



Transitioning the MetroCluster FC nodes

ONTAP MetroCluster

aherbin, netapp-martyh, zachary wambold
April 06, 2021

This PDF was generated from https://docs.netapp.com/us-en/ontap-metrocluster/transition/task_transition_the_mcc_fc_nodes_2n_mcc_transition_supertask.html on April 28, 2021. Always check docs.netapp.com for the latest.

Table of Contents

- Transitioning the MetroCluster FC nodes 1
 - Gathering information from the existing controller modules before the transition 1
 - Sending a custom AutoSupport message prior to maintenance 1
 - Transitioning, shutting down, and removing the MetroCluster FC nodes 1

Transitioning the MetroCluster FC nodes

You must gather information from the existing MetroCluster FC nodes, send an autosupport message announcing the start of maintenance, and transition the nodes.

Gathering information from the existing controller modules before the transition

Before transitioning, you must gather information for each of the nodes.

This task is performed on the existing nodes:

- node_A_1-FC
- node_B_1-FC

1. Gather the output for the commands in the following table.

Unresolved directive in <stdin> - include::_include/transition-disruptive-gather-info.csv[]

Sending a custom AutoSupport message prior to maintenance

Before performing the maintenance, you should issue an AutoSupport message to notify NetApp technical support that maintenance is underway. This prevents them from opening a case on the assumption that a disruption has occurred.

This task must be performed on each MetroCluster site.

1. To prevent automatic support case generation, send an Autosupport message to indicate maintenance is underway.

- a. Issue the following command: `system node autosupport invoke -node * -type all -message MAINT=maintenance-window-in-hours`

maintenance-window-in-hours specifies the length of the maintenance window, with a maximum of 72 hours. If the maintenance is completed before the time has elapsed, you can invoke an AutoSupport message indicating the end of the maintenance period:
`system node autosupport invoke -node * -type all -message MAINT=end`

- b. Repeat the command on the partner cluster.

Transitioning, shutting down, and removing the MetroCluster FC nodes

In addition to issuing commands on the MetroCluster FC nodes, this task includes physical uncabling and removal of the controller modules at each site.

This task must be performed on each of the old nodes:

- node_A_1-FC

- node_B_1-FC

1. Stop all client traffic.
2. On either of the MetroCluster FC nodes, for example node_A_1-FC, enable transition.
 - a. Set the advanced privilege level: `set -priv advanced`
 - b. Enable transition: `metrocluster transition enable -transition-mode disruptive`
 - c. Return to admin mode: `set -priv admin`
3. Unmirror the root aggregate by deleting the remote plex of the root aggregates.
 - a. Identify the root aggregates: `storage aggregate show -root true`
 - b. Display the pool1 aggregates: `storage aggregate plex show -pool 1`
 - c. Delete the local plex of the root aggregate: `aggr plex delete aggr-name -plex plex-name`
 - d. Offline the remote plex of the root aggregate: `aggr plex offline root-aggregate -plex remote-plex-for-root-aggregate`

For example:

```
# aggr plex offline aggr0_node_A_1-FC_01 -plex plex4
```

4. Confirm the mailbox count, disk autoassign, and transition mode before proceeding using the following commands on each controller:
 - a. Set the advanced privilege level: `set -priv advanced`
 - b. Confirm that only three mailbox drives are shown for each controller module: `storage failover mailbox-disk show`
 - c. Return to admin mode: `set -priv admin`
 - d. Confirm that the transition mode is disruptive: `metrocluster transition show`
5. Check for any broken disks: `disk show -broken`
6. Remove or replace any broken disks
7. Confirm aggregates are healthy using the following commands on node_A_1-FC and node_B_1-FC: `storage aggregate show` `storage aggregate plex show`

The storage aggregate show command indicates that the root aggregate is unmirrored.

8. Check for any VLANs or interface groups: `network port ifgrp show` `network port vlan show`

If none are present, skip the following two steps.

9. Display the list of Lifs using VLANs or ifgrps: `network interface show -fields home-port,curr-port` `network port show -type if-group | vlan`
10. Remove any VLANs and interface groups.

You must perform these steps for all LIFs in all SVMs, including those SVMs with the -mc suffix.

- a. Move any LIFs using the VLANs or interface groups to an available port: `network interface modify -vserver vservice-name -lif lif_name -home- port port`
- b. Display the LIFs that are not on their home ports: `network interface show -is-home false`
- c. Revert all LIFs to their respective home ports: `network interface revert -vserver vservice_name -lif lif_name`
- d. Verify that all LIFs are on their home ports: `network interface show -is-home false`

No LIFs should appear in the output.

- e. Remove VLAN and ifgrp ports from broadcast domain:: `network port broadcast-domain remove-ports -ipaddress ipaddress -broadcast-domain broadcast-domain-name -ports nodename:portname,nodename:portname,...`
 - f. Verify that all the vlan and ifgrp ports are not assigned to a broadcast domain: `network port show -type if-group | vlan`
 - g. Delete all VLANs: `network port vlan delete -node nodename -vlan-name vlan-name`
 - h. Delete interface groups: `network port ifgrp delete -node nodename -ifgrp ifgrp-name`
11. Move any LIFs as required to resolve conflicts with the MetroCluster IP interface ports.

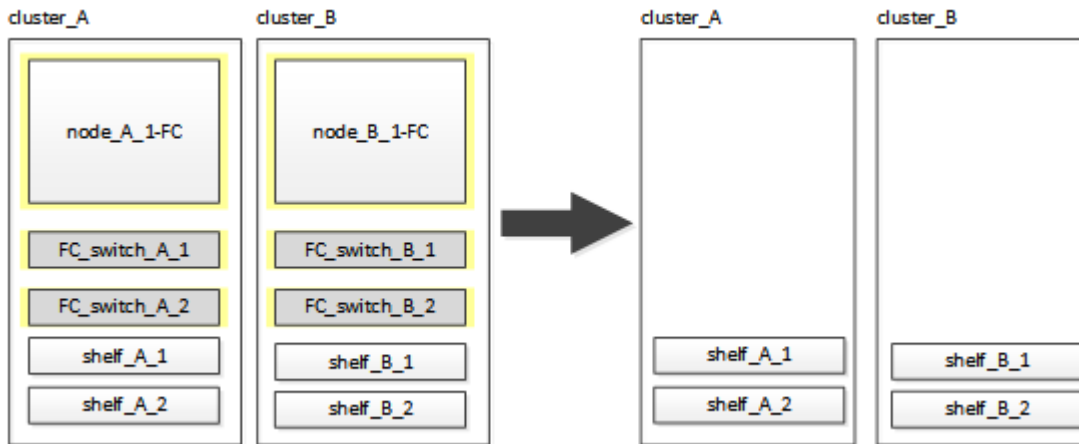
You must move the LIFs identified in step 1 of [Mapping ports from the MetroCluster FC nodes to the MetroCluster IP nodes](#).

- a. Move any LIFs hosted on the desired port to another port: `network interface modify -lif lifname -vserver vservice-name -home-port new-homeport``network interface revert -lif lifname -vserver vservice-name`
 - b. If necessary, move the destination port to an appropriate IPspace and broadcast domain. `network port broadcast-domain remove-ports -ipaddress current-ipaddress -broadcast-domain current-broadcast-domain -ports controller-name:current-port``network port broadcast-domain add-ports -ipaddress new-ipaddress -broadcast-domain new-broadcast-domain -ports controller-name:new-port`
12. Halt the MetroCluster FC controllers (node_A_1-FC and node_B_1-FC): `system node halt`
13. At the LOADER prompt, synchronize the hardware clocks between the FC and IP controller modules.
- a. On the old MetroCluster FC node (node_A_1-FC), display the date: `show date`
 - b. On the new MetroCluster IP controllers (node_A_1-IP and node_B_1-IP), set the date shown on original controller: `set date mm/dd/yy`
 - c. On the new MetroCluster IP controllers (node_A_1-IP and node_B_1-IP), verify the date: `show date`
14. Halt and power off the MetroCluster FC controller modules (node_A_1-FC and node_B_1-FC), FC-to-SAS bridges (if present), FC switches (if present) and each storage shelf connected to these nodes.
15. Disconnect the shelves from the MetroCluster FC controllers and document which shelves are local storage to each cluster.

If the configuration uses FC-to-SAS bridges or FC back-end switches, disconnect and remove them.

16. In Maintenance mode on the MetroCluster FC nodes (node_A_1-FC and node_B_1-FC), confirm no disks are connected: `disk show -v`
17. Power down and remove the MetroCluster FC nodes.

At this point, the MetroCluster FC controllers have been removed and the shelves are disconnected from all controllers.



Copyright Information

Copyright © 2021 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.