Wireless Technology Designed for Growth

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Challenge

ENI NETWORKS (WWW.ENINETWORKS.COM) OF MEXICO decided to develop their own wireless access network and offer connectivity to business and residential subscribers.

As ENI's understanding of the capabilities and limitations of wireless technologies deepened, and looked to expand their service area with a solid grasp of customer demand and available technology, they developed their own view of best practices to provide reliable service at reasonable prices.

While customer satisfaction was high when the network was first constructed, ENI's expansion became an obstacle when their system's technology couldn't scale to cover increasing numbers of users. Existing customers began to experience delays as new subscribers were added. Satisfaction dropped. ENI had to change course.

Solution

AFTER A RIGOROUS REVIEW OF AVAILABLE TECHNOLOGY, ENI NETWORKS CHOSE Cambium Networks' ePMP™ 2000 system for deployment. "ePMP is a technology that is actually designed specifically for WISPs, and focused and appropriated to deliver service - while other technologies, rather than be bad or poor, are actually meant to be for a standalone system." explains Ing. Dario Barriga Ibarra, ENI Networks Director of Operations.

ePMP 2000 took ENI Networks far beyond the performance limitations associated with their previous technologies.

ePMP 2000 Distribution Network Solution	
Frequency	5 GHz
Throughput	100 Mbps in a 20 MHz channel
Hypure Technology	Smart Beamforming and Intelligent Filtering for interference mitigation

Results

BASED ON PERFORMANCE AND CUSTOMER SATISFACTION WITH THE EPMP NETWORK, ENI now expands and delivers more services, affordably and with confidence. ENI Networks is also able to maintain and measure the performance they need because ePMP enables them to

conduct RFC 2544 tests - something they couldn't do with any other vendor. ENI Networks offers high-speed services in five cities in Mexico: Queretaro, Hermosillo, Obregon, Navojoa, and Cancun. The main coverage area is Queretaro, which has five radio base stations, and an additional three scheduled for deployment this year. Each tower is designed to connect 80 customers.
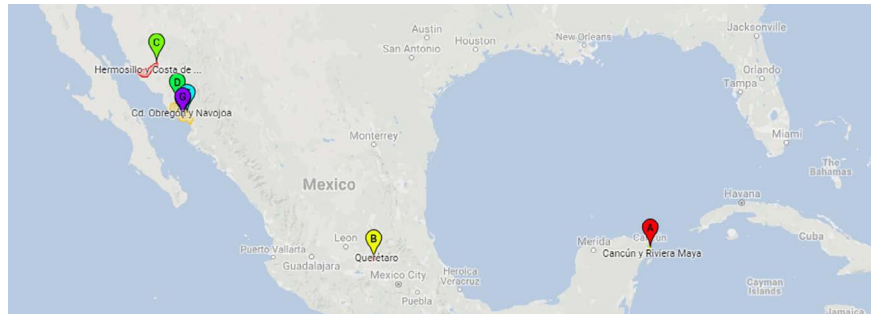
Previously, ENI had a connectivity range of up to 3 miles (5 km), but the ePMP Force 180 deployment results for high-speed connectivity empowered them to dramatically increase their coverage ranges up to 7 miles (12 km), incorporate the Force 200, and add new subscribers without the cost of additional towers.

RF interference is always an issue, and each of ENI's coverage areas contends with levels from -80 to -75 dB and even worse. They always try to select the communication channels with a maximum noise level around -80, but even with this amount of interference, ENI Networks delivers reliable connectivity services with an average throughput speed of about 5 Mbps and a max of up to 20 Mbps.

Most technologies are unable to handle more than 30 subscribers per AP sector - which ENI experienced first-hand when their former system struggled with user density - but with their new ePMP 2000 infrastructure, ENI anticipates growing their subscriber base close to 120 customers per AP sector. Furthermore, they can do it without incurring the cost of additional AP radios on the towers.

The ePMP 2000 system automatically generates an accurate view of network performance on a per-customer basis, giving ENI's operators the ability to monitor the MIR transmission information rate profile. This empowers ENI to guarantee the services and performance that demanding customers expect, distinguishing them from their competition.

Cambium Networks takes customer care as seriously as ENI does, offering technical support that "is not based as with other vendors on forums," according to Ing. Antonio Rivera García, Director of Infrastructure and Engineering, "Cambium actually gives a professional support which is not amateur, getting it directly as also through their distributors."

Next Steps

WITH EPMP 2000 AS A KEY COMPONENT, ENI NETWORKS IS ABLE TO BUILD BOTH THEIR NETWORK AND BRAND, fulfilling their company mission to provide reliable connectivity to enterprise and residential customers. Today, ENI Networks has installed 24 sectors with ePMP 2000, and have deployments of another 20 sectors scheduled, reinforcing and extending their market presence.

ENI NETWORKS • Internet y Servicios de Conectividad para Hogares y Empresas de México
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