	nfs,cifs,ftp,iscsi,ndmp
<input type="checkbox"/> storacle-e0001	running	nfs,cifs,ftp,iscsi,ndmp
<input checked="" type="checkbox"/> si-8040-test-02	running	cifs
<input type="checkbox"/> si-8040-test-01	running	nfs
<input type="checkbox"/> cistatms-e0001	running	nfs,cifs,ftp,iscsi
<input type="checkbox"/> simsql-e0001	running	nfs,cifs,ftp,iscsi,ndmp
<input type="checkbox"/> si-globaliscape-test02	running	nfs,cifs,ftp,iscsi,ndmp
<input type="checkbox"/> si-globaliscape-test01	running	iscsi
<input type="checkbox"/> mit_test_vserver	running	nfs,cifs,ftp,iscsi,ndmp
<input type="checkbox"/> cpstatms-e0003	running	nfs,cifs,ftp,iscsi
<input type="checkbox"/> siex-e0001	running	nfs
<input type="checkbox"/> siex-e0001	running	nfs

Refresh

Note: SVM is not selectable for one of the reason:  
->SVM is a repository SVM or SVM is a sync-destination

Back Next

**IMPORTANT: Make sure you enter the correct information in the next section! This version of 7MTT allows you to set junction path = volume name, this is the DCO standard. But, you need to modify the junction-path after the cut-over manually in older versions of 7MTT.**

ENTER the destination aggregate

ENTER the destination volume name

SELECT 'Use Clustered OTAP volume name' from 'Target Volume Mount Policy'

CLICK 'Next'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit Origin Controller: eag-labort-nas210ht-1 Target Cluster: eg-si-clsn-e01  
Subproject Name: CR123456\_standalone Edit Origin vFiler Unit: si-nas2test-01 Target SVM: si-8040-test-02  
Subproject Type: STANDALONE Data Copy IP: 10.220.194.14 Multipath IP: -

**Target Volume mount policy**

Select Target Volume mount policy: Use clustered Data ONTAP volume name

**Map Origin Volumes to Aggregates on Target Cluster**

Origin Volume	Volume Size (G...)	Target Aggregate	Target Volume	Target Volume Path
cifsimg01	100.000	aggr1_data_03	si_cdot_cifstest01	/si_cdot_cifstest01

**Estimated Capacity Available**

Node	Aggregate	Estimated Space Availability (GB)
eg-si-clsn-e01...	aggr1_data_03	55132.283
eg-si-clsn-e01...	aggr1_data_04	55113.872
eg-si-clsn-e01...	aggr1_data_h02	29033.233
eg-si-clsn-e01...	aggr1_data_h01	28886.640

Note: Any changes to the volume name will be saved to the subproject upon clicking the next button

Refresh Back Next

**NOTE: We are not migrating IP addresses**

CLICK 'Next'

The screenshot shows the '7-Mode Transition Tool 2.3' interface. The top navigation bar includes 'Home', 'CR123456', and buttons for 'Collect & Assess' and 'Migrate'. The main content area is titled 'IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary'. The 'Subproject Information' section displays fields for Project Name (CR123456), Subproject Name (CR123456\_standalone), Subproject Type (STANDALONE), Origin Controller (eag-labof-nas6210ht-1), Origin vFile Unit (si-nas621-01), Data Copy IP (10.220.194.14), Target Cluster (eg-si-clan-e01), Target SVM (si-8040-test-02), and Multipath IP (-). The 'Data Copy and Multipath IP Configuration' section contains a dialog box titled 'Enter the Data Copy and Multipath IPs'. This dialog has two input fields: 'Data Copy IP (Mandatory Field)' with the value '10.220.194.14' and 'Multipath IP (Optional Field)'. Below these fields are two buttons: 'Edit Volume Selection' and 'Next', with the 'Next' button highlighted by a red rectangle.

CLICK 'Create Schedule', a popup box will appear

ENTER a replication schedule (run off hours)

CLICK CREATE

The screenshot shows the '7-Mode Transition Tool 2.3' interface with the 'Data Copy Schedule' section active. The 'Data Copy Schedule' section has a table with columns 'Name', 'Recurring Days', and 'Start Time (HH:MM)'. Below the table, it says 'There are no schedules created for each maximum number of'. A 'Create Schedule' button is highlighted with a red rectangle. A 'Create Data Copy Schedule for Baseline and Incremental Updates' dialog box is open. The dialog has a title bar and a warning icon. It contains a 'Name' field with the value 'CR123456'. Under 'Recurring Days', there are radio buttons for 'Daily' and 'Select Days', and checkboxes for 'Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', and 'Saturday'. Under 'Time Interval', there are fields for 'Start Time' (22 Hrs 00 Mins), 'Duration' (24 Hrs 00 Mins), and 'Update Frequency' (00 Hrs 30 Mins). There are also checkboxes for 'Continuous Updates'. Under 'Parameters for Transition Data Copy Operations', there are fields for 'Maximum Number of Concurrent VSM Transfers' (75) and 'Throttle Limit (Maximum Bandwidth in MB/s)' (50). The 'Create' button is highlighted with a red rectangle.

The newly created schedule will appear  
CLICK 'Next'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home Dashboard CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1



**Subproject Information**

Project Name: CR123456 Edit Origin Controller: eag-labof-nas6210ht-1 Target Cluster: eg-si-clsn-e01  
Subproject Name: CR123456\_standalone Edit Origin vFiler Unit: si-nas6test-01 Target SVM: si-8040-test-02  
Subproject Type: STANDALONE Data Copy IP: 10.220.194.14 Multipath IP: -

**Note:** 7-Mode Transition Tool maintains and enforces the schedules (date, time and frequency) for the SnapMirror baseline copy and incremental update operations. There can be multiple schedules created for each sub-project. For example, you can create customized schedules for weekdays, weekends, business hours, non-business hours. As a part each schedule, you can provide the date and time when the schedule will be active, as well as some additional optional parameters, such as SnapMirror throttle per sub-project and the maximum number of SnapMirror transfers that are allowed during a schedule. 7-Mode Transition Tool (web interface can be closed, but not service) must always be running to enforce the schedules.

**Data Copy Schedule**

**Provide Schedule(s) for Data Transfers**

Name	Recurring Days	Start Time (HH:MM)	Duration (HH:MM)	End Time	Update Frequency (HH:MM)	Number of Concurrent SnapMirror Transfers % of available, Not Exceed...	Throttle Limit (MB/s)	Edit/Remove
CR123456	Daily	22:00	24:00	Next Day, till 22:00	00:30	50%, 75	Maximum	 

Create Schedule Refresh Back Next

RUN PreCheck and make sure there are no errors  
CLICK 'Run Precheck'; REVIEW the output  
CLICK 'Close'  
CLICK 'Next'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home Dashboard CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit Origin Controller: eag-labof-nas6210ht-1 Target Cluster: eg-si-clsn-e01  
Subproject Name: CR123456\_standalone Edit Origin vFiler Unit: si-nas6test-01 Target SVM: si-8040-test-02  
Subproject Type: STANDALONE Data Copy IP: 10.220.194.14 Multipath IP: -

**Operation Progress**

**Details**

Subproject Name: CR123456\_standalone Operation: 7-Mode precheck

Sl. No.	Message Type	Status
1	Session status checks	Ok
2	Validating 7-Mode system information	Ok
3	Validating 7-Mode volumes information	Ok
4	WAFL prechecks	Ok
5	SNMP prechecks	Warnings
6	RBAC prechecks	Warnings
7	MetroCluster prechecks	Ok
8	UNIX users and groups prechecks	Ok
9	SnapMirror prechecks	Warnings
10	NFS prechecks	Warnings
11	Networking prechecks	Warnings
12	CIFS prechecks	Warnings
13	Name services prechecks	Warnings

**Operation Summary**  
The 7-Mode precheck's operation on the session CR123456\_standalone has finished successfully  
Errors = 0, Warnings = 24, Informational Messages = 0

Close

**Precheck Summary**

Area

- Session status checks
- Validating 7-Mode system information
- Validating 7-Mode volumes information
- WAFL prechecks
- SNMP prechecks
- RBAC prechecks
- MetroCluster prechecks
- Total:

**7-Mode Precheck**

ID	Type(Tags)
94101	Warning
94001	Warning

**Apply Type Filter**

☒ Error ☒ Warning ☒ Informational ☐ Security only

Note: Continuing with transition without resolving the above findings might lead to unforeseen problems

Back Run Prechecks again Next Save As CSV

Modify the options to ensure all correct data is transferred to the destination vserver.

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > **Plan Configuration** > Subproject Summary Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit Origin Controller: eag-lab0rf-nas6210ht-1 Target Cluster: eg-si-clsn-e01  
Subproject Name: CR123456\_standalone Edit Origin vFiler Unit: si-nas6test-01 Target S/V/M: si-8040-test-02  
Subproject Type: STANDALONE Data Copy IP: 10.220.194.14 Multipath IP: -

Note: Configuration Planning enables you to customize the way 7-Mode Transition Tool transitions the configurations. For more information, click the [icon](#).

**SVM Configuration**

☐ Select All

☒ CIFS (6 Items)

- ☒ CIFS Options
- ☒ CIFS User Mapping Configuration
- ☒ Widelinks
- ☒ CIFS Local Users and Groups
- ☒ Preferred Domain Controllers List
- ☒ Audit Configuration

☐ NFS (1 Item)

- ☐ NFS Options

☐ Name Services (8 Items)

- ☐ UNIX Users and Groups
- ☐ Name Service Switch Configuration (/etc/nsswitch.conf)
- ☐ Hosts Configuration (/etc/hosts)
- ☐ Netgroups
- ☐ NIS Configuration
- ☐ DNS Configuration
- ☐ LDAP Configuration
- ☐ Name Mapping Switch Configuration

**Volume Configuration**

☐ Select All

☒ CIFS (3 Items)

- ☒ Shares and ACLs
- ☒ Home Directory Paths
- ☒ Symlinks

☐ NFS (3 Items)

- ☐ NFS Exports
- ☐ Consolidate 7-Mode NFS Export Rules
- ☐ Reuse Export Policies of SVM

☐ SAN (1 Item)

- ☐ Igroups and LUN Mapping

☐ Snapshot Schedules Configuration (3 Items)

- ☐ Snapshot Schedules
- ☐ Reuse Snapshot Policies of SVM
- ☐ Consolidate 7-Mode Snapshot Policies

Back Select All Next

Click Next

CLICK 'Save and go to Dashboard'

7-Mode Transition Tool 2.3 Collect & Assess Migrate Welcome : Administrator | About | Help | Sign out

Home CR123456

IP Configuration > Precheck > SVM Mapping > Volume Mapping > Interface Mapping > Data Copy Schedule > Final Precheck > Plan Configuration > **Subproject Summary** Configuring Subproject: 1/1

**Subproject Information**

Project Name: CR123456 Edit Origin Controller: eag-lab0rf-nas6210ht-1 Target Cluster: eg-si-clsn-e01  
Subproject Name: CR123456\_standalone Edit Origin vFiler Unit: si-nas6test-01 Target S/V/M: si-8040-test-02  
Subproject Type: STANDALONE Data Copy IP: 10.220.194.14 Multipath IP: -

**Target Volume**

Target Volume	Origin Volume	Volume Size (GB)	Target Aggregate
si_cdot_cifstest01	cifsmig01	100.000	aggr1_data_103

Total Volume(s): 1 Total Size of Transition (GB): 0.00B View Volumes

**Network Address to be Migrated**

Network Address	Default Gateway	Netmask	Destination Node	Destination Port
-----------------	-----------------	---------	------------------	------------------

**Data Copy Schedule**

Name	Recurring Days	Start Time (HH:MM)	Duration (HH:MM)	End Time	Update Frequency (HH:MM)	Number of Concurrent Snap/Mirror Transfers % of available, Not Exceeding	Throttle Limit (MB/s)
CR123456	Daily	22:00	24:00	Next Day, till 22:00	00:30	50%, 75	Maximum

**Precheck Status**

Errors: 1  
Warnings: 31  
Informational: 1

Back Save and go to Dashboard

A data transfer workflow will be displayed in the top of the page. The circle above 'Baseline Data Copy' will have a white fill color before your first transfer. It will have an orange fill color while the first transfer is running. Then a green fill color after your first successful transfer.

CLICK 'Run Pre-Check'; REVIEW output

The screenshot shows the '7-Mode Transition Tool 2.3' interface. The top navigation bar includes 'Collect & Assess' and 'Migrate' tabs. The main workspace displays a workflow for 'CR123456\_standalone' with four steps: Preparation, Baseline Data Copy, Precutover, and Storage Cutover. The 'Baseline Data Copy' step is currently active, indicated by a white circle. Below the workflow, there are buttons for 'Run Precheck', 'Start Baseline', 'Apply Configuration', 'Finish Testing', and 'Complete Transition'. The 'Run Precheck' button is highlighted with a red border. The interface also includes a 'Subproject status' section on the left and a 'Volumes' table at the bottom.

Origin Volume	Target Volume	Data Copy Schedule	Operation Status	Mirror State	SM Status	Data Pending	Transition Details	Volume T...	Remove
cfsmig01	sl_cdot_cifstest01	Current	Last					NAS	

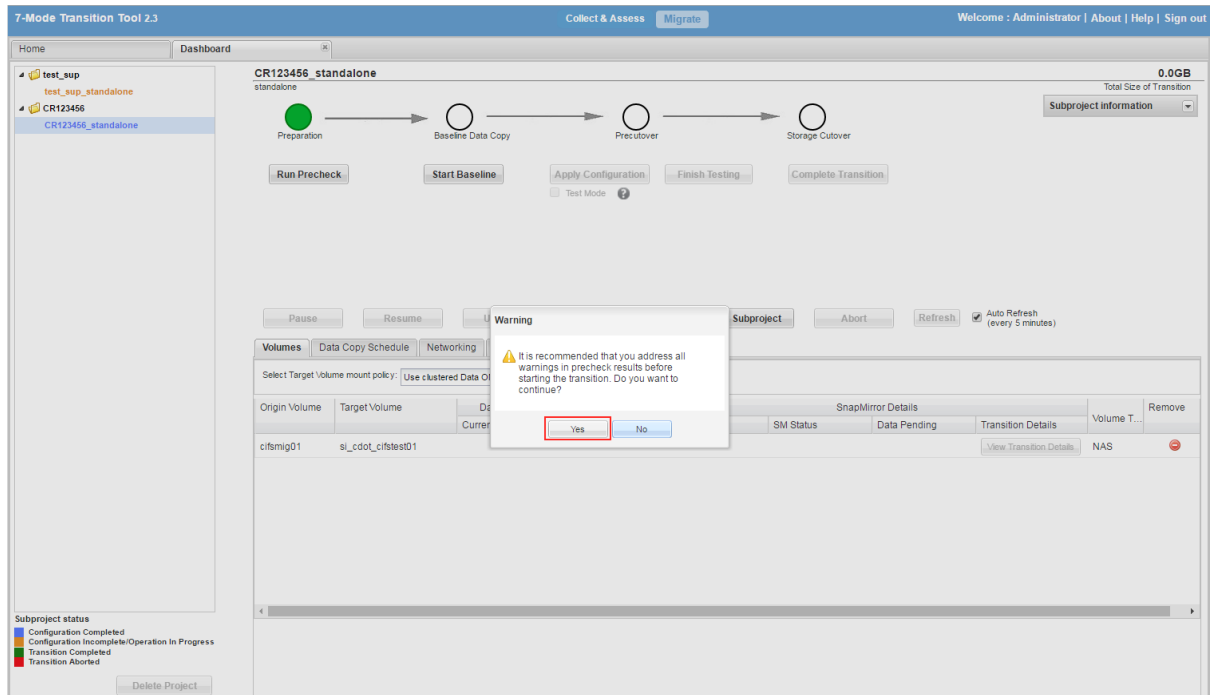
CLICK 'Start Baseline'

This screenshot shows the same interface as the previous one, but the 'Start Baseline' button is now highlighted with a red border. The 'Baseline Data Copy' step in the workflow is now represented by a green circle, indicating that the transfer has been successfully completed. The 'Run Precheck' button is no longer highlighted.

Origin Volume	Target Volume	Data Copy Schedule	Operation Status	Mirror State	SM Status	Data Pending	Transition Details	Volume T...	Remove
cfsmig01	sl_cdot_cifstest01	Current	Last					NAS	

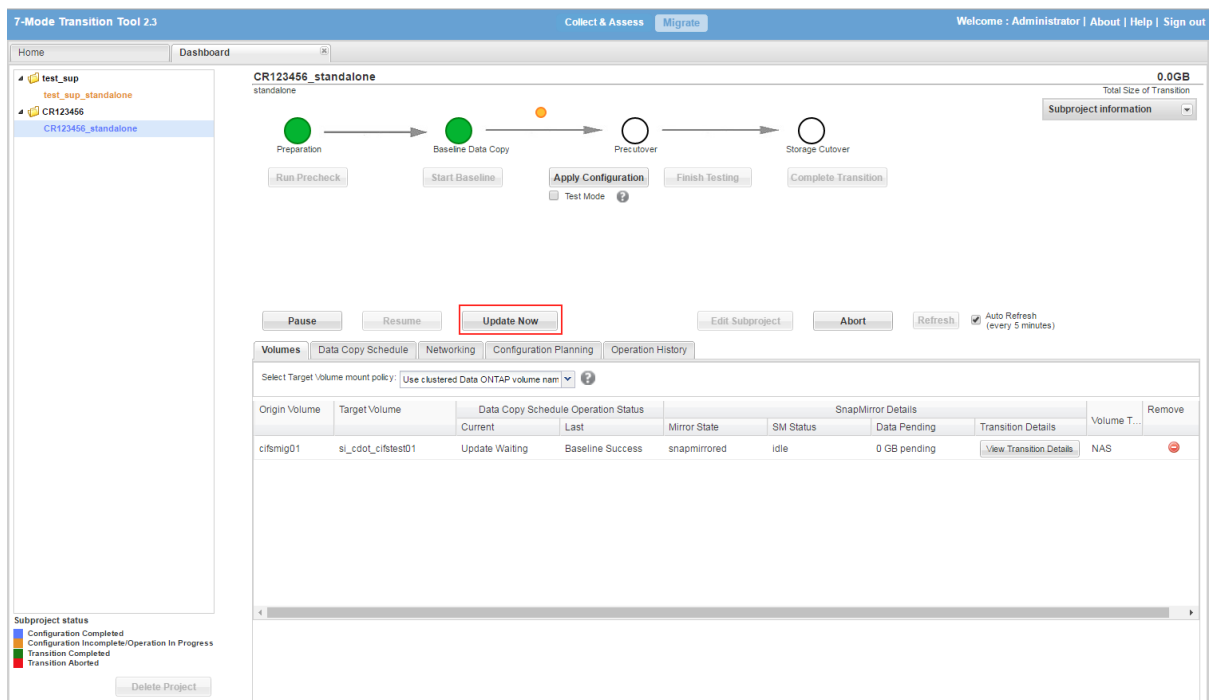


A popup window will appear, CLICK 'yes'



Execute an update transfer before the cutover window so that you have minimal changes to transfer during the cutover window:

CLICK 'Update Now'



## Ensure the steps below are completed during the downtime window:

The application/database has been shut down on all hosts

Source shares have been unmounted on all hosts

Start the cutover process:

CLICK 'Apply Configuration'

The screenshot shows the '7-Mode Transition Tool 2.3' interface. The top navigation bar includes 'Collect & Assess' and 'Migrate' tabs. The main dashboard displays a workflow for 'CR123456\_standalone' with steps: Preparation, Baseline Data Copy, Precutover, and Storage Cutover. The 'Apply Configuration' button under the 'Precutover' step is highlighted with a red box. Below the workflow, there are buttons for 'Pause', 'Resume', 'Update Now', 'Edit Subproject', 'Abort', and 'Refresh'. A table below these buttons shows the status of various volumes and SnapMirror details. The 'Subproject status' legend at the bottom left indicates the current state of the configuration and transition.

Origin Volume	Target Volume	Data Copy Schedule	Operation Status	Mirror State	SM Status	Data Pending	Transition Details	Volume T...	Remove
cifsimg01	si_cdot_cifstest01	Update Waiting	Baseline Success	snamirrored	idle	0 GB pending	<a href="#">View Transition Details</a>	NAS	<a href="#">Remove</a>

A pop up box will appear, CLICK 'Continue'

The screenshot shows the same interface as the previous one, but with a pop-up dialog box titled 'Apply Configuration(Precutover)' in the foreground. The dialog box contains the following text: 'This operation transitions the 7-Mode configurations to the SVM and corresponding clustered Data ONTAP.' Below this, there are three checkboxes: 'Apply configuration in test mode', 'Tool will use 50% available concurrent VSM transfers for SnapMirror data copy operation.', and 'Customize the number of concurrent SnapMirror transfers and Throttle limit for this operation.' At the bottom of the dialog box, the 'Continue' button is highlighted with a red box.

REVIEW log for errors and CLICK 'Close'

**7-Mode Transition Tool 2.3** | Collect & Assess | Migrate | Welcome : Administrator | About | Help | Sign out

Home | Dashboard

test\_sup  
test\_sup\_standalone  
CR123456  
CR123456\_standalone

CR123456\_standalone

0.0GB  
Total Size of Transition

Subproject information

Operation Progress

Details

Subproject Name: CR123456\_standalone Operation: Apply Configuration(Precutover)

Sl. No.	Message Type	Status
1	Precutover prechecks	Warnings
2	Performing a final copy update from the 7-Mode volumes to clustered Data ONTAP volumes	Ok
3	Breaking SnapMirror relationships between the 7-Mode and clustered Data ONTAP volumes	Ok
4	Collecting configuration from the 7-Mode system	Warnings
5	Translating 7-Mode configurations for the clustered Data ONTAP environment	Ok
6	Applying configurations to the SVM and its volumes	Warnings
7	Resyncing SnapMirror relationships between the 7-Mode and clustered Data ONTAP volumes	Ok

Operation Summary  
The Apply Configuration(Precutover) operation on the session CR123456\_standalone has finished successfully  
Errors = 0, Warnings = 3, Informational Messages = 17

View Detailed Results | **Close**

Subproject status  
Configuration Completed  
Configuration Incomplete/Operation In Progress  
Transition Completed  
Transition Aborted

Delete Project

CLICK 'Complete Transition'

**7-Mode Transition Tool 2.3** | Collect & Assess | Migrate | Welcome : Administrator | About | Help | Sign out

Home | Dashboard

test\_sup  
test\_sup\_standalone  
CR123456  
CR123456\_standalone

CR123456\_standalone

0.0GB  
Total Size of Transition

Subproject information

Preparation → Baseline Data Copy → Precutover → Storage Outover

Run Precheck | Start Baseline | Apply Configuration | Finish Testing | **Complete Transition**

Test Mode ?

Pause | Resume | Update Now | Edit Subproject | Abort | Refresh | Auto Refresh (every 5 minutes)

Volumes | Data Copy Schedule | Networking | Configuration Planning | Operation History

Select Target Volume mount policy: Use clustered Data ONTAP volume name

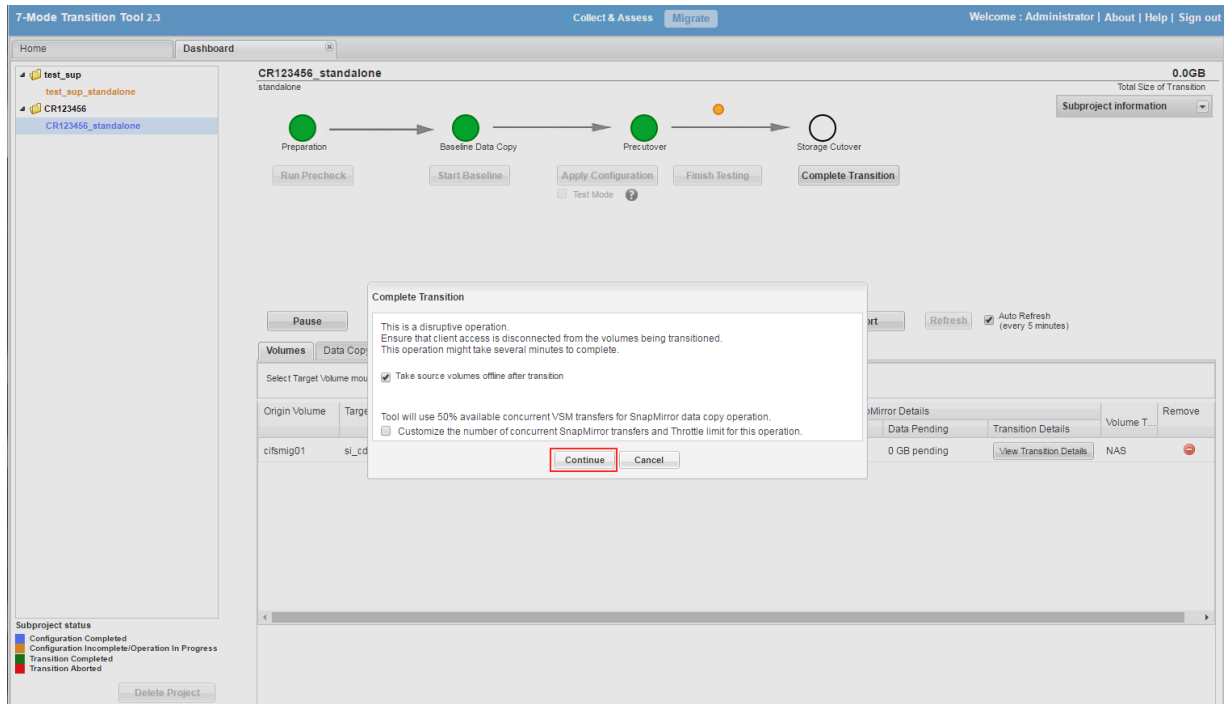
Origin Volume	Target Volume	Data Copy Schedule	Operation Status	Mirror State	SM Status	Data Pending	Transition Details	Volume T...	Remove
current	last	Update Waiting	Update Waiting	snappmirrored	idle	0 GB pending	View Transition Details	NAS	

Subproject status  
Configuration Completed  
Configuration Incomplete/Operation In Progress  
Transition Completed  
Transition Aborted

Delete Project

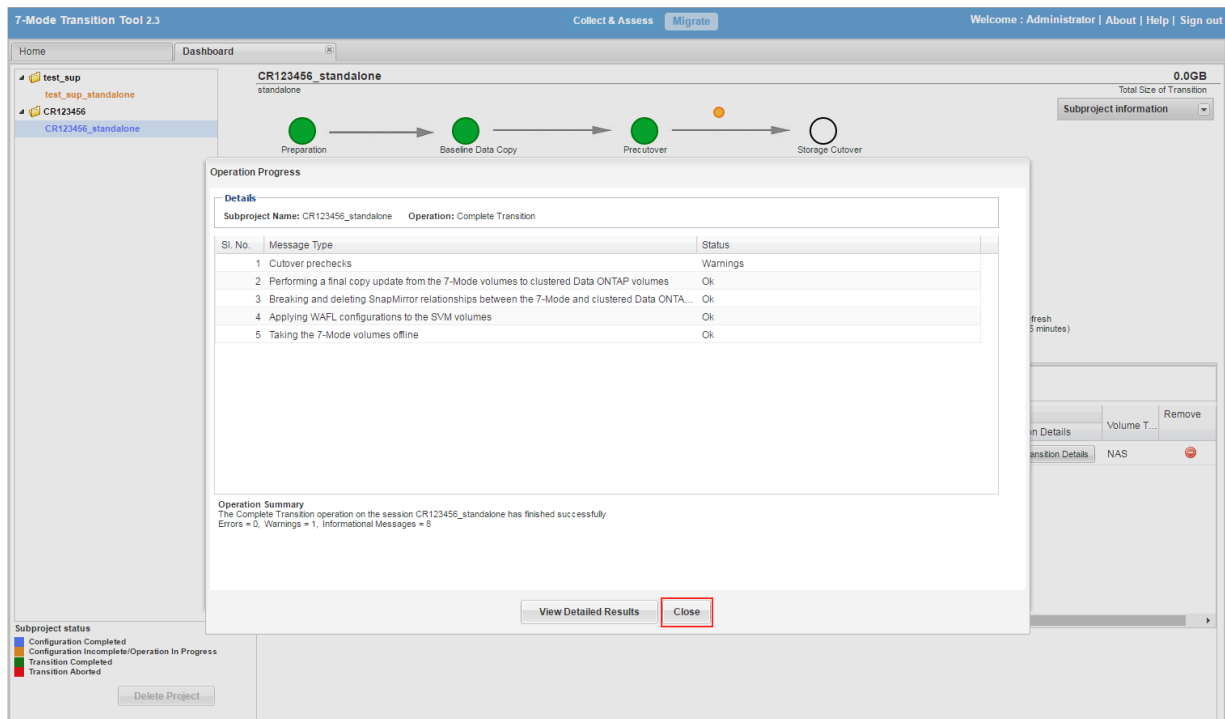
A popup box will appear, CLICK 'yes'

A popup box will appear stating that the source volume will be made offline, CLICK 'Continue'



REVIEW the log output for a successful transition

CLICK 'Close'



## 3.9 Post cut-over activities

### 3.9.1 Create job schedule and snapshot policy for SNAP volume(s)

```
job schedule cron create -name <volume_name> -minute <min> -hour <hour>

volume snapshot policy create -vserver <vsname> -policy <volume_name> -enabled true -
schedule1 <volume_name> -count1 7 -snapmirror-label1 snapvault -prefix1 sv_<volume_name>

job schedule cron show -name <vol_name>

volume snapshot policy show -vserver <vsname>
```

### 3.9.2 Check Group Membership

```
local-group show-members -vserver <vserver>
```

#### Example

```
eg-si-clsn-e01::> local-group show-members -vserver si-8040-test-02
(vserver cifs users-and-groups local-group show-members)
Vserver      Group Name      Members
-----
si-8040-test-02
                BUILTIN\administrators  SI-8040-TEST-02\administrator
                                SI-8040-TEST-02\root
                                TLR\Domain Admins
                                TEN\Domain Admins
                                TEN\M-Storage-admins.G
                                TEN\M-EaganServerAdmins
                BUILTIN\users      TLR\Domain Users
                SI-8040-TEST-02\monitor  SI-8040-TEST-02\monitoruser
                                TLR\M-West-SiteScope_ServiceAccounts

9 entries were displayed.
```

### 3.9.3 Check Local Groups

```
local-group show -vserver <vserver>
```

#### Example

```
eg-si-clsn-e01::> local-group show -vserver si-8040-test-02
(vserver cifs users-and-groups local-group show)
Vserver      Group Name      Description
-----
si-8040-test-02
                BUILTIN\administrators  Members can fully administer the filer
si-8040-test-02
                BUILTIN\backup operators  Members can bypass file security to backup files
si-8040-test-02
                BUILTIN\power users      Members that can share directories
si-8040-test-02
                BUILTIN\users      Ordinary Users
si-8040-test-02
                SI-8040-TEST-02\compliance administrators
                                Members can perform compliance operations
si-8040-test-02
                SI-8040-TEST-02\monitor  use powershell to alert users

6 entries were displayed.
```

### 3.9.4 Check Local Users

```
local-user show -vserver <vserver>
```

#### Example

```
eg-si-clsn-e01::> local-user show -vserver si-8040-test-02
(vserver cifs users-and-groups local-user show)
Vserver      User Name      Full Name      Description
-----
si-8040-test-02
                SI-8040-TEST-02\administrator
                                Built-in account for administering the filer
si-8040-test-02
                SI-8040-TEST-02\monitoruser
                                powershell user to monitor vfilers
si-8040-test-02
```

SI-8040-TEST-02\root  
3 entries were displayed.

Default vfiler root

### 3.9.5 Check Share Permissions and Path To Volume/Qtree

```
cifs share show -vserver <vserver>
```

#### **Example**

```
eg-si-clsn-e01::> cifs share show -vserver si-8040-test-02
```

Vserver	Share	Path	Properties	Comment	ACL
si-8040-test-02	admin\$	/	browsable	-	-
si-8040-test-02	c\$	/	oplocks	-	BUILTIN\Administrators / Full Control
si-8040-test-02	ipc\$	/	browsable	-	-
si-8040-test-02	TESTSHARE01	/si_cdot_ cifstest01/ share01	oplocks	-	TEN\M-Storage-admins.G / Full Control
			changenotify	-	TEN\uc136758 / Change
					TLR\Domain Admins / Full Control

4 entries were displayed.

### 3.9.6 Setup snap autodelete on volumes (run for each SNAP volume)

```
volume modify -vserver <vsname> -volume <volname> -space-mgmt-try-first snap_delete  
volume snapshot autodelete modify -vserver <vsname> -volume <vol_name> -enabled true  
volume snapshot autodelete modify -vserver <vsname> -volume <vol_name> -trigger  
snap_reserve  
volume snapshot autodelete show -vserver <vsname>  
volume show -vserver <vsname> -fields space-mgmt-try-first  
volume snapshot autodelete show -vserve <vsname>
```

## 3.10 QoS Policy Group Creation

### 3.10.1 Create QoS policy group and apply it at the volume level (create one QOS policy for each volume)

```
qos policy-group create -policy-group <volname> -vserver <vsname> -max-throughput  
6000iops  
volume modify -vserver <vsname> -volume <volume> -qos-policy-group <volname>  
qos policy-group show  
volume show -vserver <vsname> -fields qos-policy-group
```

## 4 Snapvault Configuration

### 4.1 Cluster and Vserver Peering

#### 4.1.1 Confirm that cluster peering has been enabled

```
cluster peer show
```

#### 4.1.2 Create the cluster peer (skip this step if cluster peering has been configured)

```
cluster peer create -peer-addr <remote_ICL_IP1,remote_ICL_IP2> -username admin
cluster peer show
```

#### 4.1.3 Confirm if vsver peer has been configured

```
vserver peer show
```

#### 4.1.4 Create vsver peer on the destination system (skip this step if vsver peer has been configured)

```
vserver peer create -vserver <destination_vserver> -peer-cluster <source_cluster> -peer-
vserver <source_vserver> -applications snapmirror
vserver peer show
```

#### 4.1.5 Accept the vsver peer on the source system

```
vserver peer accept -vserver <source_vserver> -peer-vserver <destination_vserver>
vserver peer show
```

### 4.2 SnapVault configuration

Volumes names in TR have 'SNAP' or 'NOSNAP' incorporated into them. SNAP volumes must have snapvault configured for disk based backups. NOSNAP volumes do NOT require backups.

#### 4.2.1 Create secondary volumes for SnapVault as type "DP" on the destination cluster

```
volume create -vserver <vserver> -volume <volume_name> -aggregate <aggr_name> -size
<size> -security-style unix -space-guarantee none -percent-snapshot-space 0 -language
<vol_language> -type DP
volume show
```

#### 4.2.2 Create a cron job schedule if it does not exist in the destination

```
job schedule cron create -name xdp_<hour> -minute 00 -hour <hour>
job schedule show
```

#### 4.2.3 Configure a snapmirror policy on the destination

```
snapmirror policy create -vserver <vserver> -policy <volume>
snapmirror policy add-rule -vserver <vserver> -policy <volume> -snapmirror-label
snapvault -keep <retention#>
snapmirror show -destination-path * -fields Schedule
snapmirror policy show
```

### 4.2.1 Initialize SnapVault relationship on the destination

```
snapmirror create -source-path <source_vserver>:<source_volume> -destination-path  
<destination_vserver>:<destination_volume> -type XDP -schedule <schedule_name> -policy  
<policy_name>
```

```
snapmirror initialize -destination-path <destination_vserver>:<destination_volume>
```

```
snapmirror show
```