

Taipei becomes a Smart City with DASAN Zhone Solutions' GPON solution



Summary

Customer

- Taifo (Taiwan Intelligent Fiber Optic Network)

Background

- The previously adopted VDSL technology had limitations in upgrading the bandwidth and expanding the network
- Taipei city fiber optic network project was driven by the government with an aim of building a Smart City

Solutions

- Customized FTTH GPON solution for high-speed and cost effective network

Benefits

- Lowers CAPEX and OPEX through efficient use of fiber
- High-speed bandwidth and triple-play services
- Scalable for business growth through a flexible and high capacity OLT

Results

- Taifo offered a minimum 100Mbps high-speed Internet and Wi-Fi service to households covering 80% network of the city. Taifo is now expanding its network business to enterprises, schools, public security, government organizations, other ISPs, and is ready to create a Smart City.

Background and Challenges

Before Taifo introduced a new network, Taipei city's network infrastructure was covered mostly by VDSL technology, which had limitations in upgrading the bandwidth and expanding the network. In order to improve network environment, Taipei city government considered to upgrade the fundamental infrastructure with an aim of building Taipei as a Smart City to strengthen international city competitiveness.

For this goal, Taifo(Taiwan Intelligent Fiber Optic Network) was established as a newly licensed

ISP (Internet Service Provider) by the Taiwanese government to execute a fiber optic network project in Taipei city.

On 30 Dec 2011, Taifo signed a contract with Taipei city government to start the construction, maintenance, and operation of FTTH network in Taipei city for the following 25 years.

DASAN Zhong Solutions (DZS) was chosen as the main network solution provider to provide a customized solution at a competitive price with quality products and services.

Solutions and Benefits

GPON for High-speed and Cost Effective Network

The Taipei city fiber optic network project was aimed to complete the last mile service and install fiber at each house, to offer high quality Internet service with a minimum of 100Mbps bandwidth.

Taifo planned implementing network in phases with 8% broadband coverage rate at the first phase and expanding to 32%, 56% and 80% progressively, while constructing over 8,000 kilometers fiber network in Taipei city.

For the project, DZS proposed FTTH GPON as the most suitable solution to deploy a high-speed, reliable network environment for growing businesses in a cost-effective way.

FTTH GPON provides cost advantages that service providers need to deliver services profitably to their subscribers. When using a single shared optical fiber, GPON delivers high speed Internet over 100Mbps services to multiple users over long distances while eliminating the use of several heavy and expensive switches. Instead, DZS' GPON utilized cheaper connection methods than a standard Ethernet through the use of inexpensive passive optical splitters that do not require a power source and thus, is easier to manage.

FTTH GPON is the perfect solution to provide triple-play services (data, video and voice) because it provides higher bandwidth - 2.5Gbps downstream and 1.25Gbps upstream. It uses larger, variable length packets to transmit data and employs frame segmentation to give higher quality for voice and video traffic. These advantages of GPON are why service providers want to adopt fiber, particularly in high-density urban areas.

For the Taipei city project, DZS offered its GPON OLT V8272, a 10 RU height chassis to deliver a wide range of

features and high-performance over FTTH applications. The V8272 is a high-density chassis system that supports up to 4,096 residential and business subscribers with 64 GPON ports (1:64 split ratio). It also provides simultaneous services of GPON and Gigabit Ethernet. DZS' V8272 features flexible and high capacity GPON access and 10GbE uplinks with scalability in a compact size.

DZS' full customization, quality, service reference, and committed local service support greatly helped Taifo successfully launch a new broadband service in the Taiwanese market.

“DZS' GPON architecture provides the best total solutions and best services in the process of constructing the network; such as technical consultant and sharing service experiences, which Taifo was benefited a lot as a new service provider.”

Mr. Lee, Ching Hung, Chairman of TAIFO

Results

Taifo established 80% of fiber network coverage across the Taipei city.

Adopting DZS' GPON solution, Taifo was able to bring fiber to each house to provide high quality Internet with Wi-Fi service to all Taipei citizens.

Not only homes, Taifo is expanding its fiber network to enterprises, schools, public security, government organizations and other ISPs by leasing fiber network with its point-to-point distribution from wireless base stations.

In line with the project, Taifo aims to create a Smart City on fiber to drive economic growth and to provide a high quality of life in Taipei city.



The smart city platforms include:

Smart TV: TV programs, movies on demand, web flash ads, PC online games, android app

Smart Home: remote management of IPTV and various home appliances through wired and wireless Internet

Smart Parking: real-time information about parking spots, mobile reservation and payment

Smart Public Transport: real-time information of bus arriving time, routes and stops through GPS on mobile device

Smart Lighting: a solution that allows easy scheduling of on/off and dimming levels functions for individual or groups of lights

Smart Public Security: video monitoring of public spaces with advanced security applications reporting to a control center

Smart School: a platform that delivers and shares information with students and evaluates their performances through tab book, pad and digital board

About DASAN Zhone Solutions

DASAN Zhone Solutions is a global leader in network solutions for service provider and enterprise networks, with more than 800 customers including some of the most progressive and innovative carriers in the world.

DASAN Zhone Solutions, a combined company of DASAN Network Solutions and Zhone Technologies, provides a wide array of innovative solutions including Broadband Access, Mobile Backhaul, Ethernet Switching, Passive Optical LAN and SDN(Software Defined Networks).

DASAN Zhone Solutions has been a reliable solution provider to global telecom operators and enterprises and continuously expanding global business followed by the company's success in the U.S., CALA, Middle East, Europe, and Asia. DASAN Zhone Solutions is headquartered in California, with R&D centers in the U.S., Korea, China, Vietnam, India and its products are manufactured in the U.S., Korea and China.

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