ZyXEL

Success Story

Indian ISP Upgrades to ZyXEL GEPON Solution

Overview

Customer Name
ANI Network

Customer Industry
Service Provider

Challenges
- Efficiently manage power use
- Resolve issues with UPS provisioning
- Eliminate multiple rack problem
- Offer high RoI and low TCO
- Solution must be customizable
- Local presence & reliability of vendor
- Vendor provides local support
  and service

Solution
- GEPON Optical Network Unit with 1 Gigabit Port
- 8-port GEPON Optical Line Termination

Benefits
- Quick return on investment
- Better service delivery
- Achieved project requirements
- Achieved better management with new technology
- Flexible solution that is future-proof

Challenges

The existing network relied on switching, and the key issue was expansion. As ANI network grew its consumer base, they needed to acquire robust technology that would increase the company's reach, was easily expandable, simple to maintain, and offered a high ROI, as well as cost-effective TCO.

Switching has its own limitations. Pulling the power line was a key roadblock to expansion. Moreover, backup power provisioning was an increasingly prohibitive expense on the switched network. Additionally, last-mile manageability is also an expensive proposition with switching.

Background

Founded in 2002, ANI Network Pvt. Ltd is one of the fastest-growing fixed wireless broadband service providers in Delhi, India. The company solely focuses on delivering high-speed Internet & Internet solutions to businesses and families in the area.

ANI Network Broadband primarily provides fixed wireless broadband to areas of the city that are currently under-served by traditional telecom and cable companies. The company's current network footprint covers Delhi and NCR, targeting the addressable market of all country homes, as well as small to mid-size businesses and the ANI Network Broadband headquarters

Solutions and Benefits

Since the customer was an Internet Service Provider operation, ANI Network already had an existing network with a complete network operations center (NOC) setup. The key issue was to access new areas for new customer acquisition. Since a switching solution would be more difficult to manage, expensive, and require higher maintenance costs, ANI Network sought a solution with no active component between customers and the core, allowing them to do away with power provisioning, UPS, and racks. It was decided that a Passive Optical Network Solution was the best option.

ANI considered several network solution providers for this project, including Cisco, DLink, TP Link, Netgear, Dax, Digisol, and others, but all were limited by their reliance on switching technology. ZyXEL was the only candidate to suggest GEPON FTTx technology given ANI's position and market share. After a successful PoC and field trial, the deal was completed.

ZyXEL's OLT-1308S-22 GEPON solution extended the network from the distribution point to the last mile without the need for pulling power cable and expensive copper deployment.

As this was a Gig network, there were no bandwidth issues. Moreover, from a future sustainability perspective, the customer could easily upgrade bandwidth just by changing the electronics. The same passive solution would sustain bandwidth upgrades from 10 to 100 times, as it's all done on single-mode fiber.

The key challenge was to create a new mindset for the installation and maintenance team, which had been fully trained and accustomed to a switched network. It was necessary to completely retrain and change this way of thinking. Through multiple training sessions, successful PoC, and field trials, it was possible to build a new mindset and comfort level with these technological changes. Furthermore, training was extended not only to tech staff, but also to customers to educate them to the changes taking place. Through human interaction, the staff was successfully brought up to date with the new structure. Overall benefits of the ZyXEL solution include a quick return on investment, better service delivery, achievement of project goals, improved management via new technology, and flexibility that is "future-proof" for eventual expansion.

Product Used

ONU-6100B-21
GEPON Optical Network Unit
with 1 Gigabit Port

• Centralized WLAN management and auto provisioning
• Manages up to 240 APs with granular access control
• Advanced RF management for optimized Wi-Fi performance
• Secured wireless edge with IDP, anti-virus and firewall
• Flexible traffic forwarding with tunnel and distributed modes
• Comprehensive guest network management features
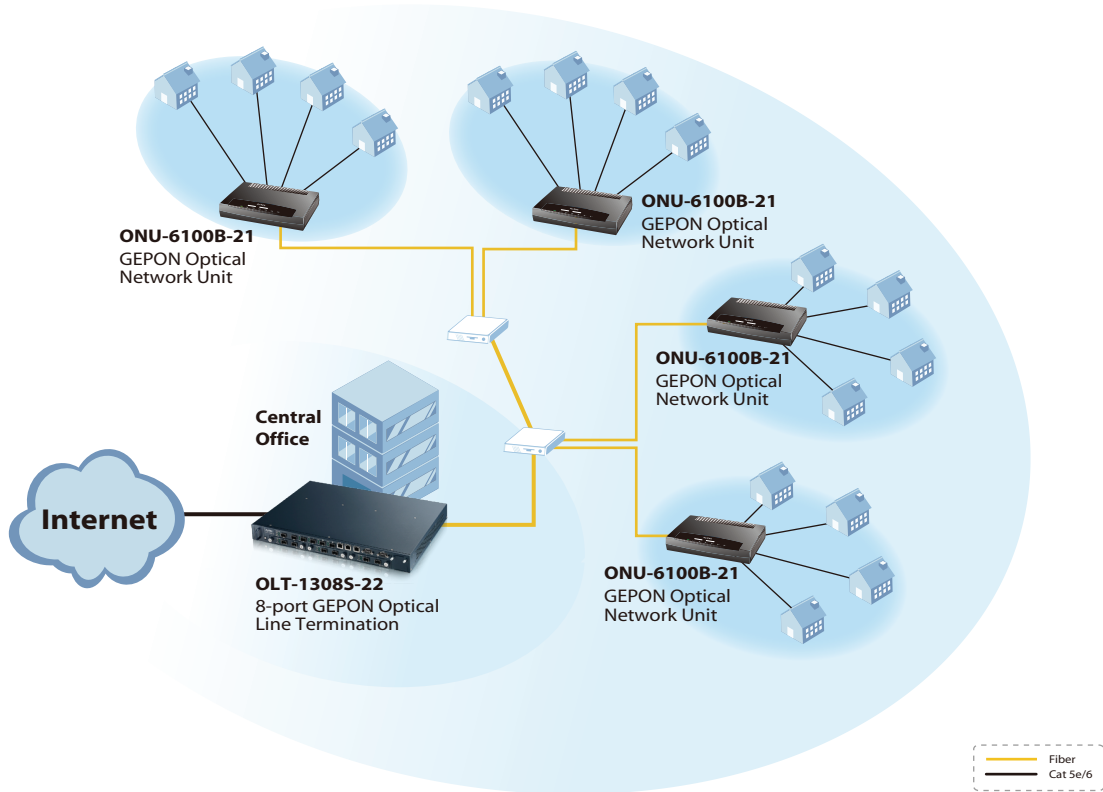• User-centric management solution for BYOD trend

OLT-1308S-22
8-port GEPON Optical Line Termination

• 8 GEPON SFP open slots with DDMI support
• 1000BASE-PX20 SFP for 20 km distance support
• 2 Gigabit Combo + 2 GE SFP uplink ports compliant with IEEE 802.3/u/ab
• up to 4 trunking ports for uplink
• Support up to 64 ONUs per PON interface
• Support FEC
• Support AES or triple churning encryption
• Support 4 LLIDs per ONU
• 16K MAC addresses table
• Management through console, Telnet, SNMP, or web management
• Firmware upgrade FTP
• Configuration saving and retrieving
• Overheat detection
• LED indications for link status
• AC/DC power input for redundancy
• PON port redundancy
• Hot swappable for fan module and PON modules
• 24 Gbps Switching Fabric capacity

Diagram

ONU-6100B-21
GEPON Optical
Network Unit

ONU-6100B-21
GEPON Optical
Network Unit

ONU-6100B-21
GEPON Optical
Network Unit

ONU-6100B-21
GEPON Optical
Network Unit

Central
Office

Internet

OLT-1308S-22
8-port GEPON Optical
Line Termination

Fiber
Cat 5e/6

About ZyXEL Communications

ZyXEL Communications Corp., founded in 1989 and headquartered in Taiwan, is the leading provider of complete broadband access solutions. As one of the early modem manufacturers, ZyXEL has gone through transformations in the fast-paced networking industry. Delivering cutting-edge communications innovations to more than 400,000 businesses and more than 100 million consumers throughout the world, today ZyXEL is one of the few companies in the world capable of offering complete networking solutions for Telcos, small to medium-sized businesses, and digital home users for a wide range of deployment scenarios. Telco solutions include Central Office Equipment, Customer Premise Equipment, Wired and Wireless Access Network Devices, and Carrier Switches. SMB and Enterprise solutions include Unified Security Gateways, LAN Switches, WLAN, and IP Telephony. Digital Home solutions include Network Connectivity Devices and Multimedia Solutions.

The company has 1000 employees and distributors in 70 countries, reaching more than 150 regional markets. The ZyXEL Communications Corp. includes 35 subsidiaries and sales offices and two research and development centers worldwide. For more information, visit the company's Website, http://www.zyxel.com.