TP-LINK Helps Local WISP Provide Long Distance Wireless Connectivity in Indonesia

CUSTOMER PROFILE

Company Name: ADINET

Industry: Wireless Internet Service Provider (WISP)

Location: Indonesia

Profile: Small WISP that offers wireless internet access to residential homes and hotels in Jakarta

BACKGROUND

ADINET purchased 30Mbps broadband service from a large ISP and planned to deliver broadband internet service to remote subscribers who live far apart and far away from the downtown area of Jakarta. ADINET serves areas where the cost of building wired connections prevents traditional providers from installing the necessary communication equipment or upgrading existing equipment to a first world level. ADINET also thrives because the fees that are required to support wired internet service are too high for local subscribers to afford.

"We'd had enough of the outdated devices that would suddenly crash during peak hours, resulting in a lot of complaints about our Internet access service from customers." - Bagus Prakoso, Owner of ADINET.

CHALLENGE

ADINET had to create a long distance connection to meet the needs of their subscribers. These subscribers are dispersed throughout Jakarta, a city with a large population and challenging wireless conditions.

- 10-Kilometer Transmission Distance and Physical Obstructions

ADINET subscribers live in a remote region that is approximately 10km from where ADINET's contracted broadband service provider is located. The most basic requirement was that the network provides long distance transmission connectivity at a relatively low-cost. The service area lacks high performance wired communication equipment and installing such equipment would not be cost-effective, so there are no companies that are willing to deploy wired connections to provide internet service to local customers.

- Widely Dispersed Client Locations

Subscribers are each located approximately 1km from one another, which results in a considerable challenge for ADINET. If ADINET chose to provide wired connections for all of their subscribers, the project would very quickly exceed its allotted budget.

- Challenging Wireless Environment and Harsh Weather Conditions

A number of other WISPs already provide internet service for the local people in ADINET's target district. The wireless environment is very complicated because wireless competition and collisions among wireless signals cause terrible drops in network throughput. The climate is also a concern, as Indonesia occupies a tropical region where conditions are typically very hot and humid, with thunderstorms and other inclement weather events being very common.

- Need for Efficient Network Management

Due to the locations of the subscribers, network equipment needed to be dispersed and deployed in remote places. Additionally, the installation locations that are ideal for performance are usually hard-to-reach places, such as the rooftops of high buildings. The difficulty and inconvenience of accessing the equipment meant that efficient remote network management was a critical criterion for any WISP solution.

- Network Reliability and Stability Demands

After spending a considerable amount of time and money constructing new

network connections to extend into a new market, ADINET demanded that their internet service provide them with a distinct competitive advantage over their competitors in the area. This made stable, reliable network performance an absolute requirement.

SOLUTION

TP-LINK's Pharos Series provides a high performance, enterprise class outdoor wireless solution that is also cost-effective. The point-to-point long distance wireless backhaul uses Pharos Wireless Base Stations (WBS510) and dish antennas (TL-ANT5830MD) to form the backbone connection that the WISP relies on. Then, point-to-multipoint wireless coverage is created using Pharos Wireless Base Stations (WBS210), sector antennas (TL-ANT2415MS), and receivers (CPE210), which are installed at each subscriber's location. A Pharos Series outdoor wireless solution ultimately helped ADINET save a lot of money when building their new communications network.

• 10-Kilometer Transmission Distance and Physical Obstructions

With enterprise level Qualcomm Atheros chipsets, high gain antennas, and advanced antenna dishes replacing expensive wired connections, the Pharos Wireless Base Station (WBS510) easily supports wireless transmissions over distances of 10+ kilometers. Even though there are some buildings and trees that partially obstruct the wireless connection, network throughput remains as high as 50Mbps, making it a perfect solution for ADINET's long-distance network.

"We really need a cost-effective WISP solution that provides excellent performance so that we can improve the quality of our internet access service and develop a stronger brand reputation, despite our limited budget." - Bagus Prakoso

• Point -to-Multipoint Wireless Connections for Dispersed Customers

ADINET uses the Pharos WBS210 and a high power sector antenna to create a point-to-multipoint wireless network and provide all of their subscribers with distributed broadband service. With broad network coverage in place, ADINET installed a Pharos CPE210 at the home of each subscriber within a one-kilometer range to connect to the Pharos WBS210. This efficient deployment of Pharos Solution hardware allowed ADINET reduce costs while also providing excellent service.

"All of the TL-ANT2415MS sector antennas are performing perfectly. Even though their advertised

signal transmission sector covers 120°, clients located outside of that zone regularly report being able to pick up the signal. This means that we can confidently reduce our initial equipment costs and save some money," said Mr. Prakoso.

- MAXtream TDMA Technology Conquers the Challenging Wireless Environment

To eliminate the effects of troublesome wireless competition and signal collisions, TP-LINK's Pharos Series utilizes proprietary MAXtream TDMA Technology to dramatically improve wireless performance, even in complex wireless environments. In other words, TDMA devices perform better than 802.11 devices when serving as components in large networks with many wireless clients. This contributes to the Pharos Solution's excellent performance in challenging wireless environments.

- Advanced Centralized Management

Pharos Control, TP-LINK's intuitive and user-friendly Centralized Management Control Software, allows administrators to easily manage all of the devices in their network from any PC, with no additional costs or specialized training. Device discovery, status monitoring, firmware upgrade, and network maintenance functions can all be managed remotely, which further reduces the overall cost of network maintenance.

- Professionally Designed Weatherproofing and Lightening Protection for Outdoor Applications

The specially designed weatherproof enclosure ensures that Pharos Series devices can be used in a wide variety of climates, from dry to humid (Operating Humidity: 10% ~ 90%) and in temperatures ranging from -30°C ~ 70°C (-22^{0}F ~ 158^{0}F). The 6KV lightening protection and grounding apparatus also help Pharos Series devices avoid damage in stormy weather.

BUSINESS RESULTS

TP-LINK's Pharos Series provides the affordable, reliable, high-performance wireless network solutions that WISPs need to thrive. Pharos Control provides the ability to remotely access and control all Pharos Series devices on the network, allowing ADINET's network administrator to efficiently manage and control whole network.

"Amazing! The performance of the Pharos Wireless Broadband Solution has exceeded even our wildest expectations." - Bagus Prakoso

So far, the TP-LINK network that ADINET built in Jakarta has functioned perfectly, transmitting and distributing 30Mbps internet service to all of ADINET's subscribers. The Pharos Control software, powered by TP-LINK, has allowed ADINET's staff to manage and monitor the whole network effortlessly from the comfort of their office.