



QoS Basic Service Set Load

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QoS basic set service load

A QoS Basic Set Service (QBSS) information element (IE) knob is a per-WLAN configuration feature that

- controls the inclusion or exclusion of the QBSS IE in beacon frames and probe responses
- advertises channel load information of an AP through the QBSS IE, and
- is enabled by default to provide QoS load information to wireless clients.

QBSS load behavior changes

The relationship between WMM and QBSS load advertisement has evolved across Cisco IOS XE releases.

Until Cisco IOS XE 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 17.2.1, this behavior has changed with the introduction of a separate configuration knob.

The behavior until Cisco IOS XE 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.

The behavior from Cisco IOS XE 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.

Configure Wi-Fi multimedia (CLI)

Enable Wi-Fi Multimedia (WMM) on a WLAN to provide quality of service features for multimedia applications.

Create a WLAN and then enable WMM to prioritize multimedia traffic and improve network performance for applications that require specific bandwidth or latency requirements.

Procedure

Step 1 Enter global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Specify the WLAN name and ID.

Example:

```
Device(config)# wlan profile-name wlan-id ssid
```

Example:

```
Device(config)# wlan mywlan 34 mywlan-ssid
```

Where:

- *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 Disable WPA2 ciphers for Advanced Encryption Standard (AES).

Example:

```
Device(config-wlan)# no security wpa wpa2 ciphers aes
```

Step 4 Disable security AKM for dot1x.

Example:

```
Device(config-wlan)# no security wpa akm dot1x
```

Step 5 Configure WMM and allow WMM on the WLAN.

Example:

```
Device(config-wlan)# wmm allowed
```

Step 6 Enable WLAN.

Example:

```
Device(config-wlan)# no shutdown
```

WMM is now enabled on the WLAN, providing quality of service features for multimedia traffic prioritization.

Enable QoS basic set service load (CLI)

Enable QBSS load to provide QoS enhanced basic service set information element functionality on the WLAN.

QBSS load enables the transmission of enhanced QoS information elements that help optimize wireless network performance. Perform this procedure to enable QBSS load on a wireless policy profile.

Procedure

Step 1 Enter global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure WLAN policy profile and enter wireless policy configuration mode.

Example:

```
Device(config)# wireless profile policy profile-policy
```

Example:

```
Device(config)# wireless profile policy rr-xyz-policy-1
```

Step 3 Configure VLAN name or VLAN ID.

Example:

```
Device(config-wireless-policy)# vlan vlan-id
```

Example:

```
Device(config-wireless-policy)# vlan 24
```

Step 4 Enable QoS enhanced basic service set information element.

Example:

```
Device(config-wireless-policy)# qbss-load
```

Use the **no** form of this command to disable the feature.

Step 5 Save the configuration and exit configuration mode.

Example:

```
Device(config-wireless-policy)# no shutdown
```

QoS basic set service load is now enabled on the wireless policy profile. The configuration is saved and you have returned 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)*.

QoS basic set service load verification

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-profile
show 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
```