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Airtime Decongestion

Airtime Decongestion enhances Wi-Fi management traffic by minimizing the amount of airtime consumed by management traffic, thus freeing up more time for actual data traffic.

Feature Overview

Airtime Decongestion is designed to reduce congestion and improve overall network performance by minimizing the amount of management traffic. In a WLAN, only one data packet can be transmitted at a time, and it consumes a certain amount of the available airtime. Hence, by reducing the volume of management traffic, more airtime is available for actual data transmission, resulting in a more efficient and reliable network. Airtime Decongestion is best enabled in high-density environments where the volume of management traffic can significantly impact network performance. The following techniques are employed to manage and reduce the competition among multiple devices for the same wireless channel, leading to improved network performance:

- Null Probe Requests: Special probe requests that do not contain any SSID information. Airtime Decongestion ignores null probe requests, which are often unnecessary and can contribute to network congestion.
- RSSI Threshold: The feature disregards probe requests from stations with very low Received Signal Strength Indicator (RSSI), ensuring that only devices with a sufficiently strong signal are considered for connection.
- Retry Reduction: The feature reduces the number of retries when waiting for a wireless client to connect after a probe response has been sent. This minimizes the time and resources spent attempting to connect to devices that may not respond promptly.

Following are the benefits:

- Better user experience: Minimizes delays and interruptions, providing smoother and more reliable connectivity for users.
- Improved network efficiency and performance: Ensures that all devices get a fair share of airtime, reducing bottlenecks and maximizing throughput, leading to faster and stable connections.

Requirements

This feature has no special hardware or software requirements for feature enablement or usage.

Considerations

- Enabling Airtime Decongestion disables the Join RSSI Threshold configuration.
- You can access the Airtime Decongestion setting in the RUCKUS One web interface from the Wi-Fi > (and then)Wi-Fi Networks > (and then)Wi-Fi Network List > (and then)Create/Edit Wi-Fi Network > (and then)Show more settings > (and then)Networking sub-tab.

Best Practices

Following are the best practices:

- Optimize placement of APs to ensure even coverage and reduce interference.
- Regularly monitor network performance and adjust configurations as needed.

Prerequisites

Before enabling Airtime Decongestion, ensure that Background Scan is enabled. This is necessary for the feature to function correctly and optimize the network effectively.

Note:
Airtime Decongestion Overview. This video provides a brief overview of Airtime Decongestion.