



# **What should I do after reverting my cluster?**

## **ONTAP 9**

NetApp  
November 14, 2022

# Table of Contents

- What should I do after reverting my cluster? ..... 1
  - Verify cluster and storage health after downgrade or revert ..... 1
  - Enable automatic switchover for MetroCluster configurations ..... 3
  - Enable and revert LIFs to home ports after a revert ..... 4
  - Enable Snapshot copy policies after reverting ..... 5
  - Verify client access (SMB and NFS) ..... 6
  - Verify IPv6 firewall entries ..... 6
  - Revert password hash function to the supported encryption type ..... 7
  - Considerations for whether to manually update the SP firmware ..... 8
  - Change in user accounts that can access the Service Processor ..... 8

# What should I do after reverting my cluster?

## Verify cluster and storage health after downgrade or revert

After you downgrade or revert a cluster, you should verify that the nodes are healthy and eligible to participate in the cluster, and that the cluster is in quorum. You should also verify the status of your disks, aggregates, and volumes.

### Verify cluster health

1. Verify that the nodes in the cluster are online and are eligible to participate in the cluster: `cluster show`

```
cluster1::> cluster show
Node                      Health  Eligibility
-----
node0                     true    true
node1                     true    true
```

If any node is unhealthy or ineligible, check EMS logs for errors and take corrective action.

2. Set the privilege level to advanced:

```
set -privilege advanced
```

Enter `y` to continue.

3. Verify the configuration details for each RDB process.

- The relational database epoch and database epochs should match for each node.
- The per-ring quorum master should be the same for all nodes.

Note that each ring might have a different quorum master.

To display this RDB process...	Enter this command...
Management application	<code>cluster ring show -unitname mgmt</code>
Volume location database	<code>cluster ring show -unitname vl原因</code>
Virtual-Interface manager	<code>cluster ring show -unitname vifmgr</code>
SAN management daemon	<code>cluster ring show -unitname bcomd</code>

This example shows the volume location database process:

```
cluster1::*> cluster ring show -unitname vldb
```

Node	UnitName	Epoch	DB Epoch	DB Trnxs	Master	Online
node0	vldb	154	154	14847	node0	master
node1	vldb	154	154	14847	node0	secondary
node2	vldb	154	154	14847	node0	secondary
node3	vldb	154	154	14847	node0	secondary

4 entries were displayed.

- Return to the admin privilege level: `set -privilege admin`
- If you are operating in a SAN environment, verify that each node is in a SAN quorum: `event log show -severity informational -message-name scsiblade.*`

The most recent scsiblade event message for each node should indicate that the scsi-blade is in quorum.

```
cluster1::*> event log show -severity informational -message-name scsiblade.*
```

Time	Node	Severity	Event
MM/DD/YYYY TIME	node0	INFORMATIONAL	scsiblade.in.quorum: The scsi-blade ...
MM/DD/YYYY TIME	node1	INFORMATIONAL	scsiblade.in.quorum: The scsi-blade ...

## Related information

[System administration](#)

## Verify storage health

After you revert or downgrade a cluster, you should verify the status of your disks, aggregates, and volumes.

- Verify disk status:

To check for...	Do this...
Broken disks	<ol style="list-style-type: none"> <li>Display any broken disks: <code>storage disk show -state broken</code></li> <li>Remove or replace any broken disks.</li> </ol>

To check for...	Do this...
Disks undergoing maintenance or reconstruction	<ol style="list-style-type: none"> <li>Display any disks in maintenance, pending, or reconstructing states: <code>storage disk show -state maintenance pending reconstructing</code></li> <li>Wait for the maintenance or reconstruction operation to finish before proceeding.</li> </ol>

- Verify that all aggregates are online by displaying the state of physical and logical storage, including storage aggregates: `storage aggregate show -state !online`

This command displays the aggregates that are *not* online. All aggregates must be online before and after performing a major upgrade or reversion.

```
cluster1::> storage aggregate show -state !online
There are no entries matching your query.
```

- Verify that all volumes are online by displaying any volumes that are *not* online: `volume show -state !online`

All volumes must be online before and after performing a major upgrade or reversion.

```
cluster1::> volume show -state !online
There are no entries matching your query.
```

- Verify that there are no inconsistent volumes: `volume show -is-inconsistent true`

See the Knowledge Base article [Volume Showing WAFL Inconsistent](#) on how to address the inconsistent volumes.

## Related information

[Disk and aggregate management](#)

# Enable automatic switchover for MetroCluster configurations

This topic provides information regarding the additional tasks that you must perform after the reversion of MetroCluster configurations.

- Enable automatic unplanned switchover: `metrocluster modify -auto-switchover-failure -domain auto-on-cluster-disaster`
- Validate the MetroCluster configuration: `metrocluster check run`

# Enable and revert LIFs to home ports after a revert

During a reboot, some LIFs might have been migrated to their assigned failover ports. After you revert a cluster, you must enable and revert any LIFs that are not on their home ports.

The network interface revert command reverts a LIF that is not currently on its home port back to its home port, provided that the home port is operational. A LIF's home port is specified when the LIF is created; you can determine the home port for a LIF by using the network interface show command.

1. Display the status of all LIFs: `network interface show`

This example displays the status of all LIFs for a storage virtual machine (SVM).

```
cluster1::> network interface show -vserver vs0
```

	Logical	Status	Network	Current	
Current Is					
Vserver	Interface	Admin/Oper	Address/Mask	Node	Port
Home					
-----	-----	-----	-----	-----	-----
vs0					
	data001	down/down	192.0.2.120/24	node0	e0e
true					
	data002	down/down	192.0.2.121/24	node0	e0f
true					
	data003	down/down	192.0.2.122/24	node0	e2a
true					
	data004	down/down	192.0.2.123/24	node0	e2b
true					
	data005	down/down	192.0.2.124/24	node0	e0e
false					
	data006	down/down	192.0.2.125/24	node0	e0f
false					
	data007	down/down	192.0.2.126/24	node0	e2a
false					
	data008	down/down	192.0.2.127/24	node0	e2b
false					

8 entries were displayed.

If any LIFs appear with a Status Admin status of down or with an Is home status of false, continue with the next step.

2. Enable the data LIFs: `network interface modify {-role data} -status-admin up`

```
cluster1::> network interface modify {-role data} -status-admin up
8 entries were modified.
```

### 3. Revert LIFs to their home ports: `network interface revert *`

This command reverts all LIFs back to their home ports.

```
cluster1::> network interface revert *
8 entries were acted on.
```

### 4. Verify that all LIFs are in their home ports: `network interface show`

This example shows that all LIFs for SVM vs0 are on their home ports.

```
cluster1::> network interface show -vserver vs0
```

	Logical	Status	Network	Current	
Current Is					
Vserver	Interface	Admin/Oper	Address/Mask	Node	Port
Home					
-----	-----	-----	-----	-----	
-----	-----				
vs0					
	data001	up/up	192.0.2.120/24	node0	e0e
true					
	data002	up/up	192.0.2.121/24	node0	e0f
true					
	data003	up/up	192.0.2.122/24	node0	e2a
true					
	data004	up/up	192.0.2.123/24	node0	e2b
true					
	data005	up/up	192.0.2.124/24	node1	e0e
true					
	data006	up/up	192.0.2.125/24	node1	e0f
true					
	data007	up/up	192.0.2.126/24	node1	e2a
true					
	data008	up/up	192.0.2.127/24	node1	e2b
true					

```
8 entries were displayed.
```

## Enable Snapshot copy policies after reverting

After reverting to an earlier version of ONTAP, you must enable Snapshot copy policies to

start creating Snapshot copies again.

You are reenabling the Snapshot schedules that you disabled before you reverted to an earlier version of ONTAP.

1. Enable Snapshot copy policies for all data SVMs:

```
volume snapshot policy modify -vserver * -enabled true
```

```
snapshot policy modify pg-rpo-hourly -enable true
```

2. For each node, enable the Snapshot copy policy of the root volume by using the `run-nodenodenamevol optionsroot_vol_namenosnap off` command.

```
cluster1::> run -node node1 vol options vol0 nosnap off
```

## Verify client access (SMB and NFS)

For the configured protocols, test access from SMB and NFS clients to verify that the cluster is accessible.

## Verify IPv6 firewall entries

A reversion from any version of ONTAP 9 might result in missing default IPv6 firewall entries for some services in firewall policies. You need to verify that the required firewall entries have been restored to your system.

1. Verify that all firewall policies are correct by comparing them to the default policies: `system services firewall policy show`

The following example shows the default policies:



```
cluster1::*> system services firewall policy show
```

Policy	Service	Action	IP-List
-----			
cluster	dns	allow	0.0.0.0/0
	http	allow	0.0.0.0/0
	https	allow	0.0.0.0/0
	ndmp	allow	0.0.0.0/0
	ntp	allow	0.0.0.0/0
	rsh	allow	0.0.0.0/0
	snmp	allow	0.0.0.0/0
	ssh	allow	0.0.0.0/0
	telnet	allow	0.0.0.0/0
data	dns	allow	0.0.0.0/0, ::/0
	http	deny	0.0.0.0/0, ::/0
	https	deny	0.0.0.0/0, ::/0
	ndmp	allow	0.0.0.0/0, ::/0
	ntp	deny	0.0.0.0/0, ::/0
	rsh	deny	0.0.0.0/0, ::/0
.			
.			
.			

2. Manually add any missing default IPv6 firewall entries by creating a new firewall policy: `system services firewall policy create`

```
cluster1::*> system services firewall policy create -policy newIPv6  
-service ssh -action allow -ip-list ::/0
```

3. Apply the new policy to the LIF to allow access to a network service: `network interface modify`

```
cluster1::*> network interface modify -vserver VS1 -lif LIF1  
-firewall-policy newIPv6
```

## Revert password hash function to the supported encryption type

If you reverted from ONTAP 9.1 or ONTAP 9.0 to ONTAP 8.3.x, SHA-2 account users can no longer be authenticated with their passwords. Passwords must be reset to use the MDS encryption type.

1. Set a temporary password for each SHA-2 user account that you [identified prior to reverting](#): `security login password -username user_name -vserver vserver_name`
2. Communicate the temporary password to the affected users and have them log in through a console or SSH session to change their passwords as prompted by the system.

## Considerations for whether to manually update the SP firmware

If the SP automatic update functionality is enabled (the default), downgrading or reverting to ONTAP 8.3.x does not require a manual SP firmware update. The SP firmware is automatically updated to the newest compatible version that is supported by the ONTAP version you reverted or downgraded to.

If the SP automatic update functionality is disabled (not recommended), after the ONTAP revert or downgrade process is complete, you must manually update the SP firmware to a version that is supported for the ONTAP version you reverted or downgraded to.

[NetApp BIOS/ONTAP Support Matrix](#)

[NetApp Downloads: System Firmware and Diagnostics](#)

## Change in user accounts that can access the Service Processor

If you created user accounts on ONTAP 9.8 or earlier, upgraded to ONTAP 9.9.1 or later (when the `-role` parameter is changed to `admin`), and then reverted back to ONTAP 9.8 or earlier, the `-role` parameter is restored to its original value. You should nonetheless verify that the modified values are acceptable.

During revert, if the role for an SP user has been deleted, the "rbac.spuser.role.notfound" EMS message will be logged.

For more information, see [Accounts that can access the SP](#).

## 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.

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.