■ NetApp

Troubleshooting

ONTAP 9

NetApp June 28, 2022

Table of Contents

Troubleshooting	. 1
SnapMirror delete operation fails in takover state	. 1
Failure creating a SnapMirror relationship and initializing consistency group	. 1
Planned failover unsuccessful	. 2
Mediator not reachable or Mediator quorum status is false	. 2
Automatic unplanned failover not triggered on Site B	. 3
Link between Site B and Mediator down and Site A down	. 4
Link between Site A and Mediator down and Site B down	. 6
SM-BC SnapMirror delete operation fails when fence is set on destination volume	. 7
Volume move operation stuck when primary is down	. 8
SnapMirror release fails when unable to delete Snapshot copy	. 8
Volume move reference Snapshot copy shows as the newest	. 8

Troubleshooting

SnapMirror delete operation fails in takover state

Issue:

When ONTAP 9.9.1 is installed on a cluster, executing the snapmirror delete command fails when an SM-BC consistency group relationship is in takeover state.

Example:

```
C2_cluster::> snapmirror delete vs1:/cg/dd

Error: command failed: RPC: Couldn't make connection
```

Solution

When the nodes in an SM-BC relationship are in takeover state, perform the SnapMirror delete and release operation with the "-force" option set to true.

Example:

Failure creating a SnapMirror relationship and initializing consistency group

Issue:

Creation of SnapMirror relationship and consistency group initialization fails.

Solution:

Ensure that you have not exceeded the limit of consistency groups per cluster. Consistency group limits in SM-BC are platform independent and differ based on the version of ONTAP. See Additional restrictions and limitations for limitations based on ONTAP version.

Error:

If the consistency group is stuck initializing, check the status of your consistency group initializations with the ONTAP REST API, System Manager or the command sn show -expand.

Solution:

If consistency groups fail to initialize, remove the SM-BC relationship, delete the consistency group, then recreate the relationship and initialize it. This workflow differs depending on the version of ONTAP you are using.

If you are using ONTAP 9.8-9.9.1	If you are using ONTAP 9.10.1 or later
 Remove the SM-BC configuration Create a consistency group relationship Initialize the consistency group relationship 	 Under Protection > Relationships, find the SM-BC relationship on the consistency group. Select , then Delete to remove the SM-BC relationship. Delete the consistency group Configure the consistency group

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:

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:

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.

Example:

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:

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.
- 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

To check on the connection of the Mediator, use the snapmirror mediator show command. If the connection status is unreachable and Site B is unable to reach Site B, you will have an output similar to the one below. Follow the steps in the solution to restore connection

Example:

```
cluster::*> snapmirror mediator show
Mediator Address Peer Cluster Connection Status Quorum Status
-----
10.237.86.17 C1 cluster unreachable
SnapMirror consistency group relationship status is out of sync.
C2 cluster::*> snapmirror show -expand
              Destination Mirror Relationship Total
Source
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
_____
                  1-80-000011
                                     Unavailable ok
C1 cluster
```

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

When using SM-BC, you may lose connectivity between the mediator or your peered clusters. You can diagnose the issue by checking the connection, availability, and consensus status of the different parts of the SM-BC relationship and then forcefully resuming connection.

Determining the cause:

Check the status of Mediator from Site A with the snapmirror mediator show command.

Example:

Check Site B connectivity with the cluster peer show command:

Check the consensus status on the SM-BC volume with the command volume show volume_name -fields smbc-consensus:

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



This solution uses diag level commands, which requires you to contact NetApp support.

- 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.

Copyright Information

Copyright © 2022 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NETAPP, the NETAPP logo, and the marks listed at http://www.netapp.com/TM are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.