

Configure Quality of Service (QoS) Settings on the WAP125

Objective

Quality of Service (QoS) is mainly used to improve the network performance by providing the desired services for the users. It prioritizes the traffic flow based on the type of traffic for enhanced throughput. QoS can be applied to prioritize traffic for latency-sensitive applications such as voice or video, and to control the impact of non-latency-sensitive traffic like bulk data transfers.

Configuring quality of service improves connectivity for a client device while maximizing the performance of the network

This article aims to show how to configure QoS on a WAP125 access point.

Applicable Devices

- WAP125

Software Version

- 1.0.0.3

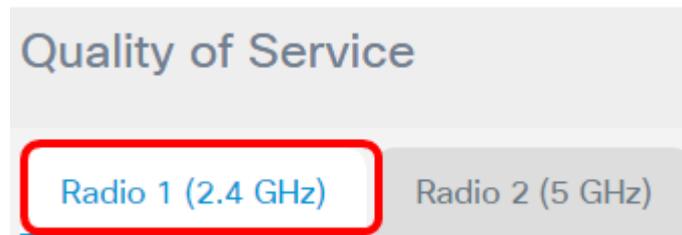
Configure Quality of Service

Step 1. Log in to the web-based utility of the WAP125 and choose **Wireless > QoS**.



Step 2. Choose the radio interface. The options are:

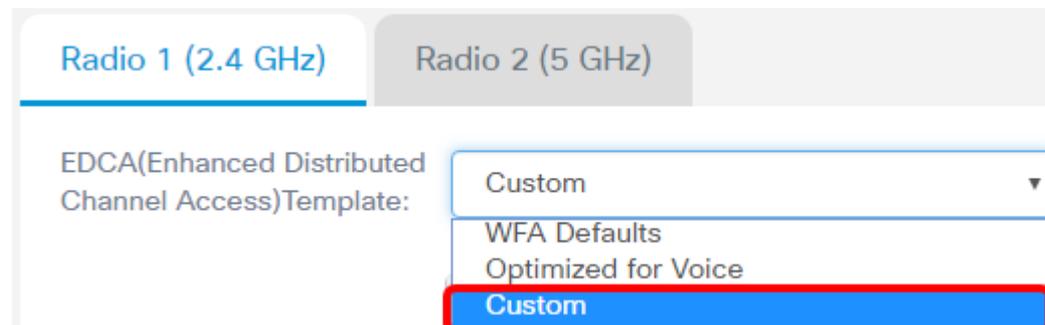
- Radio 1 (2.4 GHz) — This option implements QoS on Radio 1 of the WAP125.
- Radio 2 (5 GHz) — This option implements QoS on Radio 2 of the WAP125.



Note: In this example, Radio 1 (2.4 GHz) is chosen. The steps stated in this article can also be applied to Radio 2 (5 GHz).

Step 3. Choose an Enhanced Distributed Channel Access (EDCA) Template from the drop-down list. The options are:

- WFA Defaults — This option automatically populates the EDCA parameters with Wi-Fi Alliance (WFA) default values. This setting is the best setting for general, mixed traffic. If this option is chosen, proceed to [Step 13](#).
- Optimized for Voice — This option automatically populates the EDCA parameters with values that are best for voice traffic. If this option is chosen, proceed to [Step 13](#).
- Custom — This option allows you to implement your own EDCA parameters.



Note: In this example, Custom is chosen.

Step 4. Enter a value in the *Arbitration Inter-Frame Space* field for Data 0 (Voice). Arbitration Inter-Frame Space (AIFS) is the wait time for the data frames. This can be from 1 to 255. Data 0 (Voice) is a queue for time-sensitive video data, which is automatically sent to this queue. It is also a high priority queue with minimum delay.

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	<input type="text" value="1"/>	<input type="text" value="3"/>	<input type="text" value="7"/>	<input type="text" value="1.5"/>
Data 1 (Video)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="3.0"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/>	<input type="text" value="63"/>	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="1023"/>	<input type="text" value="0"/>

Note: In this example, 1 is used.

Step 5. Choose a minimum contention window setting from the Minimum Contention Window drop-down list. The options are 1, 3, 7, 15, 31, 63, 127, 255, 511, or 1023. The value on this field must be lower than the value for the Maximum Contention Window. The Minimum Contention Window determines the window for a retry in case of a transmission failure.

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="1.5"/>
Data 1 (Video)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="3.0"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/>	<input type="text" value="63"/>	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="1023"/>	<input type="text" value="1023"/>	<input type="text" value="0"/>

Note: In this example, 7 is chosen.

Step 6. Choose a maximum contention window setting from the Maximum Contention Window drop-down list. The options are 1, 3, 7, 15, 31, 63, 127, 255, 511, or 1023. The value on this field must be higher than the value for the Maximum Contention Window. The Maximum Contention Window is the upper limit for the doubling of the random back off value.

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="1.5"/>
Data 1 (Video)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="3.0"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/>	<input type="text" value="31"/>	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="255"/>	<input type="text" value="0"/>

Note: In this example, 15 is chosen.

Step 7. Enter a maximum burst value in the *Maximum Burst* field. This applies only to traffic flowing from the WAP to the client station. It specifies the maximum burst length in milliseconds allowed for packet bursts on a wireless network. Valid values are 0.0 to 999.

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="2.6"/>
Data 1 (Video)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="3.0"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/>	<input type="text" value="63"/>	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="1023"/>	<input type="text" value="0"/>

Note: In this example, 2.6 is entered.

Step 8. Perform Step 4 to Step 7 for Data 1 (Video), Data 2 (Best Effort), and Data 3 (Background).

Step 9. (Optional) Verify that the **Enable** Wi-Fi Multimedia (WMM) check box is checked. This option is checked by default. When WMM is enabled, QoS prioritization and coordination of wireless medium access is on. With WMM enabled, QoS settings on the WAP device control downstream traffic flowing from the WAP device to client station and the upstream traffic flowing from the station to the AP.

Wi-Fi Multimedia (WMM) Enable

Station EDCA	
Queue	Arbitration Inter-Frame Space

Note: In this example, Wi-Fi Multimedia (WMM) is checked.

Step 10. Perform Step 4 to Step 7 for Data 0 (Voice), Data 1 (Video), Data 2 (Best Effort), and Data 3 (Background) for the Station EDCA area.

Station EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	TXOP Limit
Data 0 (Voice)	<input type="text" value="2"/>	<input type="text" value="3"/> ▼	<input type="text" value="7"/> ▼	<input type="text" value="47"/>
Data 1 (Video)	<input type="text" value="2"/>	<input type="text" value="7"/> ▼	<input type="text" value="15"/> ▼	<input type="text" value="94"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/> ▼	<input type="text" value="1023"/> ▼	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="15"/> ▼	<input type="text" value="1023"/> ▼	<input type="text" value="0"/>

Step 11. (Optional) Check the No Acknowledgement **Enable** check box to specify that the WAP device should not acknowledge frames with QoSNoAck as service class value.

No Acknowledgement: Enable

Unscheduled Automatic Power Save Delivery: Enable

Note: In this example, No Acknowledgement is checked.

Step 12. (Optional) Check the Unscheduled Automatic Power Save Delivery (APSD) **Enable** check box. This is recommended if VoIP phones connect to the network through the WAP device.

No Acknowledgement: Enable

Unscheduled Automatic Power Save Delivery: Enable

Step 13. Click **Save**.



Quality of Service

Save

Radio 1 (2.4 GHz)

Radio 2 (5 GHz)

EDCA(Enhanced Distributed Channel Access)Template:

Custom

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	1	7	15	2.6
Data 1 (Video)	1	7	15	3.0
Data 2 (Best Effort)	3	15	63	0
Data 3 (Background)	7	15	1023	0

Wi-Fi Multimedia (WMM): Enable

Station EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	TXOP Limit
Data 0 (Voice)	2	3	7	47
Data 1 (Video)	2	7	15	94
Data 2 (Best Effort)	3	15	1023	0
Data 3 (Background)	7	15	1023	0

No Acknowledgement: Enable

Unscheduled Automatic Power Save Delivery: Enable

You should now have successfully configured the QoS parameters of your WAP125.