



Preparing for transitioning 7-Mode systems with 32-bit aggregates

ONTAP 7-Mode Transition

NetApp
February 11, 2024

This PDF was generated from https://docs.netapp.com/us-en/ontap-7mode-transition/copy-free/task_expanding_an_aggregate_to_64_bit_format_without_adding_storage.html on February 11, 2024. Always check docs.netapp.com for the latest.

Table of Contents

- Preparing for transitioning 7-Mode systems with 32-bit aggregates 1
 - Expanding an aggregate to the 64-bit format. 1
 - Finding and removing 32-bit volumes and Snapshot copies 2

Preparing for transitioning 7-Mode systems with 32-bit aggregates

32-bit aggregates, volumes, and Snapshot copies are not supported in ONTAP 8.3 and later. Therefore, you must expand the 32-bit aggregates to 64-bit, and then find and remove any 32-bit volumes and Snapshot copies from the 7-Mode system before transition.

- **32-bit aggregates**
 - a. [Expanding an aggregate to the 64-bit format](#)
 - b. [Finding and removing 32-bit volumes and Snapshot copies](#)
- **32-bit volumes or Snapshot copies**

Even if you have only 64-bit aggregates and volumes, some 32-bit or mixed-format FlexVol volumes or Snapshot copies might remain. You must remove these volumes and Snapshot copies before transition.

[Finding and removing 32-bit volumes and Snapshot copies](#)

Related information

[NetApp Technical Report 3978: In-Place Expansion of 32-Bit Aggregates to 64-Bit Overview and Best Practices](#)

Expanding an aggregate to the 64-bit format

If your system contains 32-bit aggregates, you must expand them to the 64-bit format on your 7-Mode system *before* transitioning to Data ONTAP 8.3 or later versions, because those versions of Data ONTAP do not support the 32-bit format.

- If the aggregate contains destination volumes for a SnapMirror relationship with a 32-bit source volume, the aggregate containing the source volume must be expanded before expanding the aggregate containing the destination volume.

For volumes in a SnapMirror relationship, the destination volume inherits the format of the source volume while the mirror is intact. If the aggregate you are expanding contains a destination volume whose source is a 32-bit volume and you break the mirror before expanding the aggregate, the destination volume is expanded to the 64-bit format. However, if you reestablish the mirror and the source volume is still 32-bit, the destination volume returns to the 32-bit format. For this reason, you must expand the aggregate containing the source volume before reestablishing the SnapMirror relationship if you want to expand all 32-bit volumes in the aggregate to the 64-bit format.

Steps

1. Enter advanced privilege mode:

```
priv set advanced
```

2. Initiate the expansion:

```
aggr 64bit-upgrade start aggr_name
```

3. Perform the appropriate action:

If the command...	Then...
Initiates successfully	Proceed to the next step.
Indicates that one or more volumes could not be expanded because they did not have enough space	Retry the command, adding the <code>grow-all</code> option.
Indicates that the expansion could not be completed for some other reason	Perform the appropriate action, based on the issue outlined in the error message.

4. Display the status of the expansion:

```
aggr 64bit-upgrade status aggr_name
```

The current status of the expansion is displayed. When the message indicates that there is no upgrade in progress, the expansion is complete.

5. Confirm that all volumes in the aggregate are 64-bit format:

```
aggr 64bit-upgrade status aggr_name -all
```

6. Return to administrative privilege mode: **priv set admin**

The aggregate is expanded to the 64-bit format. However, even if all volumes are expanded, some 32-bit Snapshot copies might remain. The presence of 32-bit Snapshot copies in the source volumes prevents an upgrade or transition to Data ONTAP 8.3 or later.

Finding and removing 32-bit volumes and Snapshot copies

Even if you have expanded all of your aggregates to the 64-bit format, some 32-bit or mixed-format FlexVol volumes or Snapshot copies can remain. These volumes and Snapshot copies must be removed before your data can be accessed by a cluster running Data ONTAP 8.3 or later.

- You must have expanded all 32-bit aggregates on the system to the 64-bit format.

You must repeat the steps in this task for each aggregate that contains 32-bit volumes and Snapshot copies.

Steps

1. Enter advanced mode:

```
priv set advanced
```

2. Display the format of all volumes in the aggregate:

```
aggr 64bit-upgrade status aggr_name -all
```

Each volume in the aggregate is displayed with its format.

3. For each 32-bit or mixed-format volume, determine the reason that the volume has not been expanded to the 64-bit format, and then take the appropriate action.

If you cannot determine the reason that the volume was not expanded, retry the aggregate expansion.

If the volume...	Then...
Is the destination of a SnapMirror relationship	Expand the aggregate containing the source volume to the 64-bit format.
Is a read-only volume (but not a SnapMirror destination)	Make the volume writable and retry the expansion, or destroy the volume.
Did not expand because of insufficient free space in the volume or aggregate	Increase the free space in the volume or aggregate and retry the expansion.

All 32-bit and mixed-format volumes in the aggregate are now 64-bit. You can confirm this by repeating the previous step.

4. Display the format of all Snapshot copies on the system:

```
snap list -fs-block-format
```

5. Remove the 32-bit Snapshot copies by using the snap delete command.



This action deletes the data in the Snapshot copies. You must be certain that you do not need to retain the Snapshot copies before you delete them. Alternatively, you can wait for the 32-bit Snapshot copies to be aged out. The amount of time this takes depends on your Snapshot copy schedule.

If a Snapshot copy is the base Snapshot copy for a FlexClone volume, you must split the FlexClone volume from its parent before you can remove the Snapshot copy.

All 32-bit Snapshot copies are removed. You can confirm this by repeating the previous step.

6. Return to the administrative privilege level:

```
priv set admin
```

Copyright information

Copyright © 2024 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.