Configuring Optimized Roaming

Information About Optimized Roaming

Optimized roaming resolves the problem of sticky clients that remain associated to access points that are far away and outbound clients that attempt to connect to a Wi-Fi network without having a stable connection. This feature disassociates clients based on the RSSI of the client data packets and data rate. The client is disassociated if the RSSI alarm condition is met and the current data rate of the client is lower than the optimized roaming data rate threshold. You can disable the data rate option so that only RSSI is used for disassociating clients.

Optimized roaming also prevents client association when the client's RSSI is low. This feature checks the RSSI of the incoming client against the RSSI threshold. This check prevents the clients from connecting to a Wi-Fi network unless the client has a viable connection. In many scenarios, even though clients can hear beacons and connect to a Wi-Fi network, the signal might not be strong enough to support a stable connection.

You can also configure the client coverage reporting interval for a radio by using optimized roaming. The client coverage statistics include data packet RSSIs, Coverage Hole Detection and Mitigation (CHDM) prealarm failures, retransmission requests, and current data rates.

Optimized roaming is useful in the following scenarios:

- Addresses the sticky client challenge by proactively disconnecting clients.

- Actively monitors data RSSI packets.

- Disassociates client when the RSSI is lower than the set threshold.

Restrictions for Optimized Roaming

- You cannot configure the optimized roaming interval until you disable the 802.11a/b network.

- When basic service set (*BSS*) transition is sent 802.11v-capable clients, and if the clients are not transitioned to other BSS before the disconnect timer expires, the corresponding client is disconnected forcefully. BSS transition is enabled by default for 802.11v-capable clients.

Configuring Optimized Roaming (CLI)

Procedure

	Command or Action	Purpose
Step 1	**ap dot11 5ghz rrm optimized-roam** **Example:** `Device(config)# ap dot11 5ghz rrm optimized-roam`	Configures 802.11a or 802.11b optimized roaming. By default, optimized roaming is disabled.
Step 2	**ap dot11 5ghz rrm optimized-roam reporting-interval** *interval-seconds* **Example:**	Configures the client coverage reporting interval for 802.11a or 802.11b networks.
Step 3	Configure the client coverage reporting interval for 802.11a networks by entering this command:	**ap dot11 5ghz rrm optimized-roam reporting-interval** *interval-seconds* The range is from 5 to 90 seconds. The default value is 90 seconds. **Note** — You must disable the 802.11a network before you configure the optimized roaming reporting interval. The access point sends the client statistics to the controller based on the following conditions: • When the **reporting-interval** *interval-seconds* is set to 90 seconds by default. • When the **reporting-interval** *interval-seconds* is configured (for instance to 10 secs) only during optimized roaming failure due to the Coverage Hole Detection (CHD) RED ALARM.
Step 4	Configure the threshold data rate for 802.11a networks by entering this command:	**ap dot11 5ghz rrm optimized-roam data-rate-threshold** *mbps* For 802.11a, the configurable data rates are 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54. You can configure DISABLE to disable the data rate.
Step 5	View information about optimized roaming for each band by entering this command:	**show ap dot11 5ghz optimized-roaming**

	Command or Action	Purpose
		```(Cisco Controller) > show ap dot11 5ghz optimized-roaming 802.11a OptimizedRoaming Mode : Disabled Reporting Interval : 90 seconds Rate Threshold : Disabled Hysteresis : 6 db ```
Step 6	View information about optimized roaming statistics by entering this command:	**show ap dot11 5ghz optimized-roaming statistics** ```(Cisco Controller) > show ap dot11 5ghz optimized-roaming statistics 802.11a OptimizedRoaming statistics Disassociations : 0 Rejections : 0 ```