



HPE Aruba Networking Central and AIOps

Solving passerby AP performance problems in retail





Not every connection is a customer

People often sit in front of a retail store and surf the Internet while waiting for friends or family that are inside doing some shopping. Or they may be leveraging a business's Wi-Fi to do some actual work. Either way, these connections put a drain on the network. For businesses in high traffic areas, this can be the source of network performance issues that are inadvertently causing issues that customers and employees alike are complaining about.

Not all stores are the same

When the networking team planned for access points near the entrance and the windows, they probably didn't plan on what is called, passerby traffic. During a design phase, coverage of the inside of the store is the main concern. Aisles are blanketed, and Point of Sale (PoS) devices and guest access are the biggest points of contention. What could possibly go wrong? Often times, problems start with using a common configuration for each store.

The effects of heavy foot traffic, or people sitting in parking spaces nearby is an afterthought. But when the configuration on access points make it easy to establish a connection on the outside of the store it causes issues that hamper the customer experience. Unfortunately, when the Help Desk calls start rolling in due to bandwidth and performance problems, the IT team is busy or can't go onsite to investigate.

HPE Aruba Networking Central with AIOps is here to help

What if your network solution identified the issue for you and provided the action to take?

You save time diagnosing and solving hard to find problems that are often intermittent, and even preempt issues before the network's performance suffers or users notice. Data is collected from every wireless access point across all your stores and our models identify where there's signal-to-noise (SNR) issues being experienced by endpoints. When problems arise, built-in insights that pinpoint root causes or "reasons" for why problems are happening are automatically provided for each site experiencing the issue.

Peer comparisons are what really differentiates us from other networking vendors. Actions to take are based on your configuration across "like" stores experiencing the same problem. That way you can solve network problems at scale with minimal effort and user frustration.

A real-life example

For one national retail chain experiencing intermittent issues in various stores across the country, understanding the root cause of their problems was as simple as logging into their AI-powered HPE Aruba Networking Central instance. The IT team was alerted to a pattern of odd behavior that was causing issues that impacted certain APs.

Further analysis revealed that a high number of probe requests from endpoints to those APs were starving network resources for users and devices (PoS, scanners, etc.) within the stores. Using factors such as SNR, dwell time, and bytes transferred, our AI networking models determined which users were legitimate and which were just people sitting outside or walking by.

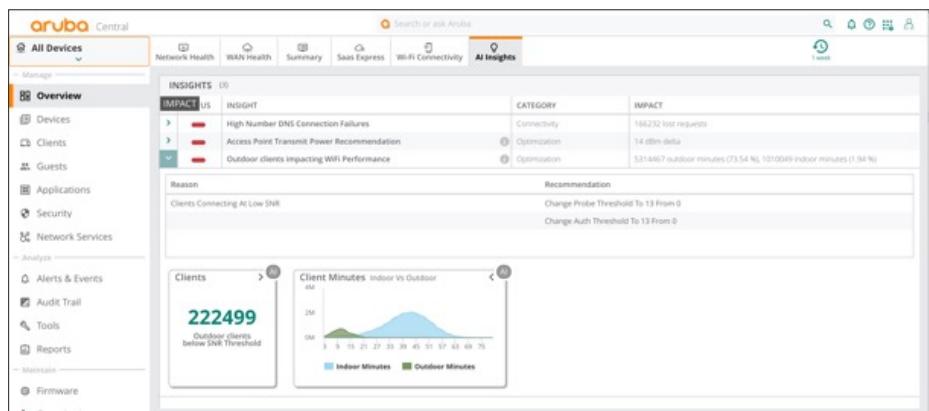
Further data revealed that the issue was occurring in 40% of the stores, so the IT team was able to deploy an updated configuration in each of the impacted stores to provide the best probe threshold settings for those locations, to alleviate any more problems.

After implementing the recommendations this customer eliminated 95% of interference caused by illegitimate users and increased Wi-Fi Performance by 25%.

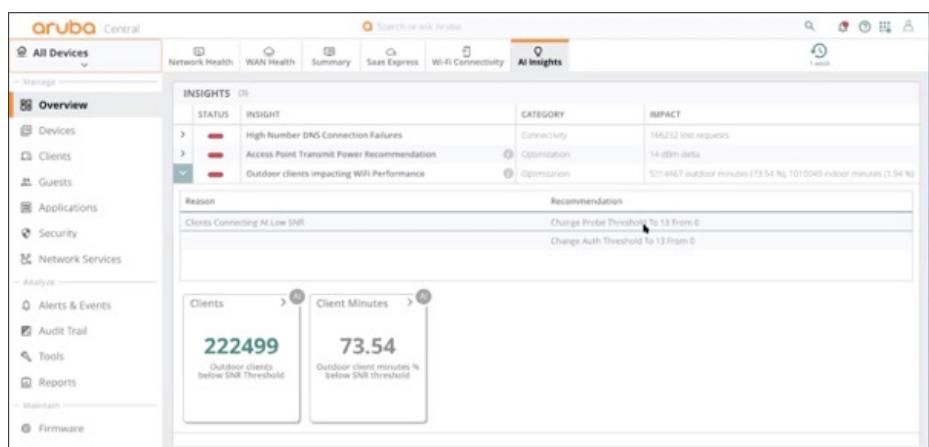
All done using the Aruba access points they already have. No additional hardware needed.



At a glance



The screenshot shows the Aruba Central interface with the 'AI Insights' tab selected. The 'INSIGHTS' section lists three findings: 'High Number DNS Connection Failures' (Connectivity, 166232 lost requests), 'Access Point Transmit Power Recommendation' (Optimization, 14 dBm delta), and 'Outdoor clients impacting WiFi Performance' (Optimization, 5314467 outdoor minutes (73.54 %), 1012049 indoor minutes (1.94 %)). Below this is a 'Reason' section for 'Clients Connecting At Low SNR'. The 'Clients' card displays the number 222499 and a note about outdoor clients below SNR threshold. The 'Client Minutes' chart compares indoor and outdoor client minutes, showing 73.54% of outdoor client minutes are below the SNR threshold.



This screenshot is identical to the one above, showing the Aruba Central AI Insights interface. The 'INSIGHTS' section lists the same three findings. The 'Reason' section for 'Clients Connecting At Low SNR' is present. The 'Clients' card shows 222499 clients and the note about outdoor clients below SNR threshold. The 'Client Minutes' chart shows 73.54% of outdoor client minutes are below the SNR threshold.

Summary

IT efficiency and AI networking go hand in hand. In fact, this passerby issue can affect any network located in dense environments such as universities, government buildings, and event facilities. In fact, our AIOps has determined that this problem exists in 30% of our customer's networks, thereby saving a large number of IT teams valuable time and energy, while improving the IT and retail experience.

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