ZyXEL

Success Story

ZyXEL Wi-Fi Network Powers OpenStack Application Hackathon

"The ZyXEL team helped us quickly setup and manage the networking to support nearly 200 hackers with intense Wi-Fi demands at first OpenStack Application Hackathon in Taiwan, the Taiwan OpenStack community is vibrant, and contributors like the team at ZyXEL are one reason OpenStack is seeing such exciting growth in the region."

Jonathan Bryce
Executive director of the OpenStack Foundation

Overview

Customer Name
OpenStack

Customer Industry
Information Technology

Challenges
• To provide a fast and stable Wi-Fi network access to over 200 participants in a high-density environment
• To resolve any unexpected network issues that may occur onsite
• Provide flexibility and adaptability

Solution
• 802.11ac Dual Radio Unified Pro Access Point
• Wireless LAN Controller

• VPN Firewall
• 24-port Gigabit L2+ PoE Switch

Benefits
• Provides the entire venue with complete and comprehensive Wi-Fi network coverage
• Offers 200+ event participants and staff with high-quality Wi-Fi connections
• Fast response to emergency situations with appropriate solutions

Background

OpenStack is a cloud operating system developer founded in 2010 through a partnership between Rackspace Hosting and the National Aeronautics and Space Administration (NASA). The purpose of the project was to assist organizations by offering cloud-computing services that would run on standard hardware. Since its inception, OpenStack has become one of the most popular cloud computing software platforms on the market.

OpenStack ranks 15th in the global ITC hardware industry with 1,800 users in Taiwan alone. With significant penetration into the Taiwan market, OpenStack chose it as the location for its first application hackathon. The three-day event was supported with ZyXEL's wireless network solution.

Challenges

The theme of this year's competition is "Future City." Participants are required to develop applications addressing transportation and climate issues to help travelers and residents in Taiwan live better and smarter. Unlike other hackathons held in the past, participants would be relying heavily upon a Wi-Fi network environment in this competition. Moreover, in keeping with the latest BYOD (bring-your-own-device) trend, most participants would be carrying more than two devices each. As a result, there were more than 200 wireless devices that needed to be connected during the event, posing a major challenge for the existing network.

ZyXEL stepped in to provide a comprehensive wireless network solution within a short period of time — everything from planning, configuration, and testing of the Wi-Fi network was completed within two weeks. In addition, various unexpected situations occurred during the event, presenting both a challenges and an opportunities for ZyXEL to showcase its adaptive capabilities.

Solutions and Benefits

In order to meet the requirements of the event, ZyXEL's experts offered an integrated solution spanning wireless connectivity and network security, including wireless access points, AP controllers, and a PoE switch with a VPN firewall. ZyXEL deployed the WAC6503D-S 802.11ac dual-radio professional access point featuring innovative smart antenna design, which offers over 700 optimized signal patterns that can change dynamically to adapt to different environments. The AP is perfectly suited to high-density environments like the hackathon venue, which requires stable, high-speed wireless connectivity throughout.

During the event, the existing HP network switch was pushed to its routing limits by the large number of devices in use. Fortunately, ZyXEL was able to solve the problem by moving core routing to its ZyWALL 110 Firewall. In addition, the ZyWALL 110 also provided VPN services which satisfied the event organizer's requirement for remote management, demonstrating ZyXEL's flexibility and adaptability when faced with rapidly evolving challenges.

ZyXEL successfully overcame the challenge of setting up a high-density, Wi-Fi environment for a competitive event, allowing the 200+ hackers and staff to get through 56 intense hours with access to powerful and secure wireless network, and helping bring the event to a successful conclusion. This event fully demonstrates ZyXEL's ability to construct Wi-Fi application environments under a range of difficult and harsh conditions.

Products Used

WAC6503D-S
802.11ac Dual Radio Unified Pro Access Point

- ZyXEL smart antenna provides premium performance anywhere
- Advanced IEEE 802.11ac offers up to 1.75Gbps combined data rates
- Industry-leading Rx sensitivity as low as -102 dBm
- AP Flex,™ ZyXEL ONE Network utilities, DCS and tool-less bracket design streamline deployment
- Load balancing and client steering ensure optimal wireless experience
- ZyMesh easily extends reliable Wi-Fi network

NXC5500
Wireless LAN Controller

- Centralized WLAN management and auto provisioning
- Manages up to 512 APs with granular access control
- ZyMesh simplifies complex, inconvenient cabling Wi-Fi Deployments
- Comprehensive features for WLAN performance optimization and always-on Wi-Fi connectivity
- Wireless LAN performance optimization via dynamic channel selection and load balancing
- Guest authentication by QR code

ZyWALL 110
VPN Firewall

- Multi-core CPUs deliver up to 3.6 Gbps firewall throughput and 800 Mbps VPN throughput
- Up to 9x faster firewall performance and 4.4x faster VPN performance than preceding models
- More secure VPN connections with SHA-2 encryption
- VPN high availability (HA) with dual-WAN failover and fallback support
- L2TP support for iOS, Android and Windows mobile devices
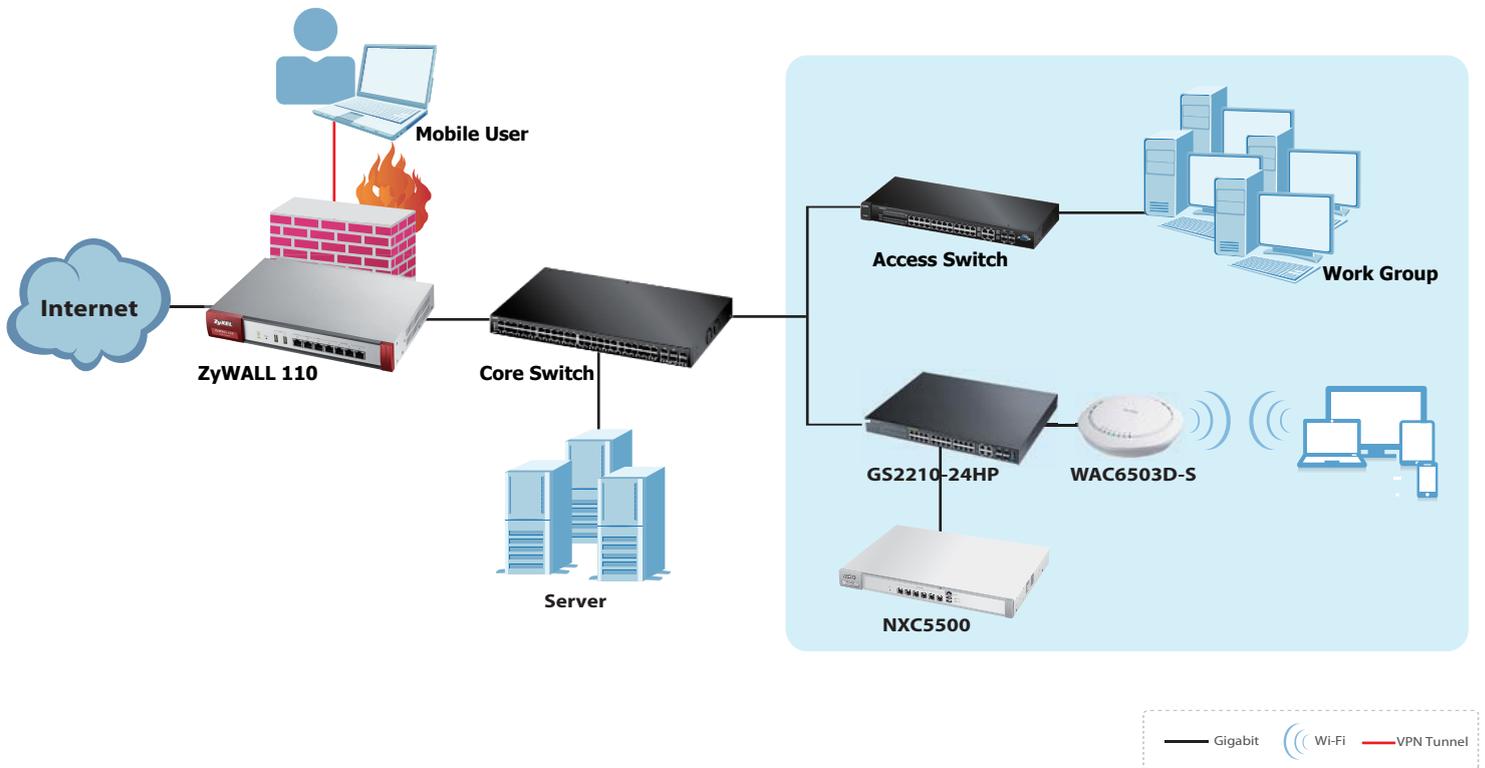- Auto-provisioned client-to-site IPsec setup with Easy VPN

GS2210-24HP
24-port Gigabit L2 PoE Switch

- Fully managed Layer 2 switching solution
- GbE RJ-45 and GbE SFP connectivity
- Complies with IEEE 802.3af PoE and 802.3at PoE Plus
- High 375 W power budget
- L2 multicast, IGMP snooping, MVR and voice VLAN for convergence
- Enhanced network protection with IP source guard, DHCP snooping, ARP inspection, CPU protection
- L2, L3 and L4 filtering, MAC freeze, port isolation, guest VLAN for improved isolation and access control
- Future-proofed with IPv6 support
- Supports ZON Utility and ZyXEL One Network inter-device features for easier, more efficient setup and management

Diagram

Internet

ZyWALL 110

Mobile User

Core Switch

Server

Access Switch

Work Group

GS2210-24HP

WAC6503D-S

NXC5500

Gigabit —— Wi-Fi VPN Tunnel ——

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.