Multicast

Overview of multicast

AP supports multicast forwarding for Layer 2 and Layer 3 networks. You can configure multicast using either GUI or CLI. Multicast is a method of communication where data is sent from one source to multiple destinations simultaneously. Multicast transmissions can be point-to-multipoint or multipoint-to multipoint.

Note

- By default, only the multicast IP addresses specified below are forwarded across the URWB network.
- Multicast configuration is required only on mesh end devices.
- The multicast reserved IP address range is 224.0.0.0 to 239.255.255.255.

Reserved IP address range for multicast protocols

By default, multicast is enabled for these protocols within the specified IP address ranges:

Protocol	Reserved multicast IP address range
Universal plug and play (UPnP)	239.255.255.250
Open Shortest Path First (OSPF)	224.0.0.5 and 224.0.0.6
Internet Group Management Protocol (IGMP)	N/A

Advantages of multicast configuration

- It reduces the amount of bandwidth used by sending a single stream of data from one source to multiple destinations.

- It supports many devices without significantly increasing network load.
- It optimizes network performance for applications that require real-time data distribution.
- It maintains consistent quality by reducing the number of duplicate streams, helping to maintain consistent Quality of Service (QoS) for all recipient APs.

Configure multicast using GUI

Before you begin

- You can configure multicast only on the mesh end device.
- Ensure that you have a valid multicast group, netmask, and destination IP addresses.
- Ensure that you have a supported mesh end device to configure multicast.

Procedure

Step 1 Launch your computer's web browser and enter the URL to open the configurator login page.

Step 2 Enter your username and password in the respective **Username** and **Enable Password** fields.

Step 3 Click **Login**.
Once you have successfully logged into the GUI, the URWB configurator displays.

Step 4 In the **ADVANCED SETTINGS**, click **multicast** to open the **MULTICAST** window.

Step 5 In the **Add a new multicast route** section, enter these details:

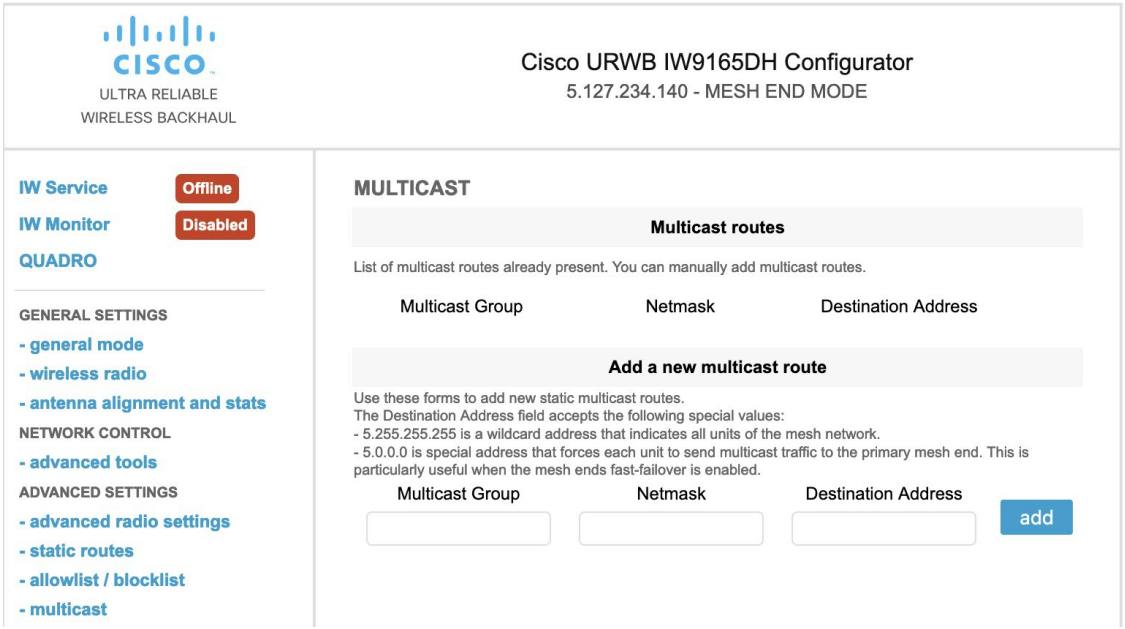
- Multicast IP address in the **Multicast Group** field.
- Netmask IP address in the **Netmask** field.
- Destination IP address in the **Destination Address** field.

Note
The **Destination Address** field accepts the following special values:

- 5.255.255.255 IP address in the **Destination Address** field: sends the data to all the mesh point devices over the mesh network. This is applicable only for the downstream data flow.
- 5.0.0.0 IP address in the **Destination Address** field: sends the data to the current primary mesh end device. This is useful, especially when the mesh end's fast failover is enabled. This is applicable only for the upstream data flow.

Tip
The netmask field allows you to specify block of multicast addresses. When you specify multiple multicast groups, the multicast IP address should reflect the network address for the group.

Step 6 Click **add**.
Once you have successfully added a rule, the new multicast route appears in the **Multicast routes** section.



Step 7 Click **Apply** to update the configuration.
AP reboots to apply the changes.

Configure multicast using CLI

Use the **configure multicast group add** *multicast-IP-address Netmask destination-IP-address* command to add the destination IP address.

Example:

```
Device#configure multicast group add 224.5.5.5 255.255.255.255 5.255.255.255
```

Note This configuration takes effect only after the reboot.

In Layer 3 mode, configure multicast rules on all mesh end devices and the global gateway. Use these different multicast IP addresses for upstream and downstream traffic:

- 224.5.5.5/5.0.0.0: sends the data to the current primary mesh end device. This is useful, especially when the mesh end's fast failover is enabled. This is applicable only for the upstream data flow.
- 224.5.5.6/5.255.255.255: sends the data to all the mesh point devices over the mesh network. This is applicable only for the downstream data flow.

Delete multicast using CLI

Use the **configure multicast group delete** *multicast IP-address Netmask meshID IP-address* command to delete the meshID IP address from the multicast group.

Example:

```
Device#configure multicast group delete 224.5.5.5 255.255.255.255 5.255.255.255
```

Note This configuration takes effect only after the reboot.

Verify multicast configuration using CLI

Use the **show multicast configuration** command to view the status of multicast configuration.

```
Device#show multicast configuration
Multicast Group 224.5.5.5/255.255.255.255
Destination Address 5.255.255.255
```