

# Configure Multicast to Unicast on Cisco Business Wireless Access Point

## Objective

The objective of this document is to show you how to configure multicast to unicast feature on your Cisco Business Wireless (CBW) Access Point (AP).

## Applicable Devices | Software Version

- Cisco Business Wireless 140AC Access Point | 10.6.1.0 ([Download latest](#))
- Cisco Business Wireless 145AC Access Point | 10.6.1.0 ([Download latest](#))
- Cisco Business Wireless 240AC Access Point | 10.6.1.0 ([Download latest](#))

## Introduction

If you have CBW gear in your network, you can now use the new multicast to unicast feature in firmware version 10.6.1.0! [Click if you would like step-by-step instructions on doing a firmware update.](#)

Multicast allows a host to send packets to a subset of all hosts as a group transmission. The multicast to unicast feature enables better usage of the wireless bandwidth by converting the multicast frame to a unicast frame over the air. This results in a more reliable multicast stream to wireless clients. Each media stream client acknowledges receiving a video IP multicast stream. This feature is also known as multicast direct.

Things to remember:

- Multicast uses IPv4 addresses in the range of 224.0.0.0 through 239.255.255.255.
- A multicast MAC address will always begin with 01:00:5e.
- The range from 0100.5e00.0000 through 0100.5e7f.ffff is the available range of Ethernet MAC addresses for IP multicast.

## Configure Multicast to Unicast

### Step 1

Login to the web user interface (UI) of the CBW AP.

# Cisco Business Wireless Access Point

Welcome! Please click the login button to enter your user name and password



## Step 2

Switch to expert view by clicking the **bi-directional arrow** icon.



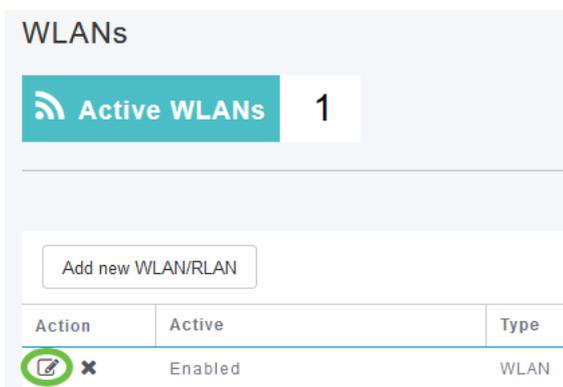
## Step 3

Navigate to **Wireless Settings > WLANs**.



## Step 4

Choose the WLAN on which you want to enable multicast to unicast feature and click **edit**.



## Step 5

Select the **Traffic Shaping** tab.

## Edit WLAN

General WLAN Security VLAN & Firewall **Traffic Shaping** Scheduling

### Step 6

From the QoS drop-down menu, select *Platinum* or *Gold*.



If QoS is set to *Silver* or *Bronze*, you will not be able to turn on the multicast direct toggle button in Step 8.

### Step 7

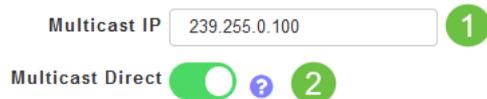
Navigate to **Advanced** tab.

## Edit WLAN

General WLAN Security VLAN & Firewall Traffic Shaping **Advanced** Scheduling

### Step 8

Enter the *Multicast IP* address and click the toggle to enable **Multicast Direct**.



When *Multicast Direct* toggle button is enabled, the multicast packets will be converted to unicast packets by the AP and will be sent to the clients. If it is disabled, the multicast packets will be directly sent to the wireless clients.

### Step 9

Click **Apply** to save the settings.

Multicast IP 239.255.0.100

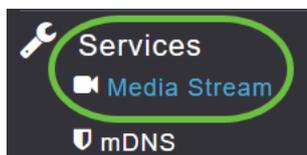
Multicast Direct  ?

Apply

Cancel

## Step 10

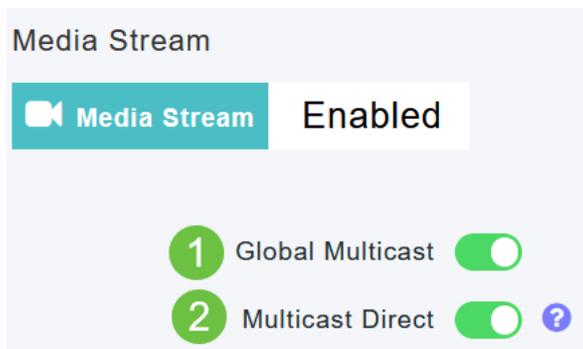
Once the WLAN is configured, navigate to **Services > Media Stream**.



*Services will only be visible under Expert View.*

## Step 11

Enable **Global Multicast** to support multicast traffic on Primary AP and **Multicast Direct** to enhance the video streaming for wireless clients. By default, both are disabled.



*Global Multicast cannot be enabled without configuring IPv4 multicast address in WLAN section. Enabling the Multicast Direct feature does not automatically reset the existing client state. The wireless clients must re-join the multicast stream after enabling the multicast direct feature on the Primary AP.*

## Step 12

(Optional)

You can enable the *Session Announcement State*. If this is enabled, clients are informed each time a Primary AP is not able to serve the multicast direct data to the client. Configure the Session Announcement parameters by entering the following:

- *Session Announcement URL* - Enter the URL where the client can find more information when an error occurs during the multicast media stream transmission.
- *Session Announcement Email* - Enter the email address of the person who can be contacted.
- *Session Announcement Phone* - Enter the phone number of the person who can be contacted.
- *Session Announcement Note* - Enter a note on why a particular client cannot be served with the multicast media.

Click **Apply**.

Session Announcement State

Session Announcement URL

Session Announcement Email

Session Announcement Phone

Session Announcement Note

**Apply**

### Step 13

To add a media stream, click **Add New Stream**.

**Add New Stream**

Action	Stream Name
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### Step 14

Configure the following parameters:

- *Stream Name* - Enter a name for the stream, which can be up to 64 characters.
- *Multicast Start IP Address* - Enter the start IPv4 address of the multicast media stream.
- *Multicast End IP Address* - Enter the end IPv4 address of the multicast media stream.
- *Maximum Expected Bandwidth (Kbps)* - Enter the maximum expected bandwidth that you want to assign to the media stream. The default is 500 with a range of 1 to 35000 kbps.
- *Select from Templates* - Choose one of the options from the drop-down list to specify the details about the resource reservation control:
  - *Very Coarse (below 300 kbps)*
  - *Coarse (below 500 kbps)*
  - *Ordinary (below 750 kbps)*
  - *Low (below 1 Mbps)*

- *Medium (below 3 Mbps)*
- *High (below 5 Mbps)*
- *Average Packet Size* - Default value is 1200 but can range from 100 to 1500 bytes.
- *RRC Periodic Update* - Default option is enabled. RRC periodically updates the admission decision on the admitted stream according to the correct channel load. As a result, it may deny certain low priority admitted stream requests.
- *RRC Priority* - Used to specify the priority bit set in the media stream. The priority can be any number between 1 and 8. The larger the value, higher the priority. For example, a priority of 1 is the lowest value and a value of 8 is the highest value. The default priority is 4. The low priority stream may be denied in the RRC periodic update.
- *Traffic Profile Violation* - Used to specify the action to perform in case of a violation after a re-RRC. Select one of the two options from the drop-down menu:
  - *Best Effort* - This is the default value. Specifies that a stream is set to Best Effort class on periodic reevaluation.
  - *Drop* - Specifies that a stream is dropped on periodic reevaluation

Click the **Update** button.

Add Media Stream

**Stream Name**

**Multicast Start IP Address**

**Multicast End IP Address**

**Maximum Expected Bandwidth (Kbps)**  ? 1

---

**Resource Reservation Control (RRC) Parameters**

**Select From Templates**  ▼

**Average Packet Size**  ?

**RRC Periodic Update**

**RRC Priority**  ?

**Traffic Profile Violation**  ▼

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## Viewing Media Stream Clients

To see which client systems are connecting to the stream and if multicast direct is enabled, navigate to **Services > Media Stream**. Scroll down to *Media Stream Clients* section.

Services 1  
 Media Stream 2  
 mDNS  
 Umbrella  
 Advanced

Apply

Add New Stream

Action	Stream Name	Start IP Address	End IP Address	Operation Status																								
<p>Media Stream Clients</p> <table border="1"> <thead> <tr> <th>Client MAC</th> <th>Stream Name</th> <th>Multicast IP</th> <th>AP Name</th> <th>VLAN</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>34:7d</td> <td>Training</td> <td>239.255.0.1</td> <td>AP6C41.0E22.009C</td> <td>1</td> <td>Multicast Direct</td> </tr> <tr> <td>3c:2d</td> <td>Training</td> <td>239.255.0.1</td> <td>AP6C41.0E22.009C</td> <td>1</td> <td>Multicast Direct</td> </tr> <tr> <td>b2:9e</td> <td>Training</td> <td>239.255.0.1</td> <td>AP6C41.0E22.009C</td> <td>1</td> <td>Multicast Direct</td> </tr> </tbody> </table>					Client MAC	Stream Name	Multicast IP	AP Name	VLAN	Type	34:7d	Training	239.255.0.1	AP6C41.0E22.009C	1	Multicast Direct	3c:2d	Training	239.255.0.1	AP6C41.0E22.009C	1	Multicast Direct	b2:9e	Training	239.255.0.1	AP6C41.0E22.009C	1	Multicast Direct
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10 items per page

In this example, three wireless clients are connected to the multicast stream and all three are using multicast direct.

Client MAC	Stream Name	Multicast IP	AP Name	VLAN	Type
34:7d	Training	239.255.0.1	AP6C41.0E22.009C	1	Multicast Direct
3c:2d	Training	239.255.0.1	AP6C41.0E22.009C	1	Multicast Direct
b2:9e	Training	239.255.0.1	AP6C41.0E22.009C	1	Multicast Direct

## Conclusion

There you go! You have now successfully configured multicast to unicast feature on your CBW AP.