



# **Manual nondisruptive upgrade of a two-node MetroCluster configuration in ONTAP 9.2 or earlier using the CLI**

**ONTAP 9**

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# Manual nondisruptive upgrade of a two-node MetroCluster configuration in ONTAP 9.2 or earlier using the CLI

You can upgrade ONTAP nondisruptively for a two-node MetroCluster configuration. This method has several steps: initiating a negotiated switchover, updating the cluster at the “failed” site, initiating switchback, and then repeating the process on the cluster at the other site.

This procedure is for two-node MetroCluster configurations running ONTAP 9.2 or earlier only.

+ Do not use this procedure if you have a four-node MetroCluster configuration.

+ If you have a two-node MetroCluster configuration running ONTAP 9.3 or later, perform an [automated nondisruptive upgrade using System Manager](#).

1. Set the privilege level to advanced, entering **y** when prompted to continue: `set -privilege advanced`

The advanced prompt (**\*>**) appears.

2. On the cluster to be upgraded, install the new ONTAP software image as the default: `system node image update -package package_location -setdefault true -replace-package true`

```
cluster_B::*> system node image update -package
http://www.example.com/NewImage.tgz -setdefault true -replace-package
true
```

3. Verify that the target software image is set as the default image: `system node image show`

The following example shows that **NewImage** is set as the default image:

```
cluster_B::*> system node image show
```

| Node     | Image    | Is Default | Is Current | Version | Install Date    |
|----------|----------|------------|------------|---------|-----------------|
| -----    |          |            |            |         |                 |
| node_B_1 |          |            |            |         |                 |
|          | OldImage | false      | true       | X.X.X   | MM/DD/YYYY TIME |
|          | NewImage | true       | false      | Y.Y.Y   | MM/DD/YYYY TIME |

2 entries were displayed.

4. If the target software image is not set as the default image, then change it: `system image modify {-node * -iscurrent false} -isdefault true`
5. Verify that all cluster SVMs are in a health state: `metrocluster vservers show`

6. On the cluster that is not being updated, initiate a negotiated switchover: `metrocluster switchover`

The operation can take several minutes. You can use the `metrocluster operation show` command to verify that the switchover is completed.

In the following example, a negotiated switchover is performed on the remote cluster ("cluster\_A"). This causes the local cluster ("cluster\_B") to halt so that you can update it.

```
cluster_A::> metrocluster switchover

Warning: negotiated switchover is about to start. It will stop all the
data
        Vservers on cluster "cluster_B" and
        automatically re-start them on cluster
        "cluster_A". It will finally gracefully shutdown
        cluster "cluster_B".
Do you want to continue? {y|n}: y
```

7. Verify that all cluster SVMs are in a health state: `metrocluster vserver show`
8. Resynchronize the data aggregates on the "surviving" cluster: `metrocluster heal -phase aggregates`

After upgrading MetroCluster IP configurations to ONTAP 9.5 or later, the aggregates will be in a degraded state for a short period before resynchronizing and returning to a mirrored state.

```
cluster_A::> metrocluster heal -phase aggregates
[Job 130] Job succeeded: Heal Aggregates is successful.
```

9. Verify that the healing operation was completed successfully: `metrocluster operation show`

```
cluster_A::> metrocluster operation show
Operation: heal-aggregates
State: successful
Start Time: MM/DD/YYYY TIME
End Time: MM/DD/YYYY TIME
Errors: -
```

10. Resynchronize the root aggregates on the "surviving" cluster: `metrocluster heal -phase root-aggregates`

```
cluster_A::> metrocluster heal -phase root-aggregates
[Job 131] Job succeeded: Heal Root Aggregates is successful.
```

11. Verify that the healing operation was completed successfully: `metrocluster operation show`

```
cluster_A::> metrocluster operation show
Operation: heal-root-aggregates
State: successful
Start Time: MM/DD/YYYY TIME
End Time: MM/DD/YYYY TIME
Errors: -
```

12. On the halted cluster, boot the node from the LOADER prompt: `boot_ontap`
13. Wait for the boot process to finish, and then verify that all cluster SVMs are in a health state: `metrocluster vservers show`
14. Perform a switchback from the “surviving” cluster: `metrocluster switchback`
15. Verify that the switchback was completed successfully: `metrocluster operation show`

```
cluster_A::> metrocluster operation show
Operation: switchback
State: successful
Start Time: MM/DD/YYYY TIME
End Time: MM/DD/YYYY TIME
Errors: -
```

16. Verify that all cluster SVMs are in a health state: `metrocluster vservers show`
17. Repeat all previous steps on the other cluster.
18. Verify that the MetroCluster configuration is healthy:
- a. Check the configuration: `metrocluster check run`

```
cluster_A::> metrocluster check run
```

```
Last Checked On: MM/DD/YYYY TIME
```

| Component          | Result |
|--------------------|--------|
| nodes              | ok     |
| lifs               | ok     |
| config-replication | ok     |
| aggregates         | ok     |

```
4 entries were displayed.
```

Command completed. Use the "metrocluster check show -instance" command or sub-commands in "metrocluster check" directory for detailed results.

To check if the nodes are ready to do a switchover or switchback operation, run "metrocluster switchover -simulate" or "metrocluster switchback -simulate", respectively.

- b. If you want to view more detailed results, use the metrocluster check run command: `metrocluster check aggregate showmetrocluster check config-replication showmetrocluster check lif show`metrocluster check node show`
- c. Set the privilege level to advanced: `set -privilege advanced`
- d. Simulate the switchover operation: `metrocluster switchover -simulate`
- e. Review the results of the switchover simulation: `metrocluster operation show`

```
cluster_A::~* > metrocluster operation show
```

```
Operation: switchover
```

```
State: successful
```

```
Start time: MM/DD/YYYY TIME
```

```
End time: MM/DD/YYYY TIME
```

```
Errors: -
```

- f. Return to the admin privilege level: `set -privilege admin`
- g. Repeat these substeps on the other cluster.

You should perform any post-upgrade tasks.

## Related information

[MetroCluster Disaster recovery](#)

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