Troubleshooting

ONTAP System Manager

NetApp
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Troubleshooting

Failure creating a SnapMirror relationship and initializing consistency group

Issue:

Creation of SnapMirror relationship and consistency group initialization fails.

Error message:

```
command failed: The number of SnapMirror Synchronous Consistency Group
relationships in a cluster cannot exceed 5
```

Solution:

Ensure that the configuration has no more than 5 consistency groups. See Additional restrictions and limitations.

Planned failover unsuccessful

Issue:

After executing the `snapmirror failover start` command, the output for the `snapmirror failover show` command displays a message indicates that a nondisruptive operation is in progress.

Example:

```
Cluster1::> snapmirror failover show
Source Destination Error
Path Path Type Status start-time end-time Reason
-------- ----------- -------- --------- ---------- ---------- ----------
vs1:/cg/cg vs0:/cg/cg planned failed 10/1/2020 10/1/2020 SnapMirror Failover cannot start
because a volume move is running. Retry the command once volume move has finished.
                                                    08:35:04 08:35:04
```

Cause:

Planned failover cannot begin when a nondisruptive operation is in progress, including volume move, aggregate relocation, and storage failover.

Solution:

Wait for the nondisruptive operation to complete and try the failover operation again.

Mediator not reachable or Mediator quorum status is false

Issue:

After executing the `snapmirror failover start` command, the output for the `snapmirror failover show` command displays a message indicating that Mediator is not configured.

See Initialize the ONTAP Mediator.

Example:

```
Cluster1::> snapmirror failover show
Source Destination Error
Path Path Type Status start-time end-time Reason
-------- ----------- -------- --------- ---------- ---------- ----------
vs0:/cg/cg vs1:/cg/cg planned failed 10/1/2020 10/1/2020 SnapMirror failover cannot start
because the source-side precheck failed. reason: Mediator not configured.
05:50:42 05:50:43
```

Cause:

Mediator is not configured or there are network connectivity issues.

Solution:

If Mediator is not configured, you must configure Mediator before you can establish an SM-BC relationship. Fix any network connectivity issues. Make sure Mediator is connected and quorum status is true on both the source and destination site using the snapmirror mediator show command. (I WILL ADD LINK TO COMMAND ONCE TOPIC IS IN GITHUB)

Example:

```
cluster::> snapmirror mediator show
Mediator Address Peer Cluster     Connection Status Quorum Status
---------------- ---------------- ----------------- -------------
10.234.10.143    cluster2         connected         true
```

Automatic unplanned failover not triggered on Site B

Issue:

A failure on Site A does not trigger an unplanned failover on Site B.

Possible cause #1:

Mediator is not configured. To determine if this is the cause, issue the `snapmirror mediator show` command on the Site B cluster.

Example:

```
Cluster2::*> snapmirror mediator show
This table is currently empty.
```

This example indicates that Mediator is not configured on Site B.

Solution:

Ensure that Mediator is configured on both clusters, that the status is connected, and quorum is set to True.

Possible cause #2:

SnapMirror consistency group is out of sync. To determine if this is the cause, view the event log to view if the consistency group was in sync during the time at which the Site A failure occurred.

Example:

```
cluster::*> event log show -event *out.of.sync*

Time                Node             Severity      Event
------------------- ---------------- ------------- --------------------------
10/1/2020 23:26:12  sti42-vsim-ucs511w ERROR       sms.status.out.of.sync: Source volume
"vs0:zrto_cg_556844_511u_RW1" and destination volume "vs1:zrto_cg_556881_511w_DP1" with
relationship UUID "55ab7942-03e5-11eb-ba5a-005056a7dc14" is in "out-of-sync" status due
to the following reason: "Transfer failed."
```

Solution:

Complete the following steps to perform a forced failover on Site B.

1. Unmap all LUNs belonging to the consistency group from Site B.
2. Delete the SnapMirror consistency group relationship using the `force` option.
3. Enter the `snapmirror break` command on the consistency group constituent volumes to convert volumes from DP to R/W, to enable I/O from Site B.
4. Boot up the Site A nodes to create a zero RTO relationship from Site B to Site A.
5. Release the consistency group with `relationship-info-only` on Site A to retain common Snapshot copy and unmap the LUNs belonging to the consistency group.
6. Convert volumes on Site A from R/W to DP by setting up a volume level relationship using either the Sync policy or Async policy.
7. Issue the `snapmirror resync` to synchronize the relationships.

8. Delete the SnapMirror relationships with the Sync policy on Site A.
9. Release the SnapMirror relationships with Sync policy using `relationship-info-only true` on Site B.
10. Create a consistency group relationship from Site B to Site A.
11. Perform a consistency group resync from Site A, and then verify that the consistency group is in sync.
12. Rescan host LUN I/O paths to restore all paths to the LUNs.

Link between Site B and Mediator down and Site A down

Example:

```
cluster::*> snapmirror mediator show
Mediator Address Peer Cluster     Connection Status Quorum Status
---------------- ---------------- ----------------- -------------
10.237.86.17     C1_cluster       unreachable       true
SnapMirror consistency group relationship status is out of sync.

C2_cluster::*> snapmirror show -expand
Source            Destination Mirror  Relationship   Total             Last
Path        Type  Path        State   Status         Progress  Healthy Updated
----------- ---- ------------ ------- -------------- --------- ------- --------
vs0:/cg/src_cg_1 XDP vs1:/cg/dst_cg_1 Snapmirrored OutOfSync - false   -
vs0:zrto_cg_655724_188a_RW1 XDP vs1:zrto_cg_655755_188c_DP1 Snapmirrored OutOfSync -
false -
vs0:zrto_cg_655733_188a_RW2 XDP vs1:zrto_cg_655762_188c_DP2 Snapmirrored OutOfSync -
false -
vs0:zrto_cg_655739_188b_RW1 XDP vs1:zrto_cg_655768_188d_DP1 Snapmirrored OutOfSync -
false -
vs0:zrto_cg_655748_188b_RW2 XDP vs1:zrto_cg_655776_188d_DP2 Snapmirrored OutOfSync -
false -
5 entries were displayed.

Site B cluster is unable to reach Site A.
C2_cluster::*> cluster peer show
Peer Cluster Name         Cluster Serial Number Availability   Authentication
------------------------- --------------------- -------------- --------------
C1_cluster            1-80-000011           Unavailable    ok
```

Solution

Force a failover to enable I/O from Site B and then establish a zero RTO relationship from Site B to Site A.

Complete the following steps to perform a forced failover on Site B.

1. Unmap all LUNs belonging to the consistency group from Site B.
2. Delete the SnapMirror consistency group relationship using the force option.
3. Enter the snapmirror break command on the consistency group constituent volumes to convert volumes from DP to RW, to enable I/O from Site B.
4. Boot up the Site A nodes to create a zero RTO relationship from Site B to Site A.
5. Release the consistency group with relationship-info-only on Site A to retain common Snapshot copy and unmap the LUNs belonging to the consistency group.
6. Convert volumes on Site A from RW to DP by setting up a volume level relationship using either Sync policy or Async policy.
7. Issue the snapmirror resync to synchronize the relationships.
8. Delete the SnapMirror relationships with Sync policy on Site A.
9. Release the SnapMirror relationships with Sync policy using relationship-info-only true on Site B.
10. Create a consistency group relationship from Site B to Site A.
11. Perform a consistency group resync from Site A, and then verify that the consistency group is in sync.
12. Rescan host LUN I/O paths to restore all paths to the LUNs.

Link between Site A and Mediator down and Site B down

Determining the cause:

Check the status of Mediator from Site A.

Example:

```
C1_cluster::*> snapmirror mediator show
Mediator Address Peer Cluster     Connection Status Quorum Status
---------------- ---------------- ----------------- -------------
10.237.86.17     C2_cluster       unreachable       true

C1_cluster::*> snapmirror list-destinations
                                                    Progress
Source             Destination         Transfer   Last         Relationship
Path         Type  Path         Status Progress   Updated      Id
----------- ----- ------------ ------- --------- ------------ ---------------
vs0:/cg/src_cg_1  XDP   vs1:/cg/dst_cg_1  OutOfSync  -         -            bba7d354-
06f6-11eb-9138-005056acec19
```

Check Site B connectivity:

```
C1_sti78-vsim-ucs188a_cluster::*> cluster peer show
Peer Cluster Name         Cluster Serial Number Availability   Authentication
------------------------- --------------------- -------------- --------------
C2_cluster                1-80-000011           Unavailable    ok
```

Check the consensus status on SM-BC volume:

```
C1_cluster::*> volume show zrto_cg_894191_188b_RW1 -fields smbc-consensus
vserver volume                  smbc-consensus
------- ----------------------- ------------------
vs0     zrto_cg_894191_188b_RW1 Awaiting-consensus
```

Solution:

Complete the following steps to override SM-BC consensus and forcefully resume I/O on Site A:

1. Unmap the LUNs on Site A.
2. Issue the snapmirror release command using the `-force` and `override-smbc-consensus` option on Site A.
3. Remap the LUNs.
4. First, bring up Mediator, and then bring up the Site B nodes.
5. Resync the consistency group relationship using `snapmirror resync`.
6. After Site B is up, verify that the consistency group relationship is up and is in sync.
7. Perform a LUN rescan on the host to restore all paths to the LUNs.

SM-BC SnapMirror delete operation fails when fence is set on destination volume

Issue:

SnapMirror delete operation fails when any of the destination volumes have redirection fence set.

Solution

Performing the following operations to retry the redirection and remove the fence from the destination volume.

- SnapMirror resync
- SnapMirror update

Volume move operation stuck when primary is down

Issue:

A volume move operation is stuck indefinitely in cutover deferred state when the primary site is down in an SM-BC relationship.
When the primary site is down, the secondary site performs an automatic unplanned failover (AUFO). When a volume move operation is in progress when the AUFO is triggered the volume move becomes stuck.

Solution:

Abort the volume move instance that is stuck and restart the volume move operation.

SnapMirror release fails when unable to delete Snapshot copy

Issue:

The SnapMirror release operation fails when the Snapshot copy cannot be deleted.

Solution:

The Snapshot copy contains a transient tag. Use the `snapshot delete` command with the `-ignore-owners` option to remove the transient Snapshot copy.

```
snapshot delete -volume <volume_name> -snapshot <snapshot_name> -ignore-owners true -force true
```

Retry the `snapmirror release` command.

Volume move reference Snapshot copy shows as the newest

Issue:

After performing a volume move operation on a consistency group volume, the volume move reference Snapshot copy might display as the newest for the SnapMirror relationship.

You can view the newest Snapshot copy with the following command:

+

```
snapmirror show -fields newest-snapshot status -expand
```

Solution:

Manually perform a `snapmirror resync` or wait for the next automatic resync operation after the volume move operation completes.