Improving WiFi QoS & Performance for TPNet

Customer Problem: Quality of Service

Without a doubt, one of the major issues service providers continue to face in provisioning WiFi networks is Quality of Service (QoS). In addition to poor performance, QoS issues result in unhappy customers, vulnerability to competitor offerings and difficulty in selling higher value services.

Poor QoS was a challenge being faced by Edgewater Wireless Customer - TPNet. The company had installed 6 Mikrotik APs and 6 Antennas on a single transmission tower providing broadband access to 250 customers within a small rural community in Brazil. As is typical in many rural communities, wireline infrastructure is non-existent and as a result, WiFi is required to provide basic internet service in these locations. TPNet wanted to improve QoS, network performance as well as provide added value services and increase per/subscriber revenue.

Multi-channel ACCESS POINT

- Over 50X increase in aggregate AP performance
- Supports independent voice, data and video on separate channels
- Built in Spectrum Surveillance Architecture (SSA™)
- Ruggedized for carrier class outdoor environment
- Integrated Management, Security & QoS
- Seamless roaming and backhaul support
- TruMesh™ enabled configurability
- Intelligent Channel Association (ICA) & Dynamic Load Balancing
- High performing Power Zoning delivers maximum bandwidth density
- 12 Virtual Access Points per 3-channel

Our Solution: Eliminate Interference

TPNet turned to our partners Linkpower and CWT, to test the viability of an Edgewater Wireless AP solution to eliminate the current performance & interference issues. Based on initial site surveys, it was determined that a single Edgewater Wireless multi-channel WiFi AP would be installed to address the QoS and interference issues.

The new Edgewater Wireless AP was installed without disconnecting the 6 Mikrotik APs to test performance and to mitigate the major interference issues. Edgewater Wireless' AP was installed with two antennas – TX and RX, industry type with 120 ° opening, 20dBi gain, horizontal polarization. It was then configured with five virtual APs – distributed in channels 1, 6 and 11 with different SSIDs and in a standard 802.11b/g frequency. Testing and survey results concluded that the coverage area of the new Edgewater Wireless AP had a radius of 4 km serving over 250 subscribers. This was of immense value to TPNet, allowing the WISP to turn all six of their Mikrotik APs off with no need for additional technical action to support their customers. TPNet achieved significantly improved network performance and QoS resulting in their subscribers having drastically improved internet connectivity and throughput capacity.

Excellent Result: Increased Coverage area

Edgewater Wireless' AP solution allowed TPNet to solve their QoS and network performance issues while enabling the company to sell higher quality services and expand their subscriber base. The results were tremendously positive, as the company had seen their sales paralyzed – not being able to sell additional services with their previous solution. Edgewater Wireless' partner LinkPower continuously provided further support and worked with TPNet to alter the transmission power of the AP – further increasing the coverage area and improving subscribers' signal levels. All subscriber access to TPNet's network is now exponentially improved, reliable and serving more customers in the region.

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