



Success Story

New Thai Housing Project Ensures Fast Internet Connection and Easy Expansion with Zyxel GPON Solution



Housing

INDUSTRY



Piman Group

CUSTOMER



Thailand

COUNTRY



Zyxel GPON Solution

SOLUTION

Overview

Challenges

- Provide high-speed internet connectivity to 60 stand-alone homes
- Deliver a scalable and futureproof solution for eventual expansion
- Enable smooth low-latency data transmission in each house

Results

- Provided high-speed wired and wireless internet access at minimal cost
- Extended coverage to phase 2 housing in an easy and cost-effective way
- Delivered stable internet access service to each house ranging from 30Mbps up to 100Mbps at different prices

Solution

- Zyxel GPON Solution

Summary

Piman Group was looking for a trustworthy equipment supplier who could provide its new housing project with a reliable wired and wireless internet solution at an affordable price and backed by strong customer support. The group turned to Zyxel solution partner High Solution of Television Network (HSTN) for help. Zyxel was selected for its cost-effective solutions and ability to fulfill the requirements in terms of return on investment and performance. HSTN also entrusted the project to Zyxel because of their long-term cooperation and Zyxel's rich experiences in residential projects. In addition to creating a high-speed wired and wireless internet access environment, Zyxel was able to help the group to extend network coverage to its phase 2 housing with less-complex construction at minimal cost.

Background

Piman Group is one of Thailand's distinguished property developers, famous for its modern and simple housing styles. The company aims to provide warm-hearted family homes rather than just houses. Its residences are built with large openings to fully receive natural light, and spacious interior spaces that create cozy and convenient living environments. Along with their housing division, the group also owns a cable TV business to provide TV services to its customers.

Challenges

The group needed to provide high-speed internet connectivity over wide areas, linking over 100 stand-alone homes in the development. Since the project was separated into two phases, the network solution should be scalable and future-proof for eventual expansion. The group was looking for a reliable solution at an affordable price.

Solutions and Benefits

The Zyxel's cutting-edge GPON solution was selected because it can provide cost-effective and high-speed internet connectivity through a fiber optic network to all phase-1 houses. Its scalability and future-proof design as well as stability were the main reasons for adoption, making it ideal for the second-phase construction.

The backbone of the GPON network is the **Zyxel 1U Pizza Box 4-port GPON OLT (OLT1404A)**, which provides performance and configuration management. The optical line terminal (OLT) optimizes bandwidth utilization to support high-speed data transmission in each house to meet the needs of bandwidth-intensive services. Through profile configuration and setting of bandwidth parameters, Zyxel's GPON solution allows management to offer internet access service to each house, ranging from 30Mbps up to 100Mbps at various price points.

With support for multiple interfaces, including eight Gigabit Ethernet optical interfaces, eight Gigabit Ethernet RJ-45 interfaces and four 10G interfaces, the OLT provides more flexibility and unified management when integrating multiple services. Since the OLT1404A OLT can support

Among many of Piman Groups housing projects in Thailand, the Betta House Noanthanun 9 project is a new development in Khon Kaen province in northeastern Thailand. The entire project consisted of nearly 120 standalone houses, with the phase-1 development consisting of 60 standalone residences. The phase-1 housing project spans 45,000 square meters.

Strong customer support was also an important factor for the property developer.

up to 512 customer-premises equipment (CPE), the infrastructure is easy to expand at minimal cost.

To provide wireless connectivity, Zyxel deployed a **GPON Optical Network Unit with 1-port GE LAN (PMG1005-T20B)** as a bridge and an **AC1200 Dual-Band Wireless Router (NBG6604)** in each home for seamless high-speed service.

The Zyxel PMG1005-T20B is a high-speed GPON Single Family Unit (SFU) that comes with one GPON uplink and one GbE LAN downlink. The CPE is designed to serve as a simple bridge to offer Gigabit broadband access with the least CAPEX investment.

With built-in amplified antennas and 802.11ac technology, the NBG6604 wireless router provides fast, long-range connections. The router's 5 GHz WiFi band reduces interference for stable data transmission.

After the deployment, residents of the housing project could enjoy high-speed wired and wireless internet access without drops in service or noticeable latency.

Products Used

OLT1404A • 1U 4-port Pizza Box GPON OLT



- 4 ITU-T G.984-compliant GPON ports; each port supports up to 128 ONT
- 4 x 10G/2.5G/1G port (SFP+/SFP, fiber)
- 8 x GE 1/2.5G port (SFP, fiber) and 8 x 100/1G port (RJ-45, copper)
- Dual power module plus battery charger
- Temperature-hardened

PMG1005-T20B • GPON Optical Network Unit with 1-port GE LAN



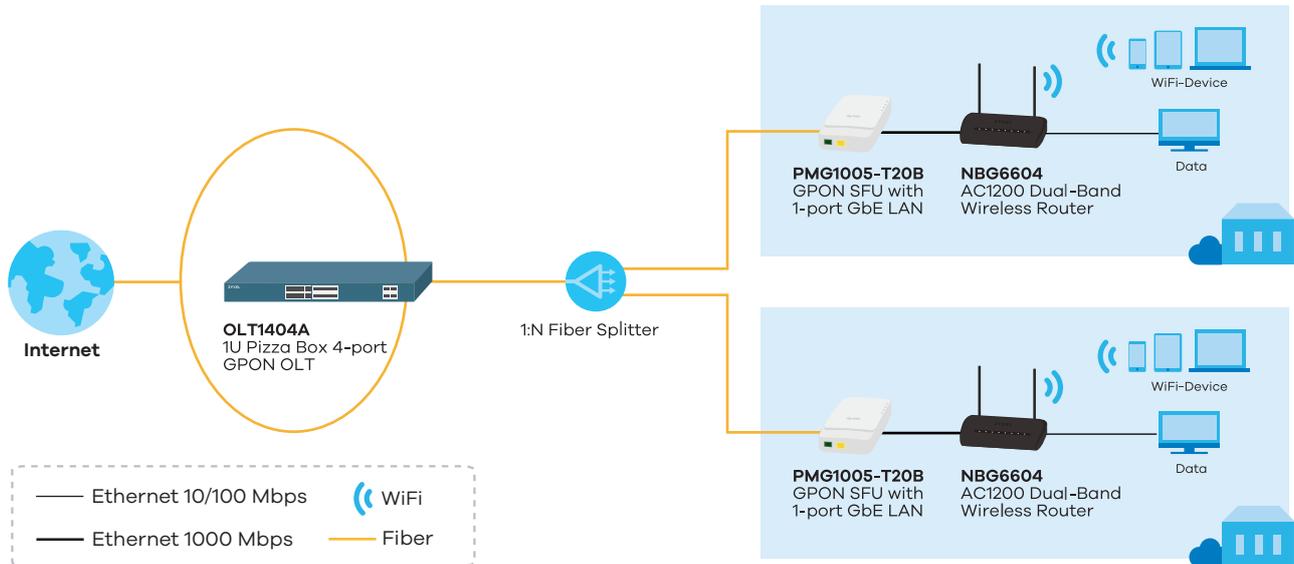
- Integrated Internet services through fiber
- High-speed data access
- OMCI remote management

NBG6604 • AC1200 Dual-Band Wireless Router



- Simple, app-based setup
- Faster WiFi, stronger signals, speeds of up to 1200 Mbps
- Four amplified antennas for long-range connections
- Connect up to 64 devices without interference
- Runs cooler for maximum performance and reliability

Diagram



About Zyxel

Focused on innovation and customer-centricity, Zyxel has been connecting people to the Internet for nearly 30 years. Our ability to adapt and innovate with networking technology places us at the forefront of creating connectivity for telcos and service providers, business and home users. Zyxel is building the networks of tomorrow, unlocking potential, and meeting the needs of the modern workplace — powering people at work, life, and play. Zyxel, Your Networking Ally.

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