



SnapMirror

ONTAP 9

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SnapMirror

Prepare SnapMirror relationships for an ONTAP upgrade

Before you upgrade ONTAP on a cluster that is running SnapMirror, SnapMirror operations must be quiesced for each node that contains destination volumes, and each peered SVM must have a unique name across the clusters. It is best practice to use a unique fully qualified domain name (FQDN) for each SVM, for example, “dataVserver.HQ” or “mirrorVserver.Offsite”.

You should also be aware that if you are upgrading clusters with DP SnapMirror relationships, you must upgrade the destination nodes before you upgrade the source nodes.

Quiesce SnapMirror operations before upgrading ONTAP

To prevent SnapMirror transfers from failing, you must quiesce SnapMirror operations. Alternatively, you can quiesce SnapMirror transfers on a particular destination volume and upgrade the owning destination node before upgrading source nodes so the SnapMirror transfers for all other destination volumes can continue. The following table describes the two options for suspending SnapMirror operations.

Option	Description	Upgrade destination nodes before source nodes?
Suspend SnapMirror operations for the duration of the NDU (nondisruptive upgrade).	The simplest method for upgrading in a SnapMirror environment is to suspend all SnapMirror operations, perform the upgrade, and then resume the SnapMirror operations. However, no SnapMirror transfers will occur during the entire NDU. You must use this method if your cluster contains nodes that are mirroring volumes to each other.	No, the nodes can be upgraded in any order.
Suspend SnapMirror operations one destination volume at a time.	You can suspend SnapMirror transfers for a particular destination volume, upgrade the node (or HA pair) that contains the destination volume, upgrade the node (or HA pair) that contains the source volume, and then resume the SnapMirror transfers for the destination volume. By using this method, SnapMirror transfers for all other destination volumes can continue while the nodes that contain the original destination and source volumes are upgraded.	Yes.

Steps

1. Determine the destination path for each SnapMirror relationship:

```
snapmirror show
```

2. For each destination volume, suspend future SnapMirror transfers:

```
snapmirror quiesce -destination-path destination
```

If there are no active transfers for the SnapMirror relationship, this command sets its status to "Quiesced". If the relationship has active transfers, the status is set to "Quiescing" until the transfer is completed, and then the status becomes "Quiesced".

This example quiesces transfers involving the destination volume "vol1" from "SVMvs0.example.com":

```
cluster1::> snapmirror quiesce -destination-path vs0.example.com:vol1
```

3. Verify that all SnapMirror relationships are quiesced:

```
snapmirror show -status !Quiesced
```

This command displays any SnapMirror relationships that are *not* quiesced.

This example shows that all SnapMirror relationships are quiesced:

```
cluster1::> snapmirror show -status !Quiesced  
There are no entries matching your query.
```

4. If any SnapMirror relationships are currently being transferred, do one of the following options:

Option	Description
Wait for the transfers to finish before performing the ONTAP upgrade.	After each transfer finishes, the relationship changes to "Quiesced" status.
<p>Stop the transfers:</p> <pre>snapmirror abort -destination-path destination -h</pre> <p>Note: You must use the <code>-foreground true</code> parameter if you are terminating load-sharing mirror transfers.</p>	This command stops the SnapMirror transfer and restores the destination volume to the last Snapshot copy that was successfully transferred. The relationship is set to "Quiesced" status.

Compatible ONTAP versions for SnapMirror relationships

The source and destination volumes must be running compatible ONTAP versions before creating a SnapMirror data protection relationship. Before you upgrade ONTAP, you should verify that your current ONTAP version is compatible with your target ONTAP version for SnapMirror relationships.



Version-independence is not supported for SVM replication.

Unified replication relationships

For SnapMirror relationships of type “XDP”, using on premises or Cloud Volumes ONTAP releases:

Beginning with ONTAP 9.9.0:



- ONTAP 9.x.0 releases are cloud-only releases and support Cloud Volumes ONTAP (CVO) systems. The asterisk (*) after the release version indicates a cloud-only release.
- ONTAP 9.x.1 releases are general releases and support both on-premises and CVO systems.



Interoperability is bidirectional.

Interoperability for ONTAP version 9.3 and later

ONTAP version ...	Interoperates with these previous ONTAP versions...																
	9.14.0*	9.13.1	9.13.0*	9.12.1	9.12.0*	9.11.1	9.11.0*	9.10.1	9.10.0*	9.9.1	9.9.0*	9.8	9.7	9.6	9.5	9.4	9.3
9.14.0*	Yes	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No	No
9.13.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
9.13.0*	No	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No	No
9.12.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
9.12.0*	No	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	No	No	No	No
9.11.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
9.11.0*	No	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No

9.10.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
9.10.0*	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No
9.9.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
9.9.0*	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
9.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
9.7	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
9.6	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
9.5	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9.4	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
9.3	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

SnapMirror Synchronous relationships



SnapMirror Synchronous is not supported for ONTAP cloud instances.

ONTAP version ...	Interoperates with these previous ONTAP versions...								
	9.13.1	9.12.1	9.11.1	9.10.1	9.9.1	9.8	9.7	9.6	9.5
9.13.1	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
9.12.1	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
9.11.1	Yes	Yes	Yes	Yes	Yes	No	No	No	No
9.10.1	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
9.9.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
9.8	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
9.7	No	No	No	No	Yes	Yes	Yes	Yes	Yes
9.6	No	No	No	No	No	Yes	Yes	Yes	Yes
9.5	No	No	No	No	No	No	Yes	Yes	Yes

SnapMirror SVM disaster recovery relationships

For SVM disaster recovery data and SVM protection:

SVM disaster recovery is only supported between clusters running the same version of ONTAP.

For SVM disaster recovery for SVM migration:

- Replication is supported in a single direction from an earlier version of ONTAP on the source to the same

or later version of ONTAP on the destination; for example, from ONTAP 9.11.1 to ONTAP 9.12.1.

- The ONTAP version on the target cluster must be no more than 2 on premises versions newer or two cloud versions newer, as shown in the table below.
- Replication is not supported for long-term data protection use cases.

The asterisk (*) after the release version indicates a cloud-only release.

To determine support, locate the source version in the left table column and then locate the destination version on the top row.

Source	Destination																
	9.3	9.4	9.5	9.6	9.7	9.8	9.9.0*	9.9.1	9.10.0*	9.10.1	9.11.0*	9.11.1	9.12.0*	9.12.1	9.13.0*	9.13.1	9.14.0*
9.3	Yes	Yes	Yes														
9.4		Yes	Yes	Yes													
9.5			Yes	Yes	Yes												
9.6				Yes	Yes	Yes											
9.7					Yes	Yes	Yes										
9.8						Yes	Yes	Yes									
9.9.0*							Yes	Yes	Yes								
9.9.1								Yes	Yes	Yes							
9.10.0*									Yes	Yes	Yes						
9.10.1										Yes	Yes	Yes					
9.11.0*											Yes	Yes	Yes				
9.11.1												Yes	Yes	Yes			
9.12.0*													Yes	Yes	Yes		
9.12.1														Yes	Yes	Yes	
9.13.0*															Yes	Yes	Yes
9.13.1																Yes	Yes
9.14.0*																	Yes

SnapMirror disaster recovery relationships

For SnapMirror relationships of type “DP” and policy type “async-mirror”:



DP-type mirrors cannot be initialized beginning with ONTAP 9.11.1 and are completely deprecated in ONTAP 9.12.1. For more information, see [Deprecation of data protection SnapMirror relationships](#).



In the following table, the column on the left indicates the ONTAP version on the source volume, and the top row indicates the ONTAP versions you can have on your destination volume.

Source	Destination											
	9.11.1	9.10.1	9.9.1	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1	9
9.11.1	Yes	No	No	No	No	No	No	No	No	No	No	No
9.10.1	Yes	Yes	No	No	No	No	No	No	No	No	No	No
9.9.1	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No
9.8	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No
9.7	No	No	Yes	Yes	Yes	No	No	No	No	No	No	No
9.6	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No
9.5	No	No	No	No	Yes	Yes	Yes	No	No	No	No	No
9.4	No	No	No	No	No	Yes	Yes	Yes	No	No	No	No
9.3	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No
9.2	No	No	No	No	No	No	No	Yes	Yes	Yes	No	No
9.1	No	No	No	No	No	No	No	No	Yes	Yes	Yes	No
9	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes



Interoperability is not bidirectional.

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