



Master AP Failover and Electing a new Master

Cisco Mobility Express is supported on Cisco 1560, 1815I, 1815M, 1815W, 1830, 1850, 2800 and 3800 series Access Points. If you have a mix of these Access Points in a Cisco Mobility Express deployment, the Master AP election process determines which of the supported Access Point will be elected to run Mobility Express controller function in case of a Failover of the Active Master AP. VRRP is used to detect the failure of Master AP which initiates the election of a new Master.



Note Mobility Express uses MAC 00-00-5E-00-01-VRID where VRID is 1 so if there are other instances of VRRP running in the environment, use VRID other than 1 for those instances.

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Master AP Failover

To have redundancy in the Mobility Express network, it must have two or more Mobility Express capable Access Points. These Access Points should have AP Image type as MOBILITY EXPRESS IMAGE and AP Configuration as MOBILITY EXPRESS CAPABLE. In an event of a failure of Master AP, another Mobility Express capable AP is elected as a Master automatically. The newly elected Master AP has the same IP and configuration as the original Master AP.



Note Given Access Point models support different scale limits in terms of the number of Access Points supported, it is highly recommended to have at least two or more Access Points which support the same scale limits. For example, if you need to support scale of 100 Access Points, you should have at least two or more of either 3800, 2800 or a combination of both.



Note Access Points, which have the Mobility Express Image but **AP Configuration**, is **NOT MOBILITY EXPRESS CAPABLE**, will not participate in the Master AP election process.

Electing a new Master Access Point

Master election process is based on a set of priorities. When an active Master Access Point fails, the election process gets initiated and it elects the Access Point with the highest priority as the Master AP.



Note During the Master Election process, even though the Master AP running the controller function is down, the remaining Access Points will fall into Standalone mode and will continue to service connected clients and switch data traffic locally. After the new Master is elected, the Standalone Access points will move to connected mode.

As mentioned above, Master Access Point election is based on a set of priorities. The priorities are as follows:

Procedure

Step 1 **User Defined Master**—User can select an Access Point to be the Master Access Point. If such a selection is made, no new Master will be elected in case of a failure of the active Master. After five minutes, if the current Master is still not active, it will be assumed dead and Master Election will begin to elect a new Master. To manually define a Master, follow the procedure below:

- a) Navigate to **Wireless Settings > Access Points**.
- b) From the list of Access Points, click **Edit** icon of the Access Point which you would like to select as the Master AP.
- c) Under the **General** tab, click on **Make me Controller** button.
- d) Click **Yes** on the Confirmation window.

Note The previous Master will reboot and the selected Access Point will immediately launch the controller and become the active Master.

Step 2 **Next Preferred Master**—Admin can configure the **Next Preferred Master** UI and CLI. When this is configured and the active Master AP fails, the one configured as the **Next Preferred Master** will be elected as a Master. To configure the **Next Preferred Master**, follow the procedure below:

Note Only one **Next Preferred Master** can be configured on Cisco Mobility Express.

- a) Navigate to **Wireless Settings > Access Points**.
- b) Edit the AP which you would like to make it as a **Next Preferred Master**
- c) In the **Edit AP** window, enable the **Set as Preferred Master** toggle.
- d) Click **Apply**.

To configure the **Next Preferred Master** from the controller CLI, please follow the steps below:

To configure the Next Preferred Master, execute the following CLI:

```
(Cisco Controller) >config ap next-preferred-master <Cisco AP>
<Cisco AP> Enter the name of the Cisco AP
```

To see the Next Preferred Master, execute the following CLI:

```
(Cisco Controller) >show ap next-preferred-master
```

To clear the Next Preferred Master, execute the following CLI:

```
Cisco Controller) >clear ap next-preferred-master
```

Step 3 **Most Capable Access Point**– If the first two priorities are not configured, Master AP election algorithm will select the new Master based on the capability of the Access Point. For example, 3800 is the most capable followed by 2800, 1850, 1830 and finally the 1815 Series.

Note All 1815 Series Access Points have the same capability.

Step 4 **Least Client Load**– If there are multiple Access Points with the same capability i.e. multiple 3800 Access points, the one with least client load is elected as the Master Access Point.

Step 5 **Lowest MAC Address**–If all of the Access Points are the same and have the same client load, then Access Point with the lowest MAC will be elected as a Master.
