Preparing for transitioning to ONTAP 8.3 and later supported releases

ONTAP 7-Mode Transition

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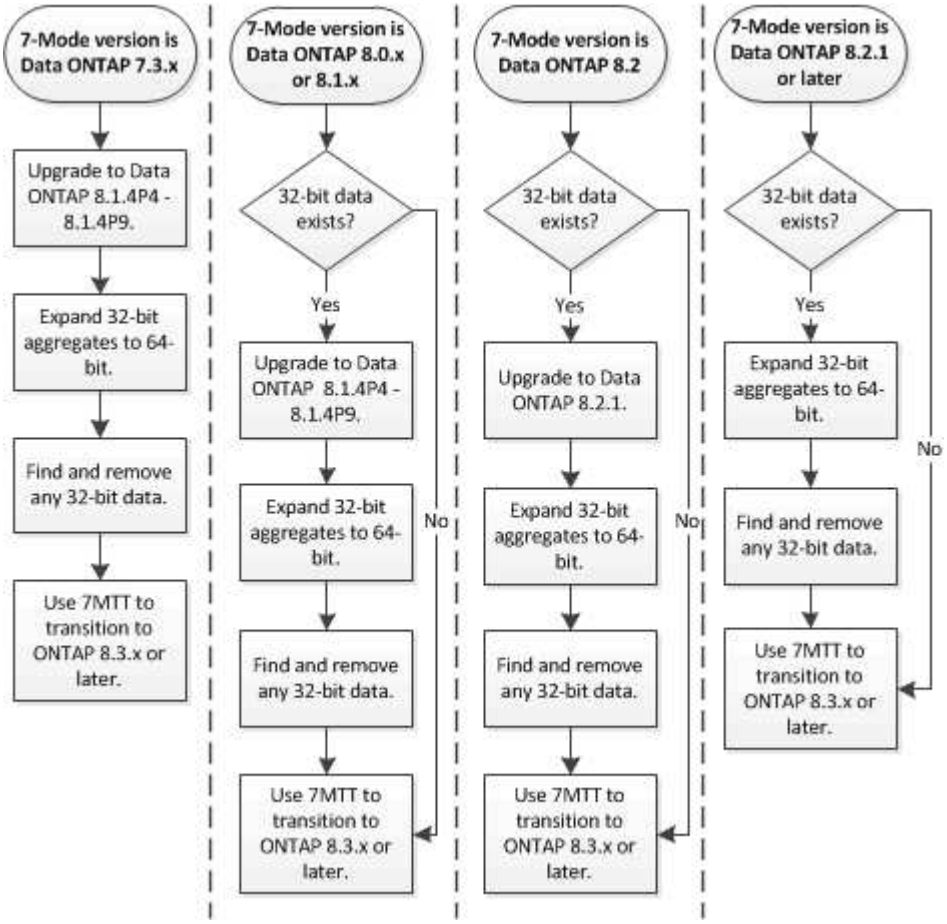
Preparing for transitioning to ONTAP 8.3 and later supported releases

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. Because all 7-Mode versions do not support the capability of expanding 32-bit aggregates and removing 32-bit volumes and Snapshot copies, you might have to upgrade your 7-Mode system before transition.

Clustered Data ONTAP 8.2.x supports 32-bit aggregates, volumes and Snapshot copies. Therefore, you can transition 32-bit data from 7-Mode system to a target cluster running Data ONTAP 8.2.x. However, after the transition, if the target cluster must be upgraded to ONTAP 8.3 or later version , then you must upgrade all the existing 32-bit data on the target cluster to 64-bit format before upgrading the ONTAP version of the target cluster..

You should use the following workflow to decide whether an upgrade is required before transition.



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 `grow-all` 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`

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