



Expand FlexGroup volumes in a SnapMirror relationship

ONTAP 9

NetApp
February 14, 2023

Table of Contents

- Expand FlexGroup volumes in a SnapMirror relationship 1
 - Expand FlexGroup volumes in a SnapMirror relationship 1
 - Expand the source FlexGroup volume of a SnapMirror relationship 1
 - Expand the destination FlexGroup volume of a SnapMirror relationship 2

Expand FlexGroup volumes in a SnapMirror relationship

Expand FlexGroup volumes in a SnapMirror relationship

Beginning with ONTAP 9.3, you can expand the source FlexGroup volume and destination FlexGroup volume that are in a SnapMirror relationship by adding new constituents to the volumes. You can expand the destination volumes either manually or automatically.

About this task

- After expansion, the number of constituents in the source FlexGroup volume and destination FlexGroup volume of a SnapMirror relationship must match.

If the number of constituents in the volumes does not match, the SnapMirror transfers fail.

- You should not perform any SnapMirror operation when the expansion process is in progress.
- If a disaster strikes before the expansion process is complete, you must break the SnapMirror relationship and wait until the operation succeeds.



You should break the SnapMirror relationship when the expansion process is in progress only in the case of a disaster. In the case of a disaster, the break operation can take some time to complete. You should wait for the break operation to get completed successfully before performing a resync operation. If the break operation fails, you must retry the break operation. If the break operation fails, some of the new constituents might remain in the destination FlexGroup volume after the break operation. It is best to delete these constituents manually before proceeding further.

Expand the source FlexGroup volume of a SnapMirror relationship

Beginning with ONTAP 9.3, you can expand the source FlexGroup volume of a SnapMirror relationship by adding new constituents to the source volume. You can expand the source volume in the same way that you expand a regular FlexGroup volume (read-write volume).

Steps

1. Expand the source FlexGroup volume: `volume expand -vserver vservers_name -volume fg_src -aggr-list aggregate name,... [-aggr-list-multiplier constituents_per_aggr]`

```
cluster1::> volume expand -volume src_fg -aggr-list aggr1 -aggr-list  
-multiplier 2 -vserver vs_src
```

Warning: The following number of constituents of size 50GB will be added to FlexGroup "src_fg": 2.

Expanding the FlexGroup will cause the state of all Snapshot copies to be set to "partial".

Partial Snapshot copies cannot be restored.

Do you want to continue? {y|n}: Y

[Job 146] Job succeeded: Successful

The state of all of the Snapshot copies that are taken before the volume is expanded changes to partial.

Expand the destination FlexGroup volume of a SnapMirror relationship

You can expand the destination FlexGroup volume and reestablish the SnapMirror relationship either automatically or manually. By default, the SnapMirror relationship is set for automatic expansion, and the destination FlexGroup volume expands automatically if the source volume expands.

What you'll need

- The source FlexGroup volume must have been expanded.
- The SnapMirror relationship must be in the `SnapMirrored` state.

The SnapMirror relationship must not be broken or deleted.

About this task

- When the destination FlexGroup volume is created, the volume is set up for automatic expansion by default.

You can modify the destination FlexGroup volume for manual expansion, if required.



The best practice is to expand the destination FlexGroup volume automatically.

- All SnapMirror operations fail until both the source FlexGroup volume and destination FlexGroup volume have expanded and have the same number of constituents.
- If you expand the destination FlexGroup volume after the SnapMirror relationship is broken or deleted, you cannot resync the original relationship again.

If you intend to reuse the destination FlexGroup volume, you must not expand the volume after deleting the SnapMirror relationship.

Choices

- Perform an update transfer to expand the destination FlexGroup volume automatically:

- a. Perform a SnapMirror update transfer: `snapmirror update -destination-path svm:vol_name`
- b. Verify that the status of the SnapMirror relationship is in the SnapMirrored state: `snapmirror show`

```
cluster2::> snapmirror show
```

| Progress | Source | Destination | Mirror | Relationship | Total |
|---------------|---------|-------------|---------------|--------------|----------|
| Last | Path | Type | Path | State | Status |
| Healthy | Updated | | | | Progress |
| ----- | ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | | | | |
| vs_src:src_fg | | XDP | vs_dst:dst_fg | | |
| | | | | Snapmirrored | |
| | | | | Idle | - |
| - | | | | | true |

Based on the size and availability of aggregates, the aggregates are automatically selected, and new constituents that match the constituents of the source FlexGroup volume are added to the destination FlexGroup volume. After expansion, a resynchronization operation is automatically triggered.

- Expand the destination FlexGroup volume manually:
 - a. If the SnapMirror relationship is in the auto-expand mode, set the SnapMirror relationship to the manual expand mode: `snapmirror modify -destination-path svm:vol_name -is-auto-expand -enabled false`

```
cluster2::> snapmirror modify -destination-path vs_dst:dst_fg -is
-auto-expand-enabled false
Operation succeeded: snapmirror modify for the relationship with
destination "vs_dst:dst_fg".
```

- b. Quiesce the SnapMirror relationship: `snapmirror quiesce -destination-path svm:vol_name`

```
cluster2::> snapmirror quiesce -destination-path vs_dst:dst_fg
Operation succeeded: snapmirror quiesce for destination
"vs_dst:dst_fg".
```

- c. Expand the destination FlexGroup volume: `volume expand -vserver vs_server_name -volume fg_name -aggr-list aggregate name,... [-aggr-list-multiplier constituents_per_aggr]`

```
cluster2::> volume expand -volume dst_fg -aggr-list aggr1 -aggr-list
-multiplier 2 -vserver vs_dst
```

Warning: The following number of constituents of size 50GB will be added to FlexGroup "dst_fg": 2.

Do you want to continue? {y|n}: y

[Job 68] Job succeeded: Successful

- d. Resynchronize the SnapMirror relationship: `snapmirror resync -destination-path svm:vol_name`

```
cluster2::> snapmirror resync -destination-path vs_dst:dst_fg
Operation is queued: snapmirror resync to destination
"vs_dst:dst_fg".
```

- e. Verify that the status of the SnapMirror relationship is SnapMirrored: `snapmirror show`

```
cluster2::> snapmirror show
```

Progress

| Source | Destination | Mirror | Relationship | Total |
|---------------|-------------|---------------|--------------|----------|
| Last | | | | |
| Path | Type | Path | State | Status |
| Healthy | Updated | | | Progress |
| ----- | ---- | ----- | ----- | ----- |
| ----- | ----- | | | |
| vs_src:src_fg | | vs_dst:dst_fg | | |
| | XDP | | Snapmirrored | |
| | | | Idle | - |
| - | | | | true |

Copyright information

Copyright © 2023 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.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

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.