# Configure the ONTAP Mediator service for unplanned automatic switchover

ONTAP MetroCluster

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# Configure the ONTAP Mediator service for unplanned automatic switchover

## Prepare to install the ONTAP Mediator service

Your environment must meet certain requirements.

The following requirements apply to one disaster recovery group (DR group). Learn more about DR groups.

- If you plan on updating your Linux version, do so before you install the most current ONTAP Mediator service.
- The ONTAP Mediator service and MetroCluster Tiebreaker software should not both be used with the same MetroCluster configuration.
- The ONTAP Mediator must be installed on a LINUX host at a separate location from the MetroCluster sites.

  The connectivity between the ONTAP Mediator and each site must be two separate failure domains.
- The ONTAP Mediator service can support up to five MetroCluster configurations simultaneously.
- Automatic unplanned switchover is supported in ONTAP 9.7 and later.

### Network requirements for using Mediator in a MetroCluster configuration

To install the ONTAP Mediator service in a MetroCluster configuration, you must make sure that the configuration meets several network requirements.

- Latency

  Maximum latency of less than 75ms (RTT).

  Jitter must be no more than 5ms.
- MTU

  The MTU size must be at least 1400.
- Packet loss

  For both Internet Control Message Protocol (ICMP) and TCP traffic, packet loss must be less than 0.01%.
- Bandwidth

  The link between the Mediator service and one DR group must have at least 20Mbps of bandwidth.
- Independent connectivity

  Independent connectivity between each site and the ONTAP Mediator is required. A failure in one site must not interrupt the IP connectivity between the other two unaffected sites.

## Host requirements for the ONTAP Mediator in a MetroCluster configuration

You must ensure that the configuration meets several host requirements.

- ONTAP Mediator must be installed at an external site that is physically separated from the two ONTAP clusters.
- ONTAP Mediator supports a maximum number of five MetroCluster configurations.
- ONTAP Mediator does not require more than the host operating system's minimum requirements for CPU and memory (RAM).
- In addition to the host operating system's minimum requirements, at least 30GB of additional usable disk space must be available.
  - Each DR group requires up to 200MB of disk space.

## Firewall requirements for ONTAP Mediator

ONTAP Mediator uses a number of ports to communicate with specific services.

If you are using a third-party firewall:

- HTTPS access must be enabled.
- It must be configured to allow access on ports 31784 and 3260.

  When using the default Red Hat or CentOS firewall, the firewall is automatically configured during Mediator installation.

The following table lists the ports that you must allow in your firewall:

| Port/services | Source | Destination | Purpose |
|---|---|---|---|
| 31784/tcp | ONTAP cluster management interfaces | ONTAP Mediator web server | REST API (HTTPS) |
| 3260/tcp | ONTAP cluster | ONTAP Mediator iSCSI targets | iSCSI data connection for mailboxes |

## Guidelines for upgrading the ONTAP Mediator in a MetroCluster configuration

If you are upgrading the ONTAP Mediator you must meet the Linux version requirements and follow guidelines for the upgrade.

- The Mediator service can be upgraded from version from an immediately prior version to the current version.
- All Mediator versions are supported on MetroCluster IP configurations running ONTAP 9.7 or later.

Install or upgrade the ONTAP Mediator service

## After the upgrade

After the Mediator and operating system upgrade is complete, you should issue the `storage iscsi-`

`initiator show` command to confirm that the Mediator connections are up.

# Configure the ONTAP Mediator service from a MetroCluster IP configuration

The ONTAP Mediator service must be configured on the ONTAP node for use in a MetroCluster IP configuration.

**Before you begin**

- The ONTAP Mediator must have been successfully installed on a network location that can be reached by both MetroCluster sites.

  Install or upgrade the ONTAP Mediator service

- You must have the IP address of the host running the ONTAP Mediator service.
- You must have the username and password for the ONTAP Mediator service.
- All nodes of the MetroCluster IP configuration must be online.

**About this task**

- This task enables automatic unplanned switchover by default.
- This task can be performed on the ONTAP interface of any node in the MetroCluster IP configuration.
- A single installation of the ONTAP Mediator service can be configured with up to five MetroCluster IP configurations.

**Steps**

1. Add the ONTAP Mediator service to ONTAP:

   `metrocluster configuration-settings mediator add -mediator-address` *`ip-address-of-mediator-host`*

   You will be prompted for the username and password for the Mediator admin user account.

2. Verify that the automatic switchover feature in enabled:

   `metrocluster show`

3. Verify that the Mediator is now running.
   a. Show the Mediator virtual disks:

      `storage disk show -container-type mediator`

```
 cluster_A::> storage disk show -container-type mediator
                       Usable           Disk    Container
Container
 Disk                  Size Shelf Bay Type    Type        Name
Owner
 ---------------- ---------- ----- --- ------- ----------- ---------
--------
 NET-1.5                  -     -   - VMDISK  mediator    -
node_A_2
 NET-1.6                  -     -   - VMDISK  mediator    -
node_B_1
 NET-1.7                  -     -   - VMDISK  mediator    -
node_B_2
 NET-1.8                  -     -   - VMDISK  mediator    -
node_A_1
```

b. Set the privilege mode to advanced:

```
set advanced
```

```
 cluster_A::> set advanced
```

c. Display the initiators labelled as mediator:

```
storage iscsi-initiator show -label mediator
```

```
 cluster_A::*> storage iscsi-initiator show -label mediator
   (storage iscsi-initiator show)
  +
Status
 Node Type Label    Target Portal      Target Name
Admin/Op
 ---- ---- -------- ------------------
--------------------------------- --------
 node_A_1
      mailbox
           mediator 1.1.1.1       iqn.2012-
05.local:mailbox.target.6616cd3f-9ef1-11e9-aada-
00a098ccf5d8:a05e1ffb-9ef1-11e9-8f68- 00a098cbca9e:1 up/up
 node_A_2
      mailbox
           mediator 1.1.1.1       iqn.2012-
05.local:mailbox.target.6616cd3f-9ef1-11e9-aada-
00a098ccf5d8:a05e1ffb-9ef1-11e9-8f68-00a098cbca9e:1 up/up
```

# Unconfigure the ONTAP Mediator service from the MetroCluster IP configuration

You can unconfigure the ONTAP Mediator service from the MetroCluster IP configuration.

**Before you begin**

You must have successfully installed and configured the ONTAP Mediator on a network location that can be reached by both MetroCluster sites.

**About this task**

You must perform this task on both clusters in the MetroCluster IP configuration.

**Steps**

1. Unconfigure the ONTAP Mediator service by using the following command:

   `metrocluster configuration-settings mediator remove`

   a. Check if there are any broken disks by using the following command:

      `disk show -broken`

      **Example**

      ```
      There are no entries matching your query.
      ```

# Connecting a MetroCluster configuration to a different ONTAP Mediator instance

If you want to connect the MetroCluster nodes to a different ONTAP Mediator instance, you must unconfigure and then reconfigure the Mediator connection in the ONTAP software.

**Before you begin**

You need the username, password, and IP address of the new ONTAP Mediator instance.

**About this task**

These commands can be issued from any node in the MetroCluster configuration.

**Steps**

1. Remove the current ONTAP Mediator from the MetroCluster configuration:

   ```
   metrocluster configuration-settings mediator remove
   ```

2. Establish the new ONTAP Mediator connection to the MetroCluster configuration:

   ```
   metrocluster configuration-settings mediator add -mediator-address ip-address-of-mediator-host
   ```

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