RUCKUS One Online Help (index.html)

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Sticky Client Steering

Sticky Client Steering improves Wi-Fi performance by redirecting clients with poor Signal-to-Noise Ratio (SNR) to more optimal APs.

Feature Overview

The Sticky Client Steering Configuration feature uses Adaptive Client Load Balancing (ACLB) that collects statistics from the client and neighboring APs to make an informed decision to direct the client to roam to a better AP in the following manner:

- Enables you to configure Load Balancing at the venue level (disabled by default)
- Enables you to configure Sticky Client Steering and configures the SNR Threshold and Neighbor AP fields at the venue and AP levels

The purpose of the Sticky Client Steering is to identify the sticky clients and assist them in transitioning to a better AP. The Sticky Client Steering algorithm monitors the received SNR from the client. When the SNR drops below the configured threshold value, the client steering process scans the neighboring APs that can provide better service to the client. A BSS Transition Management (BTM) Request frame is sent to the clients that support BTM. Depending on each client's response, the algorithm will take additional steps to transition the client, which may include disconnecting any client that does not support BTM and reinforcing scanning and finding a neighboring AP with a better service potential.

Based on IEEE 802.11k, the AP uses the beacon report response to check the SNR of the servicing AP as seen by the client. If the SNR of an AP exceeds the threshold set, then the AP is classified as a Neighbor AP.

Following are the benefits:

- Enhanced user experience and dynamic adjustments: Automatically steers clients to APs with

better SNR based on real-time conditions.

- Optimized network performance: Ensures a balanced load across APs, preventing any single AP from becoming overloaded.

Requirements

- Sticky Client Steering configuration at the AP level is supported only for AP firmware 7.0.0.300 and later versions.
- Ensure that Load Balancing is enabled at the venue level to configure Sticky Client Steering at the venue and AP levels.
- Ensure Background Scanning is enabled to maintain accurate data on neighboring APs and their available capacities.

Considerations

- By default, the AP-level Sticky Client Steering setting uses the venue-level configuration. You can customize the Sticky Client Steering setting per AP if Load Balancing is enabled at the venue level.
- If Sticky Client Steering is enabled at the venue and AP levels, the SmartRoam feature (can only be configured using AP CLI) is disabled.
- If the AP does not support the required firmware version to configure AP Sticky Client Steering, RUCKUS One returns an error and the preconfigured venue-level settings are retained.
- At the venue level, the Sticky Client Steering setting is not visible unless Load Balancing is enabled.
- If the AP does not support the Sticky Client Steering feature, then this setting is greyed out and disabled in the AP-level setting.
- If you disable Load Balancing at the venue level, the AP Sticky Client Steering configured at the AP level under that venue will be disabled.
- When an AP is moved to another venue, the AP-level Sticky Client Steering configuration will reset to venue-level settings.

Best Practices

Consider the following best practices to configure Sticky Client Steering:

- Set Appropriate Signal Thresholds: Start with the default SNR threshold values. In environments with high interference or dense AP deployments, you might need to increase the SNR threshold.
- Monitor Client Device Behavior: Regularly monitor the behavior of client devices to understand their roaming patterns and adjust the steering settings accordingly. This can help in fine-tuning the settings to match the specific environment and client device types.
- Adjust AP Power Levels: Ensure that the transmit power levels of APs are set appropriately. Too

high-power levels can cause client devices to stick to an AP even when a better option is available. Balancing the power levels can encourage smoother transitions between APs.

- Test and Optimize: Start with conservative settings for steering thresholds and gradually adjust them based on observed performance. Testing in a controlled environment can help identify the optimal settings before deploying them network-wide.
- Consider Client Device Capabilities: Be aware of the capabilities and limitations of the client devices in your network. Some devices may not support certain steering mechanisms, so it's important to configure settings that are compatible with most devices.

Prerequisites

- Enable Load Balancing at the venue level
- Upgrade the AP to the supported firmware version to configure AP Sticky Client Steering

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