QoS Basic Service Set Load

Information About QoS Basic Set Service Load

The QoS Basic Set Service (QBSS) information element (IE) knob is a per-WLAN configuration that is configured to include or exclude the QBSS IE, which is sent in beacon frames and probe responses. QBSS IE advertises the channel load information of an AP. The QBSS IE functionality is enabled by default.

Until Cisco IOS XE Amsterdam 17.1.1s, the enablement of Wi-Fi Multimedia (WMM) automatically enabled the QBSS load advertisement in the probes and beacons and there was no separate knob to turn on QBSS load IE. However, from Cisco IOS XE Amsterdam 17.2.1, this behavior has changed with the introduction of a separate configuration knob.

Until Cisco IOS XE Amsterdam 17.1.1s:

- When WMM was enabled on WLAN, QBSS load was advertised in the beacon and probe frames.

- When WMM was disabled on WLAN, QBSS IE was not advertised in the beacon and probe frames.

From Cisco IOS XE Amsterdam 17.2.1,

- When you enable WMM and QBSS ID on WLAN, QBSS IE is advertised in the beacon and probe frames.

- When you enable WMM on WLAN and disable QBSS load IE on WLAN, QBSS load is not advertised in the beacon and probe frames.

- When you disable WMM on WLAN and enable QBSS load IE on WLAN, QBSS IE is advertised in the beacon and probe frames.

Note By default, QBSS load IE is enabled. The behavior can be configured on policy profile.

Configuring QBSS Load

The following sections contain information about the various configurations that comprise the configuration of QoS basic service set load.

Configuring Wi-Fi Multimedia

Perform the procedure given below to create a WLAN and then enable WMM.

Procedure

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**wlan** *profile-name wlan-id* [*ssid*] **Example:** `Device(config)# wlan mywlan 34 mywlan-ssid`	Specifies the WLAN name and ID: • *profile-name*: Profile name of the WLAN. You can use between 1 to 32 alphanumeric characters. • *wlan-id*: WLAN ID. You can use between 1 to 512 alphanumeric characters. • *ssid*: Service Set Identifier (SSID) for this WLAN. If the SSID is not specified, the WLAN profile name is set as the SSID. **Note**　　　By default, the WLAN is disabled.
Step 3	**no security wpa wpa2 ciphers aes** **Example:** `Device(config-wlan)# no security wpa wpa2 ciphers aes`	Disables WPA2 ciphers for Advanced Encryption Standard (AES).
Step 4	**no security wpa akm dot1x** **Example:** `Device(config-wlan)# no security wpa akm dot1x`	Disables security AKM for dot1x.
Step 5	**wmm**　{**allowed** | **require**} **Example:** `Device(config-wlan)#wmm allowed`	Configures WMM and allows WMM on the WLAN.
Step 6	**no shutdown** **Example:**	Enables WLAN.

Command or Action	Purpose
`Device(config-wlan)#no shutdown`	

Enabling QoS Basic Set Service Load

Perform the procedure given below to enable QBSS load.

Procedure

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

Step 2	**wireless profile policy** *profile-policy*
	
	Example:
	
	`Device(config)# wireless profile policy`
	`rr-xyz-policy-1`
		Configures WLAN policy profile and enters wireless policy configuration mode.

Step 3	**vlan** *vlan-id* **Example:** `Device(config-wireless-policy)# vlan 24`	Configures VLAN name or VLAN ID.

Step 4	**[no] qbss-load**
	
	Example:
	
	`Device(config-wireless-policy)#[no]`
	`qbss-load`
		Enables QoS enhanced basic service set information element. (Use the **no** form of this command to disable the feature.)

Step 5	**no shutdown**
	
	Example:
	
	`Device(config-wireless-policy)# no`
	`shutdown`
		Saves the configuration and exits configuration mode and returns to privileged EXEC mode.

What to do next

1. Create a policy tag. For more information about creating policy tags, refer to *Configuring a Policy Tag (CLI)*.

2. Map the policy tag to the AP. For more information about mapping a policy tag to the AP, refer to *Attaching a Policy Tag and Site Tag to an AP (CLI)*.

Verifying QoS Basic Set Service Load

To verify if QBSS load is enabled, use the **show wireless profile policy detailed** *named-policy-profile* command:

```
Device# show wireless profile policy detailed named-policy-profileshow wireless profile
 policy detailed named-policy-profile
Policy Profile Name              : named-policy-profile
Description                      :
Status                          : ENABLED
VLAN                            : 91
Multicast VLAN                  : 0
OSEN client VLAN                :
Multicast Filter                : DISABLED
QBSS Load                       : ENABLED
Passive Client                  : DISABLED
ET-Analytics                    : DISABLED
StaticIP Mobility               : DISABLED
WLAN Switching Policy
  Flex Central Switching         : ENABLED
  Flex Central Authentication    : ENABLED
  Flex Central DHCP              : ENABLED
  Flex NAT PAT                   : DISABLED
  Flex Central Assoc             : ENABLED
```