Multicast Configuration

Multicast Forwarding Mode

You must enable the capwap multicast forwarding mode as multicast even if the multicast forwarding is not enabled. This mode is called Multicast Multicast (MCMC). To use this mode, you must configure a multicast group on your controller. Each AP connected to the controller subscribes to this multicast group, and can receive the multicast flow. You can enable MCMC and configure the multicast group with this command:

```
WLC5760(config)#ap capwap multicast 239.3.3.3
```

- The multicast address is used by the controller in order to forward traffic to access points. It is important that it does not match another address in use on your network by other protocols. For example, if you use 224.0.0.251, it breaks mDNS used by some third party applications. It is recommended that the address be in the private range (239.0.0.0-239.255.255.255, which does not include 239.0.0.x and 239.128.0.x.). It is also important that the multicast IP address be set to a different value on each WLC. You do not want a WLC that speaks to its access points to reach the APs of another WLC.
- If the access points are on a different subnet than the one used on the management interface, your network infrastructure must provide multicast routing between the management interface subnet and the AP subnet.

Note Do not enable wireless multicast unless it is needed. You might need to enable multicast forwarding in certain networks with heavy multicast application such as Video Streaming, or Bonjour without mDNS proxy and with large IPV6 client counts.

This is how to configure multicast forwarding on the WLC:

```
WLC5760(config)#wireless multicast
```

This is how to verify the multicast configuration:

```
WLC5760#show wireless multicast
Multicast                                : Enabled
mDNS                                     : Disabled
AP Capwap Multicast                      : Multicast
AP Capwap Multicast group Address        : 239.3.3.3
AP Capwap Multicast QoS Policy Name      : unknown
AP Capwap Multicast QoS Policy State     : None
Wireless Broadcast                       : Disabled
```

```
Wireless Multicast non-ip-mcast         : Disabled


Vlan        Non-ip-mcast     Broadcast        MGID
-----------------------------------------------------
1           Enabled          Enabled          Disabled
5           Enabled          Enabled          Disabled
10          Enabled          Enabled          Enabled
```

You can revert to the default MCUC mode with the no form in this command:

(config)#no ap capwap multicast

Just like the legacy solution, multicast groups are created on a VLAN basis. For example, if your WLAN is mapped to VLAN 100, and if a client requests multicast traffic from that WLAN, the controller creates a multicast group identifier (MGID) which maps the multicast source, the multicast address, and the VLAN - in this example, VLAN 100. This is true regardless of the client VLAN in the WLAN.

Multicast VLAN Feature

This example creates two interfaces, and then an interface group maps the two VLANs together:

```
(config)#interface vlan 19
(config-if)#ip address 10.10.19.1 255.255.255.0
(config)#interface vlan 21
(config-if)#ip address 10.10.21.1 255.255.255.0
(config)#vlan group Group19to21 vlan-list 19,21
```

These commands create a WLAN, and map this WLAN to the VLAN group:

```
(config)#wlan open19 4 open19
(config-wlan)# client vlan Group19to21
(config-wlan)#
```

Use the IP Multicast VLAN command that maps multicast traffic to a specific VLAN:

```
(config-wlan)# ip multicast vlan 21
```

The controller uses the VLAN 21 interface to handle multicast traffic for that WLAN.

Note Once multicast forwarding is configured on the controller, you must also configure your infrastructure for multicast support.

Note WLC5760 uses IGMP v2. There is no option for the end user to change it.

Broadcast Forwarding

Similar to multicast forwarding, broadcast forwarding is disabled by default (broadcast packets received by the controller are not forwarded to wireless clients). Broadcast forwarding is enabled on a per VLAN basis. You can enable broadcast forwarding for a specific VLAN with this general command:

```
(config)#wireless broadcast vlan 21
```

You can also enable broadcast forwarding for all VLANs, if you do not identify a specific VLAN:

```
(config)#wireless broadcast
```

Then, you can restrict the command by disabling broadcast forwarding for some VLANs:

```
(config)#no wireless broadcast vlan 20
```

Configuration Verification

You can verify multicast in a number of ways. From the controller component, you can display the multicast status, ap multicast mode, and each VLAN's broadcast/non-ip multicast status:

```
#show wireless multicast
```

You can display all (S, G, and V) and the corresponding MGID value:

```
#show wireless multicast group summary
#show ip igmp snooping
# show ip igmp snooping wireless mgid
```

All of these commands are also available for IPv6 MLD monitoring. You must use the ipv6 keyword instead of ip, and mld instead of igmp:

```
show ipv6 mld snooping, show ipv6 mld snooping wireless mgid
```

You can also see all the multicast groups and their active interfaces:

```
#show ip igmp groups
```

To see which IGMP version is used and the port associated to the group, use this command:

```
#show ip igmp snooping groups
```